UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

x **ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.**

For the fiscal year ended June 30, 2008

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.**

For the transition period from to

Commission file number: 001-31326

SENESCO TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**84-1368850**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
303 George Street, Suite 420, New Brunswick, New Jersey	**08901**
(Address of principal executive offices)	(Zip Code)

(732) 296-8400
(Registrant's telephone number, including area code)

None
Securities registered under Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value per share.	**American Stock Exchange**

Securities registered under Section 12(g) of the Act:
None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No **x**

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes o No **x**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes **x** No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. **x**

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "accelerated filer", "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o Accelerated filer o

Non-accelerated filer o Smaller reporting company x

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No **x**

As of September 15, 2008, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $20,858,486, based on the closing sales price as reported on the American Stock Exchange on that date.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of September 15, 2008:

Class	Number of Shares
Common Stock, $0.01 par value	18,377,512

The following documents are incorporated by reference into the Annual Report on Form 10-K: Portions of the registrant's definitive Proxy Statement for its 2008 Annual Meeting of Stockholders are incorporated by reference into Part III of this Report.

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PART I

Item 1. Business.

Our Business

The primary business of Senesco Technologies, Inc., a Delaware corporation incorporated in 1999, and its wholly-owned subsidiary, Senesco, Inc., a New Jersey corporation incorporated in 1998, collectively referred to as "Senesco," "we," "us" or "our," is to utilize our patented and patent-pending genes, primarily eucaryotic translation initiation Factor 5A, or Factor 5A, and deoxyhypusine synthase, or DHS, and related technologies for inhibition in human health applications to develop novel approaches to treat inflammatory diseases and cancer.

In agricultural applications we are developing and licensing Factor 5A, DHS and Lipase to enhance the quality and productivity of fruits, flowers, and vegetables and agronomic crops through the control of cell death, referred to herein as senescence, and growth in plants.

Human Health Applications

We believe that our gene technology could have broad applicability in the human health field, by either inhibiting or inducing apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis. Inducing apoptosis may

be useful in treating certain forms of cancer because the cancerous cells have failed to initiate apoptosis on their own due to damaged or inhibited apoptotic pathways.

We have commenced preclinical *in-vivo* and *in-vitro* research to determine the ability of Factor 5A to regulate key execution genes, pro-inflammatory cytokines, receptors, and transcription factors, which are implicated in numerous apoptotic diseases.

Certain preclinical human health results to date include:

- demonstrated significant tumor regression and diminished rate of tumor growth of multiple myeloma tumors in SCID mice treated with Factor 5A technology encapsulated in nanoparticles;
- increased median survival by approximately 250% in a tumor model of mice injected with melanoma cancer cells;
- induced apoptosis in both human cancer cell lines derived from tumors and in lung tumors in mice;
- induced apoptosis of cancer cells in a human multiple myeloma cell line;
- measured VEGF reduction in mouse lung tumors as a result of treatment with our genes;
- reduced HIV-1 replication by approximately 50 percent as evidenced by an equal decrease in HIV replication markers p24 and IL-8 in an HIV-1 infected human cell line;
- increased the survival, while maintaining functionality, of mouse pancreatic islet cells isolated for transplantation, using intraperitaneal administration of our technology. Initial animal studies have shown that our technology administered prior to harvesting beta islet cells from a mouse, has a significant impact not only on the survival of the beta islet cells, but also on the retention of the cells' functionality when compared to the untreated

beta islet cells. Additional studies have shown that the treated beta islet cells survive a pro-inflammatory cytokine challenge, while maintaining their functionality with respect to insulin production. These further studies also revealed eIF-5A's involvement in the modulation of inducible nitric oxide synthase (iNOS), an important indicator of inflammation;

- demonstrated that the efficacy of our technology is comparable to that of existing approved anti-inflammatory prescription drugs in reducing certain inflammatory cytokines in mice; and
- increased the survival rate of mice in a lethal challenge sepsis model. Additionally, a broad spectrum of systemic pro-inflammatory cytokines were down-regulated, while not effecting the anti-inflammatory cytokine IL-10.

Accelerating Apoptosis

The data from our pre-clinical studies indicate that the up-regulation of Factor 5A induces cell death in cancer cells through both the p53 (intrinsic) and cell death receptor (extrinsic) apoptotic pathways. Tumors arise when abnormal cells fail to undergo apoptosis due to an inability to activate their apoptotic pathways. Just as the Factor 5A gene appears to facilitate expression of the entire suite of genes required for programmed cell death in plants, the Factor 5A gene appears to regulate expression of a suite of genes required for programmed cell death in human cells. Because the Factor 5A gene appears to function at the initiation point of the apoptotic pathways, both intrinsic and extrinsic, we believe that our gene technology has potential application as a means of combating a broad range of cancers. Based on the results obtained through our *in-vitro* studies, we have found that up-regulating Factor 5A results in: (i) the up-regulation of p53; (ii) increased inflammatory cytokine production; (iii) increased cell death receptor formation; and (iv) increased caspase activity. These features, coupled with a simultaneous down-regulation Bcl-2, result in apoptosis of cancer cells. In addition, our *in-vitro* studies have shown that the up-regulation of Factor 5A also down-regulates VEGF, a growth factor which allows tumors to develop additional vascularization needed for growth beyond a small mass of cells.

Inhibiting Apoptosis

Our preclinical studies indicate that down-regulation of our proprietary Factor 5A gene may have potential application as a means for controlling the effects of a broad range of diseases that are attributable to premature cell death, ischemia, or inflammation. Such inflammatory diseases include glaucoma, heart disease, and certain inflammatory diseases such as Crohn's disease, sepsis and diabetic retinopathy, among many others. We are engaged in preclinical research on certain inflammatory diseases. Using small inhibitory RNA's, or siRNA's, against Factor 5A to inhibit its expression, the results of our studies have indicated a reduction in pro-inflammatory cytokine formation and the formation of receptors for liposolysaccharide, or LPS, interferon-gamma and TNF-alpha. Our studies have also indicated that by inhibiting Factor 5A iNOS, MAPK, NFkB, JAK1 and ICAM are downregulated, which decreases the inflammatory cytokines formed through these pathways. Additionally, a mouse study has indicated that our siRNA is comparable to a steroid and to a prescription anti-TNF drug in its ability to reduce cytokine response to LPS. Other mouse studies have also indicated that the siRNA against

Factor 5A (i) protects thymocyte cells from apoptosis and decreases formation of myeloperoxidase, or MPO, TNF-a, MIP-1alpha, and IL-1 in the lungs of mice challenged with LPS and (ii) increases the survival rate in which sepsis was induced by a lethal injection of LPS and reduced blood serum levels of inflammatory proteins, such as IL-1, IL-2, IL-6, IL-12, TNF-a, IFNg and MIP-1alpha, while not effecting IL-10, an anti-inflammatory cytokine. Other experiments utilizing siRNA to Factor 5A include inhibition of or apoptosis during the processing of mouse pancreatic beta islet cells for transplantation, the inhibition of early inflammatory changes associated with type-1 diabetes in an in-vivo rat model and the inhibition of viral replication in a human cell line infected with HIV-1.

Proteins required for cell death include p53, interleukins, TNF-a and other cytokines and caspases. Expression of these cell death proteins is required for the execution of apoptosis. Based on our studies, we believe that downregulating Factor 5A by treatment with siRNA inhibits the expression of p53, a major

cell death transcription factor that in turn controls the formation of a suite of other cell death proteins. In addition, we believe that the down-regulation of Factor 5A up-regulates Bcl-2, a suppressor of apoptosis.

Human Health Target Markets

We believe that our gene technology could have broad applicability in the human health field, by either inhibiting or accelerating apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis, including diabetes, diabetic retinopathy and lung inflammation, among others. Accelerating apoptosis may be useful in treating certain forms of cancer because the body's immune system is not able to force cancerous cells to undergo apoptosis.

Our preclinical research has yielded data that we have presented to various biopharmaceutical companies that may be prospective licensees for the development and marketing of potential applications of our technology. Additionally, we plan on using the proceeds of our recent financing to advance our research in multiple myeloma with the goal of initiating a Phase I clinical trial, and may select additional human health indications, to bring into clinical trials on our own. We believe that the success of our future operations will likely depend on our ability to transform our research and development activities into a commercially feasible technology.

Human Health Research Program

Our human health research program, which has consisted of pre-clinical *in-vitro* and *in-vivo* experiments designed to assess the role and method of action of the Factor 5A genes in human diseases, is being performed by approximately 10 third party researchers, at our direction, at Mayo Clinic, the University of Virginia, and the University of Waterloo.

Our research and development expenses incurred on human health applications were approximately 56% and 42% of our total research and development expenses for the fiscal years ended June 30, 2008 and 2007, respectively. Since inception, the proportion of our research and development expenses on human health applications has increased, as compared to our research and development expenses on agricultural applications. This change is primarily due to the fact

that our research focus on human health has increased and some of our research costs for plant applications have shifted to our license partners.

Our planned future pre-clinical research and development initiatives for human health include:

- Multiple Myeloma. Our objective is to advance our technology for the potential treatment of multiple myeloma with the goal of initiating a clinical trial. In connection with the potential clinical trial, we have engaged a clinical research organization, or CRO, to assist us through the process. We have also determined the delivery system for our technology, contracted for the supply of pharmaceutical grade materials to be used in toxicology and human studies and have contracted with a third party laboratory to conduct toxicoly studies, Together with the assistance of our CRO, we will have the toxicology studies performed with the goal of filing an investigational new drug application, or IND application, with the U.S. Food and Drug Administration, or FDA, for the review and consideration in order to initiate a clinical trial. We estimate that it will take less than eighteen months from June 30, 2008 to complete these objectives.

- HIV-1. We are currently reviewing our HIV-1 project to determine the direction of our future preclinical experiments.

- Lung Inflammation. The objective of our planned future lung inflammation experiments is to optimize the delivery and dose of the siRNA to Factor 5A to the lungs. A mouse model system is currently being conducted to illustrate the siRNA to Factor 5A's ability to reduce morbidity and mortality of lung inflammation, caused by the up-regulation of pro-inflammatory cytokines induced by a pathogen.

- Other. We may continue to look at other disease states in order to determine the role of Factor 5A.

In order to pursue the above research initiatives, as well as other research initiatives that may arise, we completed private placements of $10 million of convertible notes and warrants.

However, it may be necessary for us to raise a significant amount of additional working capital in the future to continue to pursue some of the above and new initiatives. If we are unable to raise the necessary funds, we may be required to significantly curtail the future development of some of our research initiatives and we will be unable to pursue other possible research initiatives.

We may further expand our research and development program beyond the initiatives listed above to include other research centers.

Human Health Competition

Our competitors in human health that are presently attempting to distribute their technology have generally utilized one of the following distribution channels:

- Entering into strategic alliances, including licensing technology to major marketing and distribution partners; or

- developing in-house production and marketing capabilities.

In addition, some competitors are established distribution companies, which alleviates the need for strategic alliances, while others are attempting to create their own distribution and marketing channels.

There are many large companies and development stage companies working in the field of apoptosis research including: Amgen; Centocor; Genzyme; OSI Pharmaceuticals, Inc.; Novartis; Introgen Therapeutics, Inc.; Genta, Inc.; and Vertex Pharmaceuticals, Inc., amongst others.

Agricultural Applications

Our agricultural research focuses on the discovery and development of certain gene technologies, which are designed to confer positive traits on fruits, flowers, vegetables, forestry species and agronomic crops. To date, we have isolated and characterized the senescence-induced Lipase gene, DHS, and Factor 5A in certain species of plants. Our goal is to modulate the expression of these genes in order to achieve such traits as extended shelf life, increased biomass, increased yield and increased resistance to environmental stresses and disease, thereby demonstrating proof of concept in each category of crop.

Certain agricultural results to date include:

- longer shelf life of perishable produce;
- increased biomass and seed yield;
- greater tolerance to environmental stresses, such as drought and soil salinity;
- greater tolerance to certain fungal and bacterial pathogens;
- more efficient use of fertilizer; and
- advancement to field trials in banana, lettuce, and trees.

The technology presently utilized by the industry for increasing the shelf life in certain flowers, fruits and vegetables relies primarily on reducing ethylene biosynthesis, and therefore only has application to the crops that are ethylene-sensitive. Because Factor 5A, DHS and Lipase are already present in all plant cells, our technology may be incorporated into crops by using either conventional breeding methods (non-genetically modified) or biotechnology techniques.

We have licensed this technology to various strategic partners and have entered into a joint venture. We may continue to license this technology, as the opportunities present themselves, to additional strategic partners and/or enter into additional joint ventures. Our commercial partners have licensed our technology for use in lettuce, turfgrass, canola, corn, soybean, cotton, banana, alfalfa, rice and certain species of trees and bedding plants, and we have obtained proof of concept for enhanced post harvest shelf life, seed yield, biomass, and resistance to disease in several of these plant species.

We have ongoing field trials of certain trees and bananas with our respective partners. The initial field trials conducted with ArborGen over a three year period in certain species of trees have concluded and the trees have been harvested for wood quality assessment.

Preliminary data from our joint field trials show significantly enhanced growth rates in some of the trees relative to controls.

To date, banana field trials have indicated that our technology extends the shelf life of banana fruit by 100%. In addition to the post harvest shelf life benefits, an additional field trial generated encouraging disease tolerance data specific to Black Sigatoka (Black Leaf Streak Disease), for banana plants. Additional field trials for banana plants are ongoing for Black Sigatoka.

Commercialization by our partners may require a combination of traits in a crop, such as both post harvest shelf life and disease resistance, or other traits. Our near-term research and development initiatives include modulating the expression of DHS and Factor 5A genes in these plants and then propagation and phenotype testing of such plants.

Our ongoing research and development initiatives for agriculture include assisting our license and joint venture partners to:

- further develop and implement the DHS and Factor 5A gene technology in lettuce, melon, banana, canola, cotton, turfgrass, bedding plants, rice, alfalfa, corn, soybean and trees; and
- test the resultant crops for new beneficial traits such as increased yield, increased tolerance to environmental stress, disease resistance and more efficient use of fertilizer.

Agricultural Target Markets

In order to address the complexities associated with marketing and distribution in the worldwide market, we have adopted a multi-faceted commercialization strategy, in which we have entered into and plan to enter into, as the opportunities present themselves, additional licensing agreements or other strategic relationships with a variety of companies or other entities on a crop-by-crop basis. We anticipate revenues from these relationships in the form of licensing fees, royalties,, usage fees, or the sharing of gross profits. In addition, we anticipate payments from certain of our partners, which are described in the *Agricultural Development and License Agreements* section of this Form 10-K, upon our achievement of certain research and development benchmarks. This commercialization strategy allows us to generate revenue at various stages of product development, while ensuring that our technology is incorporated into a wide variety of crops. Our optimal partners combine the technological expertise to incorporate our technology into their product line along with the ability to successfully market the enhanced final product, thereby eliminating the need for us to develop and maintain a sales force.

Because the agricultural market is dominated by privately held companies or subsidiaries of foreign owned companies, market size and market share data for the crops under our license and development agreements is not readily available. Additionally, because we have entered into confidentiality agreements with our license and development partners, we are unable to report the specific financial terms of the agreements as well as any market size and market share data that our partners may have disclosed to us regarding their companies.

Agricultural Development and License Agreements

Through September 15, 2008, we have entered into nine license agreements and one joint collaboration with established agricultural biotechnology companies or, in the case of Poet, as more fully described below, an established ethanol company, as follows:

- In November 2001, we entered into a worldwide exclusive development and license agreement with the Harris Moran Seed Company, referred to herein as the Harris Moran License, to commercialize our technology in lettuce and certain melons for an indefinite term, unless terminated by either party pursuant to the terms of the agreement. To date, the development steps performed by Harris Moran and us have all been completed in accordance with the protocol set forth in the Harris Moran License. There has been extensive characterization of our genes in lettuce in a laboratory setting. The initial lab work has produced genetically modified seed under greenhouse containment, which has been followed by substantial field trials for evaluation. These field trials represent a vital step in the process necessary to develop a commercial product. Together with Harris Moran, we will evaluate all results to date to determine the direction of further research necessary for our work in lettuce and melon. Under the Harris Moran License, we have received an upfront payment and we may receive benchmark payments upon achievement of certain research and marketing milestones.

- In June 2002, we entered into a three-year worldwide exclusive development and option agreement with ArborGen, LLC to develop our technology in certain species of trees. In June 2006, ArborGen exercised their option to license our technology and in December 2006, converted the development and option agreement into a license agreement, referred to herein as the ArborGen Agreement. To date, the research being conducted by ArborGen has proceeded according to schedule. ArborGen has seen promising positive growth responses in greenhouse-grown seedlings. These initial greenhouse data led to the initiation of field trials by ArborGen in the second half of calendar 2004. At the end of the 2005 growing season, certain trees which were enhanced by our technology had approximately double the increase in volume relative to control trees. Further field trials are ongoing to support these data and to analyze the growth rates of trees which incorporate our technology. Under the ArborGen Agreement, we have received an upfront payment and benchmark payments and we may receive additional benchmark payments upon achievement of certain development milestones and royalties upon commercialization.

- In September 2002, we entered into an exclusive development and license agreement with Cal/West Seeds, referred to herein as the Cal/West License, to commercialize our technology in certain varieties of alfalfa. The Cal/West License will continue until the expiration of the patents set forth in the agreement, unless terminated earlier by either party pursuant to the terms of the agreement. The Cal/West License also grants Cal/West an exclusive option to develop our technology in various other forage crops. The Cal/West development effort successfully incorporated our technology into their alfalfa seed as of July 2004. Seed transformation and greenhouse trait analysis is ongoing. Under the Cal/West License, we have received an upfront payment and we may receive benchmark payments as certain development milestones are achieved and a royalty upon commercialization based upon the volume of alfalfa seed sold that contains our

technology.

- In March 2004, we entered into an exclusive development and license agreement with The Scotts Company, referred to herein as the Scotts Agreement, to commercialize our technology in turfgrass and certain species of bedding plants. Scotts is working on incorporating our technology to enhance a variety of traits in these plants, including environmental stress resistance, disease resistance and enhanced bloom properties. We are collaborating with Scotts in the areas of ornamental bedding plants and turfgrass. A large-scale greenhouse evaluation of bedding plants was being conducted and additional greenhouse testing is planned. Transformation and initial tissue culture screening of events have been undertaken in turfgrass. In tissue culture, turfgrass containing our technology has grown more successfully than control turfgrass without our technology. Greenhouse testing of the grass containing our technology is the next planned development step. Under the Scotts Agreement, we have received an upfront payment and benchmark payments. In January 2006, the development and license agreement with The Scotts Company was amended. Due to a change in the corporate financial policy at Scotts, Scotts requested to defer certain milestone payments, which were to be made on a calendar basis. We agreed and these payments have now been deferred and incorporated in the amount to be paid to us upon commercialization. Additionally, the commercialization fee has been increased. All other aspects of the agreement remain unchanged, and the project continues to move forward without interruption. We may also receive royalties upon commercialization from the net sales of turfgrass seed and bedding plants containing our technology.

- In October 2005, we entered into an agreement with Poet to license our proprietary gene technology to Poet to improve aspects of Poet's ethanol production capabilities. We are currently revising our work plan to incorporate our technology into those aspects of Poet's ethanol production. We will receive an annual payment for each Poet facility that incorporates our technology. If Poet incorporates our technology into each of its facilities, we would be entitled to receive an annual payment in excess of $1,000,000.

- On November 8, 2006, we entered into a license agreement with Bayer CropScience GmbH for the development and commercialization of Canola. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones and will receive commercialization fees based upon specified benchmarks. In August, 2008, Bayer CropScience GmbH successfully completed the first development milestone related to this license.

- On July 17, 2007 we entered into a license agreement with Bayer CropScience AG for the development and commercialization of cotton. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, and a royalty on net sales.

- On August 6, 2007 we entered into a license agreement with Monsanto for the development and commercialization of corn and soy. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, and a royalty on net sales.

- On September 11, 2007 we entered into a license agreement with Bayer CropScience AG for the development and commercialization of rice. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones,

and additionally, upon commercialization, and a royalty on net sales.

Joint Venture

On May 14, 1999, we entered into a agreement with Rahan Meristem Ltd., or Rahan Meristem, an Israeli company engaged in the worldwide export marketing of banana germplasm, referred to herein as the Rahan Joint Venture**.** In general, bananas are grown either for local domestic consumption or grown for export. According to the Food and Agriculture Organization of the United Nations, there were approximately 16 million metric tons of bananas exported in 2004. The level of production equates to the fruit of approximately 480 million banana plants. A percentage of these plants are replaced each year with new banana seedlings. Rahan Meristem accounts for approximately 10% of the worldwide export of enhanced banana seedlings.

We have contributed, by way of a limited, exclusive, worldwide license to the Rahan Joint Venture, access to our technology, discoveries, inventions and know-how, whether patentable or otherwise, pertaining to plant genes and their cognate expressed proteins that are induced during senescence for the purpose of developing, on a joint basis, genetically enhanced banana plants which will result in a banana that has a longer shelf life. Rahan Meristem has contributed its technology, inventions and know-how with respect to banana plants. Rahan Meristem and Senesco have equally shared the expense of field trials.

The Rahan Joint Venture applied for and received a conditional grant that totals approximately $340,000, which constituted 50% of the Rahan Joint Venture's research and development budget over the five-year period, ending on May 31, 2005, from the Israel - U.S. Binational Research and Development Foundation, or BIRD Foundation, referred to herein as the BIRD Grant. Such grant, along with certain royalty payments, shall only be repaid to the BIRD Foundation upon the commercial success of the Rahan Joint Venture's technology. The commercial success is measured based upon certain benchmarks and/or milestones achieved by the Rahan Joint Venture. The Rahan Joint Venture reports these benchmarks periodically to the BIRD Foundation.

All aspects of the Rahan Joint Venture's research and development initiative are proceeding on time**.** Both the DHS and lipase genes have been identified and isolated in banana, and the Rahan Joint Venture is currently in the process of silencing these genes. Two Israeli field trials indicated that Senesco's proprietary technology extends the shelf life of the banana fruit up to 100%, while allowing the banana fruit to ripen normally. Later field trials have indicated what we believe are promising disease tolerance results and we are currently performing additional field trials to further assess disease tolerance. However, as the banana modified with our technology may be considered a genetically modified organism, or GMO, shelf life extension may have to be combined with disease tolerance to gain acceptance by the growers.

Agricultural Research Program

Our agricultural research and development is performed by three researchers, at our direction, at the University of Waterloo, where the technology was developed. Additional agricultural research and development is performed by our partners in connection with the Harris Moran License, the Scotts Agreement, the ArborGen License, the Cal/West License, the Bayer Licenses, the Monsanto License and through the Rahan Joint Venture.

The discoverer of our technology, John E. Thompson, Ph.D., is the Associate Vice President, Research and former Dean of Science at the University of Waterloo in Ontario, Canada, and is our Executive Vice President and Chief Scientific Officer. Dr. Thompson is also one of our directors and owns 3.1% of the outstanding shares of our common stock, $0.01 par value, as of June 30, 2008. On September 1, 1998, we entered into, and have extended through August 31, 2009, a research and development agreement with the University of Waterloo and Dr. Thompson as the principal inventor. The Research and Development Agreement provides that the University of Waterloo will perform research and development under our direction, and we will pay for the cost of this work and make certain payments to the University of Waterloo. In return for payments made under the Research and Development Agreements, we have all rights to the intellectual property derived from the research.

Agricultural Competition

Our competitors in both human health and agriculture that are presently attempting to distribute their technology have generally utilized one of the following distribution channels:

- licensing technology to major marketing and distribution partners;
- entering into strategic alliances; or
- developing in-house production and marketing capabilities.

In addition, some competitors are established distribution companies, which alleviates the need for strategic alliances, while others are attempting to create their own distribution and marketing channels.

Our competitors in the field of delaying plant senescence are companies that develop and produce transformed plants with a variety of enhanced traits. Such companies include: Icora (formerly Paradigm Genetics); Mendel Biotechnology; Renessen LLC; Exelixis Plant Sciences, Inc.; Syngenta International AG; and Eden Bioscience, among others.

Agricultural Development Program

Generally, projects with our licensee's and joint venture partner begin by transforming seed or germplasm to incorporate our technology. Those seeds or germplasm are then grown in our partners' greenhouses. After successful greenhouse trials, our partners will transfer the plants to the field for field trials. After completion of successful field trials, our partners may have to apply for and receive regulatory approval prior to initiation of any commercialization activities.

Generally, the approximate time to complete each sequential development step is as follows:

Seed Transformation	approximately 1 to 2 years
Greenhouse	approximately 1 to 2 years
Field Trials	approximately 2 to 5 years

The actual amount of time spent on each development phase depends on the crop, its growth cycle and the success of the transformation achieving the desired results. As such, the amount of time for each phase of development could vary, or the time frames may change.

The development of our technology with Poet is different than our other licenses in that we are modifying certain production inputs for ethanol. That process involves modifying the inputs, testing such inputs in Poet's production process and if successful, implementing such inputs in Poet's production process on a plant by plant basis.

The status of each of our projects with our partners is as follows:

Project	Partner	Status
Banana	Rahan Meristem	
- Shelf Life		Field trials
- Disease Resistance		Field trials
Lettuce	Harris Moran	Field trial data under evaluation
Melon	Harris Moran	Seed transformation
Trees	Arborgen	
- Growth		Field trials
Alfalfa	Cal/West	Greenhouse
Corn	Monsanto	Recently initiated
Cotton	Bayer	Recently initiated
Canola	Bayer	Seed transformation
Rice	Bayer	Recently initiated
Soybean	Monsanto	Recently initiated
Turfgrass	The Scotts Company	Greenhouse
Bedding Plants	The Scotts Company	Greenhouse
Ethanol	Poet	Modify inputs

Commercialization by our partners may require a combination of traits in a crop, such as both shelf life and disease resistance, or other traits.

Based upon our commercialization strategy, we anticipate that there may be a significant period of time before plants enhanced using our technology reach consumers. Thus, we have not begun to actively market our technology directly to consumers, but rather, we have sought to establish ourselves within the industry through presentations at industry conferences, our website and direct communication with prospective licensees.

Consistent with our commercialization strategy, we intend to attract other companies interested in strategic partnerships or licensing our technology, which may result in additional license fees, revenues from contract research and other related revenues. Successful future operations will depend on our ability to transform our research and development activities into a commercially feasible technology.

Intellectual Property

We have nineteen issued patents from the United States Patent and Trademark Office, or PTO, and twenty-three issued patents from foreign countries, thirty-one of which are for the use of our technology in agricultural applications and eleven of which relate to human health applications.

In addition to our forty-two patents, we have a wide variety of patent applications, including divisional applications and continuations-in-part, in process with the PTO and internationally. We intend to continue our strategy of enhancing these new patent applications through the addition of data as it is collected.

Government Regulation

At present, the U.S. federal government regulation of biotechnology is divided among three agencies: (i) the U.S. Department of Agriculture regulates the import, field-testing and interstate movement of specific types of genetic engineering that may be used in the creation of transformed plants; (ii) the Environmental Protection Agency regulates activity related to the invention of plant pesticides and herbicides, which may include certain kinds of transformed plants; and (iii) the FDA regulates foods derived from new plant varieties. The FDA requires that transformed plants meet the same standards for safety that are required for all other plants and foods in general. Except in the case of additives that significantly alter a food's structure, the FDA does not require any additional standards or specific approval for genetically engineered foods but expects transformed plant developers to consult the FDA before introducing a new food into the market place.

In addition, our ongoing preclinical research with cell lines and lab animal models of human disease is not currently subject to the FDA requirements that govern clinical trials. However, use of our technology, if developed for human health applications, will also be subject to FDA regulation. Generally, the FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human health technology must be approved by the regulatory agencies of foreign governments. Prior to filing a new drug application or biologics license application with the FDA, we would have to perform extensive clinical trials, and prior to beginning any clinical trial, we need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

We believe that our current activities, which to date have been confined to research and development efforts, do not require licensing or approval by any governmental regulatory

agency. However, we, or our licensees, may be required to obtain such licensing or approval from governmental regulatory agencies prior to the commercialization of our genetically transformed plants and the application of our human health technology.

Employees

In addition to the thirteen scientists performing funded research for us at Mayo Clinic, the University of Virginia, and the University of Waterloo, we have five employees and one consultant, four of whom are executive officers and are involved in our management. We do not anticipate hiring any additional employees over the next twelve months.

The officers are assisted by a Scientific Advisory Board that consists of prominent experts in the fields of plant and human cell biology as follows:

- Alan Bennett, Ph.D., who serves as the Chairman of the Scientific Advisory Board, is the Associate Vice Chancellor of the Office of Technology Transfer at the University of California. His research interests include the molecular biology of tomato fruit development and ripening, the molecular basis of membrane transport, and cell wall disassembly.

- Charles A. Dinarello, M.D., who serves as a member of the Scientific Advisory Board, is a Professor of Medicine at the University of Colorado School of Medicine, a member of the U.S. National Academy of Sciences and the author of over 500 published research articles. In addition to his active academic research career, Dr. Dinarello has held advisory positions with two branches of the National Institutes of Health and positions on the Board of Governors of both the Weizmann Institute and Ben Gurion University.

- James E. Meier is an Associate Professor of Medicine at Beth Israel Deaconess Medical Center, a teaching hospital of Harvard Medical School. He is also a practicing physician in the Division of Hematology-Oncology at Beth Israel. Dr. Mier's research is funded by the NIH and he is a member of numerous professional societies.

Furthermore, pursuant to the Research and Development Agreements, a substantial amount of our research and development activities are conducted at the University of Waterloo under the supervision of Dr. Thompson, our Executive Vice President and Chief Scientific Officer. We utilize the University's research staff including graduate and post-graduate researchers.

We have also undertaken preclinical apoptosis research at the University of Colorado under the supervision of Dr. Dinarello. In addition to the research being conducted at the University of Colorado, we have also undertaken preclinical apoptosis research at Mayo Clinic, and the University of Virginia. This research is performed pursuant to specific project proposals that have agreed-upon research outlines, timelines and budgets. We may also contract research to additional university laboratories or to other companies in order to advance the development of our technology.

Safe Harbor Statement

The statements contained in this Annual Report on Form 10-K that are not historical facts are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. Such forward-looking statements may be identified by, among other things, the use of forward-looking terminology such as "believes," "expects," "may," "will," "should," or "anticipates" or the negative thereof or other variations thereon or comparable terminology, or by discussions of strategy that involve risks and uncertainties. In particular, our statements regarding the anticipated growth in the markets for our technologies, the continued advancement of our research, the approval of our patent applications, the possibility of governmental approval in order to sell or offer for sale to the general public a genetically engineered plant or plant product, the successful implementation of our commercialization strategy, including the success of the Harris Moran License, the ArborGen Agreement, the Cal/West License, The Scotts License, the Broin License, the Bayer Licenses, the Monsanto License, and the Research and Development Agreements, the successful implementation of the Rahan Joint Venture, statements relating to our patent applications, the anticipated longer term growth of our business, the results of our preclinical studies, our ability to comply with the continued listing standards of the AMEX, and the timing of the projects and trends in future operating performance are examples of such forward-looking statements. The forward-looking statements include risks and uncertainties, including, but not limited to, the timing of revenues due to the variability in size, scope and duration of research projects, regulatory delays, research study results which lead to cancellations of research projects, and other factors, including general economic conditions and regulatory developments, not within our control. The factors discussed herein and expressed from time to time in our filings with the Securities and Exchange Commission could cause actual results and developments to be materially different from those expressed in or implied by such statements. The forward-looking statements are made only as of the date of this filing, and we undertake no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.

Factors That May Affect Our Business, Future Operating Results and Financial Condition

The more prominent risks and uncertainties inherent in our business are described below. However, additional risks and uncertainties may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations may suffer.

Item 1A. Risk Factors.

Risks Related to Our Business

We have a limited operating history and have incurred substantial losses and expect future losses.

We are a development stage biotechnology company with a limited operating history and limited assets and capital. We have incurred losses each year since inception and had an accumulated deficit of $30,223,030 at June 30, 2008. We have generated minimal revenues by licensing our technology for certain

crops to companies willing to share in our development costs. In addition, our technology may not be ready for commercialization for several years. We expect to continue to incur losses for the next several years because we anticipate that our expenditures on research and development, and administrative activities will significantly exceed our revenues during that period. We cannot predict when, if ever, we will become profitable.

We may need additional capital to fund our operations until we are able to generate a profit.

Our operations to date have required significant cash expenditures. Our future capital requirements will depend on the results of our research and development activities, preclinical and clinical studies, and competitive and technological advances.

In addition, the recent financings with YA Global Investments, L.P., referred to herein as YA Global, and Stanford Venture Capital Holdings, Inc., referred to herein as Stanford, are secured by all of our assets. If we default under the convertible notes, the investors may foreclose on our assets and our business. As a result, we may need to obtain more funding in the future through collaborations or other arrangements with research institutions and corporate partners or public and private offerings of our securities, including debt or equity financing. We may not be able to obtain adequate funds for our operations from these sources when needed or on acceptable terms. Future collaborations or similar arrangements may require us to license valuable intellectual property to, or to share substantial economic benefits with, our collaborators. If we raise additional capital by issuing additional equity or securities convertible into equity, our stockholders may experience dilution and our share price may decline. Any debt financing may result in restrictions on our spending.

If we are unable to raise additional funds, we will need to do one or more of the following:

- delay, scale-back or eliminate some or all of our research and product development programs;
- license third parties to develop and commercialize products or technologies that we would otherwise seek to develop and commercialize ourselves;
- seek strategic alliances or business combinations;

- attempt to sell our company;
- cease operations; or
- declare bankruptcy.

We believe that at the projected rate of spending we should have sufficient cash and investments to maintain our present operations for the next 13 months as of June 30, 2008.

We depend on a single principal technology and, if our technology is not commercially successful, we will have no alternative source of revenue.

Our primary business is the development and licensing of technology to identify, isolate, characterize and promote or silence genes which control the death of cells in humans and plants. Our future revenue and profitability critically depend upon our ability to successfully develop apoptosis and senescence gene technology and later license or market such technology. We have conducted experiments on certain crops with favorable results and have conducted certain preliminary cell-line and animal experiments, which have provided us with data upon which we have designed additional research programs. However, we cannot give any assurance that our technology will be commercially successful or economically viable for any crops or human health applications.

In addition, no assurance can be given that adverse consequences might not result from the use of our technology such as the development of negative effects on humans or plants or reduced benefits in terms of crop yield or protection. Our failure to obtain market acceptance of our technology or of our current or potential licensees to successfully commercialize such technology would have a material adverse effect on our business.

We outsource all of our research and development activities and, if we are unsuccessful in maintaining our alliances with these third parties, our research and development efforts may be delayed or curtailed.

We rely on third parties to perform all of our research and development activities. Our research and development efforts take place at the University of Waterloo in Ontario, Canada, where our technology was discovered, the University of Colorado, Mayo Clinic, the University of Virginia, and with our commercial partners. At this time, we do not have the internal capabilities to perform our research and development activities. Accordingly, the failure of third-party research partners to perform under agreements entered into with us, or our failure to renew important research agreements with these third parties, may delay or curtail our research and development efforts.

We have significant future capital needs and may be unable to raise capital when needed, which could force us to delay or reduce our research and development efforts.

As of June 30, 2008, we had cash and highly-liquid investments of $6,176,985 and working capital of $5,673,107. Using our available reserves as of June 30, 2008, we believe that we can operate according to our current business plan for the next 13 months from June 30, 2008. To date, we have generated minimal revenues and anticipate that our operating costs will exceed any revenues generated over the next several years. Therefore, we will be required to raise additional capital in the future in order to operate according to our current business plan, and this funding may not be available on favorable terms, if at all. If we are unable to raise

additional funds, we will need to do one or more of the following:

- delay, scale back or eliminate some or all of our research and development programs;
- license third parties to develop and commercialize our technology that we would otherwise seek to develop and commercialize ourselves;
- seek strategic alliances or business combinations;
- attempt to sell our company;
- cease operations; or
- declare bankruptcy.

In addition, in connection with any funding, if we need to issue more equity securities than our certificate of incorporation currently authorizes, or more than 20% of the shares of our common stock outstanding, we may need stockholder approval. If stockholder approval is not obtained or if adequate funds are not available, we may be required to curtail operations significantly or to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain of our technologies, product candidates, products or potential markets. Investors may experience dilution in their investment from future offerings of our common stock. For example, if we raise additional capital by issuing equity securities, such an issuance would reduce the percentage ownership of existing stockholders. In addition, assuming the exercise of all options and warrants outstanding and the conversion of the notes into common stock, as of June 30, 2008, we had 7,957,957 shares of common stock authorized but unissued and unreserved, which may be issued from time to time by our board of directors without stockholder approval. The total number of shares that may be issued under the financing is subject to certain caps as more fully described in this Form 10-K. Furthermore, we may need to issue securities that have rights, preferences and privileges senior to our common stock. Failure to obtain financing on acceptable terms would have a material adverse effect on our liquidity.

Since our inception, we have financed all of our operations through private equity and debt financings. Our future capital requirements depend on numerous factors, including:

- the scope of our research and development;
- our ability to attract business partners willing to share in our development costs;
- our ability to successfully commercialize our technology;
- competing technological and market developments;
- our ability to enter into collaborative arrangements for the development, regulatory approval and commercialization of other products; and
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights.

Our business depends upon our patents and proprietary rights and the enforcement of these rights. Our failure to obtain and maintain patent protection may increase competition and reduce demand for our technology.

As a result of the substantial length of time and expense associated with developing products and bringing them to the marketplace in the biotechnology and agricultural industries, obtaining and maintaining patent and trade secret protection for technologies, products and processes is of vital importance. Our success will depend in part on several factors, including, without limitation:

- our ability to obtain patent protection for our technologies and processes;
- our ability to preserve our trade secrets; and
- our ability to operate without infringing the proprietary rights of other parties both in the United States and in foreign countries.

As of June 30, 2008, we have been issued nineteen patents by the PTO and twenty-three patents from foreign countries. We have also filed numerous patent applications for our technology in the United States and in several foreign countries, which technology is vital to our primary business, as well as several Continuations in Part on these patent applications. Our success depends in part upon the grant of patents from our pending patent applications.

Although we believe that our technology is unique and will not violate or infringe upon the proprietary rights of any third party, we cannot assure you that these claims will not be made or if made, could be successfully defended against. If we do not obtain and maintain patent protection, we may face increased competition in the United States and internationally, which would have a material adverse effect on our business.

Since patent applications in the United States are maintained in secrecy until patents are issued, and since publication of discoveries in the scientific and patent literature tend to lag behind actual discoveries by several months, we cannot be certain that we were the first creator of the inventions covered by our pending patent applications or that we were the first to file patent applications for these inventions.

In addition, among other things, we cannot assure you that:

- our patent applications will result in the issuance of patents;
- any patents issued or licensed to us will be free from challenge and that if challenged, would be held to be valid;
- any patents issued or licensed to us will provide commercially significant protection for our technology, products and processes;
- other companies will not independently develop substantially equivalent proprietary information which is not covered by our patent rights;
- other companies will not obtain access to our know-how;
- other companies will not be granted patents that may prevent the commercialization of our technology; or
- we will not require licensing and the payment of significant fees or royalties to third parties for the use of their intellectual property in order to enable us to conduct our business.

Our competitors may allege that we are infringing upon their intellectual property rights, forcing us to incur substantial costs and expenses in resulting litigation, the outcome of which would be uncertain.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. We are like most biotechnology companies in that our patent protection is highly uncertain and involves complex legal and technical questions for which legal principles are not yet firmly established. In addition, if issued, our patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage.

The PTO and the courts have not established a consistent policy regarding the breadth of claims allowed in biotechnology patents. The allowance of broader claims may increase the incidence and cost of patent interference proceedings and the risk of infringement litigation. On the other hand, the allowance of narrower claims may limit the value of our proprietary rights.

The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have encountered significant problems and costs in protecting their proprietary rights in these foreign countries.

We could become involved in infringement actions to enforce and/or protect our patents. Regardless of the outcome, patent litigation is expensive and time consuming and would distract our management from other activities. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we could because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of any patent litigation could limit our ability to continue our operations.

If our technology infringes the intellectual property of our competitors or other third parties, we may be required to pay license fees or damages.

If any relevant claims of third-party patents that are adverse to us are upheld as valid and enforceable, we could be prevented from commercializing our technology or could be required to obtain licenses from the owners of such patents. We cannot assure you that such licenses would be available or, if available, would be on acceptable terms. Some licenses may be non-exclusive and, therefore, our competitors may have access to the same technology licensed to us. In addition, if any parties successfully claim that the creation or use of our technology infringes upon their intellectual property rights, we may be forced to pay damages, including treble damages.

Our security measures may not adequately protect our unpatented technology and, if we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology may be adversely affected.

Our success depends upon know-how, unpatentable trade secrets, and the skills, knowledge and experience of our scientific and technical personnel. As a result, we require all employees to agree to a confidentiality provision in their employment agreement that prohibits the disclosure of confidential information to anyone outside of our company, during the term of employment and thereafter. We also require all employees to disclose and assign to us the rights to their ideas, developments, discoveries and inventions. We also attempt to enter into similar agreements with our consultants, advisors and research collaborators. We cannot assure you that adequate protection for our trade secrets, know-how or other proprietary information against unauthorized use or disclosure will be available.

We occasionally provide information to research collaborators in academic institutions and request the collaborators conduct certain tests. We cannot assure you that the academic institutions will not assert intellectual property rights in the results of the tests conducted by the research collaborators, or that the academic institutions will grant licenses under such intellectual property rights to us on acceptable terms, if at all. If the assertion of intellectual property rights by an academic institution is substantiated, and the academic institution does not grant intellectual property rights to us, these events could limit our ability to commercialize our technology.

As we evolve from a company primarily involved in the research and development of our technology into one that is also involved in the commercialization of our technology, we may have difficulty managing our growth and expanding our operations.

As our business grows, we may need to add employees and enhance our management, systems and procedures. We may need to successfully integrate our internal operations with the operations of our marketing partners, manufacturers, distributors and suppliers to produce and market commercially viable products. We may also need to manage additional relationships with various collaborative partners, suppliers and other organizations. Although we do not presently conduct research and development activities in-house, we may undertake those activities in the future. Expanding our business may place a significant burden on our management and operations. We may not be able to implement improvements to our management information and control systems in an efficient and timely manner and we may discover deficiencies in our existing systems and controls. Our failure to effectively respond to changes may make it difficult for us to manage our growth and expand our operations.

We have no marketing or sales history and depend on third-party marketing partners. Any failure of these parties to perform would delay or limit our commercialization efforts.

We have no history of marketing, distributing or selling biotechnology products and we are relying on our ability to successfully establish marketing partners or other arrangements with third parties to market, distribute and sell a commercially viable product both here and abroad. Our business plan envisions creating strategic alliances to access needed commercialization and marketing expertise. We may not be able to attract qualified sub-licensees, distributors or marketing partners, and even if qualified, these marketing partners may not be able to successfully market agricultural products or human health applications developed with our technology. If our current or potential future marketing partners fail to provide adequate levels of sales, our commercialization efforts will be delayed or limited and we may not be able to generate revenue.

We will depend on joint ventures and strategic alliances to develop and market our technology and, if these arrangements are not successful, our technology may not be developed and the expenses to commercialize our technology will increase.

In its current state of development, our technology is not ready to be marketed to consumers. We intend to follow a multi-faceted commercialization strategy that involves the licensing of our technology to business partners for the purpose of further technological development, marketing and distribution. We have and are seeking business partners who will share the burden of our development costs while our technology is still being developed, and who will pay us royalties when they market and distribute products incorporating our technology upon commercialization. The establishment of joint ventures and strategic alliances may create future competitors, especially in certain regions abroad where we do not pursue patent protection. If we fail to establish beneficial business partners and strategic alliances, our growth will suffer and the continued development of our technology may be harmed.

Competition in the human health and agricultural biotechnology industries is intense and technology is changing rapidly. If our competitors market their technology faster than we do, we may not be able to generate revenues from the commercialization of our technology.

Many human health and agricultural biotechnology companies are engaged in research and development activities relating to apoptosis and senescence. The market for plant protection and yield enhancement products is intensely competitive, rapidly changing and undergoing consolidation. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for products containing our technology. Our competitors in the field of plant senescence gene technology are companies that develop and produce transgenic plants and include major international agricultural companies, specialized biotechnology companies, research and academic institutions and,

potentially, our joint venture and strategic alliance partners. These companies include: Icoria (formerly Paradigm Genetics); Mendel Biotechnology; Renessen LLC; Exelixis Plant Sciences, Inc.; Syngenta International AG; and Eden Bioscience, among others. Some of our competitors that are involved in apoptosis research include: Amgen; Centocor; Genzyme; OSI Pharmaceuticals, Inc.; Novartis; Introgen Therapeutics, Inc.; Genta, Inc.; and Vertex Pharmaceuticals, Inc. Many of these competitors have substantially greater financial, marketing, sales, distribution and technical resources than us and have more experience in research and development, clinical trials, regulatory matters, manufacturing and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technology may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our technology.

Our business is subject to various government regulations and, if we or our licensees are unable to obtain regulatory approval, we may not be able to continue our operations.

At present, the U.S. federal government regulation of biotechnology is divided among three agencies:

- the USDA regulates the import, field testing and interstate movement of specific types of genetic engineering that may be used in the creation of transgenic plants;
- the EPA regulates activity related to the invention of plant pesticides and herbicides, which may include certain kinds of transgenic plants; and
- the FDA regulates foods derived from new plant varieties.

The FDA requires that transgenic plants meet the same standards for safety that are required for all other plants and foods in general. Except in the case of additives that significantly alter a food's structure, the FDA does not require any additional standards or specific approval for genetically engineered foods, but expects transgenic plant developers to consult the FDA before introducing a new food into the marketplace.

Use of our technology, if developed for human health applications, will also be subject to FDA regulation. The FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human health technology must be approved by the regulatory agencies of foreign governments. Prior to filing a new drug application or biologics license

application with the FDA, we would have to perform extensive clinical trials, and prior to beginning any clinical trial, we need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

We believe that our current activities, which to date have been confined to research and development efforts, do not require licensing or approval by any governmental regulatory agency. However, we are planning on performing clinical trials, which would be subject to FDA approval. Additionally, federal, state and foreign regulations relating to crop protection products and human health applications developed through biotechnology are subject to public concerns and political circumstances, and, as a result, regulations have changed and may change substantially in the future. Accordingly, we may become subject to governmental regulations or approvals or become subject to licensing requirements in connection with our research and development efforts. We may also be required to obtain such licensing or approval from the governmental regulatory agencies described above, or from state agencies, prior to the commercialization of our genetically transformed plants and human health technology. In addition, our marketing partners who utilize our technology or sell products grown with our technology may be subject to government regulations. If unfavorable governmental regulations are imposed on our technology or if we fail to obtain licenses or approvals in a timely manner, we may not be able to continue our operations.

Preclinical studies and clinical trials of our human health applications may be unsuccessful, which could delay or prevent regulatory approval.

Preclinical studies may reveal that our human health technology is ineffective or harmful, and/or clinical trials may be unsuccessful in demonstrating efficacy and safety of our human health technology, which would significantly limit the possibility of obtaining regulatory approval for any drug or biologic product manufactured with our technology. The FDA requires submission of extensive preclinical, clinical and manufacturing data to assess the efficacy and safety of potential products. Furthermore, the success of preliminary studies does not ensure commercial success, and later-stage clinical trials may fail to confirm the results of the preliminary studies.

Any inability to license from third parties their proprietary technologies or processes which we use in connection with the development of our technology may impair our business.

Other companies, universities and research institutions have or may obtain patents that could limit our ability to use our technology in a product candidate or impair our competitive position. As a result, we would have to obtain licenses from other parties before we could continue using our technology in a product candidate. Any necessary licenses may not be available on commercially acceptable terms, if at all. If we do not obtain required licenses, we may not be able to develop our technology into a product candidate or we may encounter significant delays in development while we redesign methods that are found to infringe on the patents held by others.

Clinical trials for our human health technology will be lengthy and expensive and their outcome is uncertain

Before obtaining regulatory approval for the commercial sales of any product containing our technology, we must demonstrate through clinical testing that our technology and product containing our technology is safe and effective for use in humans. Conducting clinical trials is a

time-consuming, expensive and uncertain process and typically requires years to complete. In our industry, the results from preclinical studies and early clinical trials often are not predictive of results obtained in later-stage clinical trials. Some products and technologies that have shown promising results in preclinical studies or early clinical trials subsequently fail to establish sufficient safety and efficacy data necessary to obtain regulatory approval. At any time during clinical trials we or the FDA might delay or halt any clinical trial for various reasons, including:

- occurrence of unacceptable toxicities or side effects;

- ineffectiveness of the product candidate;
- negative or inconclusive results from the clinical trials, or results that necessitate additional studies or clinical trials;
- delays in obtaining or maintaining required approvals from institutions, review boards or other reviewing entities at clinical sites;
- delays in patient enrollment; or
- insufficient funding or a reprioritization of financial or other resources.

Any failure or substantial delay in successfully completing clinical trials and obtaining regulatory approval for our product candidates could severely harm our business.

Even if we receive regulatory approval, consumers may not accept products containing our technology, which will prevent us from being profitable since we have no other source of revenue.

We cannot guarantee that consumers will accept products containing our technology. Recently, there has been consumer concern and consumer advocate activism with respect to genetically engineered agricultural consumer products. The adverse consequences from heightened consumer concern in this regard could affect the markets for agricultural products developed with our technology and could also result in increased government regulation in response to that concern. If the public or potential customers perceive our technology to be genetic modification or genetic engineering, agricultural products grown with our technology may not gain market acceptance.

We depend on our key personnel and, if we are not able to attract and retain qualified scientific and business personnel, we may not be able to grow our business or develop and commercialize our technology.

We are highly dependent on our scientific advisors, consultants and third-party research partners. Our success will also depend in part on the continued service of our key employees and our ability to identify, hire and retain additional qualified personnel in an intensely competitive market. Although we have employment agreements with all of our key employees and a research agreement with Dr. Thompson, these agreements may be terminated upon short or no notice. We do not maintain key person life insurance on any member of management. The failure to attract and retain key personnel could limit our growth and hinder our research and development efforts.

Certain provisions of our charter, by-laws and Delaware law could make a takeover difficult.

Certain provisions of our certificate of incorporation and by-laws could make it more difficult for a third party to acquire control of us, even if the change in control would be beneficial to stockholders. Our certificate of incorporation authorizes our board of directors to issue, without stockholder approval, except as may be required by the rules of the American Stock Exchange, 5,000,000 shares of preferred stock with voting, conversion and other rights and preferences that could adversely affect the voting power or other rights of the holders of our common stock. Similarly, our by-laws do not restrict our board of directors from issuing preferred stock without stockholder approval.

In addition, we are subject to the Business Combination Act of the Delaware General Corporation Law which, subject to certain exceptions, restricts certain transactions and business combinations between a corporation and a stockholder owning 15% or more of the corporation's outstanding voting stock for a period of three years from the date such stockholder becomes a 15% owner. These provisions may have the effect of delaying or preventing a change of control of us without action by our stockholders and, therefore, could adversely affect the value of our common stock.

Furthermore, in the event of our merger or consolidation with or into another corporation, or the sale of all or substantially all of our assets in which the successor corporation does not assume outstanding options or issue equivalent options, our board of directors is required to provide accelerated vesting of outstanding options.

Increasing political and social turmoil, such as terrorist and military actions, increase the difficulty for us and our strategic partners to forecast accurately and plan future business activities.

Recent political and social turmoil, can be expected to put further pressure on economic conditions in the United States and worldwide. These political, social and economic conditions may make it difficult for us to plan future business activities.

Risks Related to Our Common Stock

Our management and other affiliates have significant control of our common stock and could significantly influence our actions in a manner that conflicts with our interests and the interests of other stockholders.

As of June 30, 2008, our executive officers, directors and affiliated entities together beneficially own approximately 70.7% of the outstanding shares of our common stock, assuming the exercise of options and warrants which are currently exercisable or will become exercisable within 60 days of June 30, 2008, held by these stockholders. As a result, these stockholders, acting together, will be able to exercise significant influence over matters requiring approval by our stockholders, including the election of directors, and may not always act in the best interests of other stockholders. Such a concentration of ownership may have the effect of delaying or preventing a change in control of us, including transactions in which our stockholders might otherwise receive a premium for their shares over then current market prices.

A significant portion of our total outstanding shares of common stock may be sold in the market in the near future, which could cause the market price of our common stock to drop significantly.

As of June 30, 2008, we had 18,375,117 shares of our common stock issued and outstanding, of which approximately 5,319,639 shares are registered pursuant to a registration statement on Form S-3 and the remainder of which are either eligible to be sold under SEC Rule 144 or are in the public float. In addition, we have registered 2,632,194 shares of our common stock underlying warrants previously issued on the Form S-3 registration statement and we registered 6,000,000 shares of our common stock underlying options granted or to be granted under our stock option plan. Consequently, sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, may have a material adverse effect on our stock price.

Our common stock has a limited trading market, which could limit your ability to resell your shares of common stock at or above your purchase price.

Our common stock is quoted on the American Stock Exchange and currently has a limited trading market. The American Stock Exchange requires us to meet minimum financial requirements in order to maintain our listing. We currently believe that we meet the continued listing requirements of the American Stock Exchange. However, we cannot assure you that we will continue to meet such standards. If we do not meet the continued listing standards, we could be delisted. We cannot assure you that an active trading market will develop or, if developed, will be maintained. As a result, our stockholders may find it difficult to dispose of shares of our common stock and, as a result, may suffer a loss of all or a substantial portion of their investment.

If our common stock is delisted from the American Stock Exchange, we may not be able to list on any other stock exchange, and our common stock may be subject to the "penny stock" regulations which may affect the ability of our stockholders to sell their shares.

The American Stock Exchange requires us to meet minimum financial requirements in order to maintain our listing. We have previously received notices from the American Stock Exchange that we did not meet each of Section 1003(a)(ii) of the American Stock Exchange Company Guide with shareholders' equity of less than $4,000,000 and losses from continuing operations and/or net losses in three out of our four most recent fiscal years and Section 1003(a)(iii) of the American Stock Exchange Company Guide with shareholders' equity less than $6,000,000 and losses from continuing operations and/or net losses in the five most recent fiscal years. We had submitted a plan to the American Stock Exchange discussing how we intended to regain compliance with the continued listing requirements. The American Stock Exchange had accepted our plan and had given us until March 1, 2008 to effectuate the plan and regain compliance with the continued listing requirements. On March 12, 2008, the American Stock Exchange notified us that we have regained compliance with the continued listing requirements. As of June 30, 2008, we believe that we continue to be in compliance with the American Stock Exchange's continued listing requirements. However, if we are unable to continue to be in compliance with the continued listing requirements, it is possible that we will be delisted. If we are delisted from the American Stock Exchange, our common stock likely will become a "penny stock." In general, regulations of the SEC define a "penny stock" to be an equity security that is not listed on a national securities exchange or the NASDAQ Stock Market and that has a market price of less than $5.00 per share or with an exercise price of less than

$5.00 per share, subject to certain exceptions. If our common stock becomes a penny stock, additional sales practice requirements would be imposed on broker-dealers that sell such securities to persons other than certain qualified investors. For transactions involving a penny stock, unless exempt, a broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. In addition, the rules on penny stocks require delivery, prior to and after any penny stock transaction, of disclosures required by the SEC.

If our stock is not accepted for listing on the American Stock Exchange, we will make every possible effort to have it listed on the Over the Counter Bulletin Board, or the OTC Bulletin Board. If our common stock were to be traded on the OTC Bulletin Board, the Securities Exchange Act of 1934, as amended, and related SEC rules would impose additional sales practice requirements on broker-dealers that sell our securities. These rules may adversely affect the ability of stockholders to sell our common stock and otherwise negatively affect the liquidity, trading market and price of our common stock.

We believe that the listing of our common stock on a recognized national trading market, such as the American Stock Exchange, is an important part of our business and strategy. Such a listing helps our stockholders by providing a readily available trading market with current quotations. Without that, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock would likely decline. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded it by other parties. In that regard, the absence of a listing on a recognized national trading market will also affect our ability to benefit from the use of our operations and expansion plans, including for use in licensing agreements, joint ventures, the development of strategic relationships and acquisitions, which are critical to our business and strategy and none of which is currently the subject of any agreement, arrangement or understanding, with respect to any future financing or strategic relationship it may undertake. The delisting from the American Stock Exchange would result in negative publicity and would negatively impact our ability to raise capital in the future.

The market price of our common stock may fluctuate and may drop below the price you paid.

We cannot assure you that you will be able to resell the shares of our common stock at or above your purchase price. The market price of our common stock may fluctuate significantly in response to a number of factors, some of which are beyond our control. These factors include:

- quarterly variations in operating results;
- the progress or perceived progress of our research and development efforts;
- changes in accounting treatments or principles;
- announcements by us or our competitors of new technology, product and service offerings, significant contracts, acquisitions or strategic relationships;
- additions or departures of key personnel;
- future offerings or resales of our common stock or other securities;
- stock market price and volume fluctuations of publicly-traded companies in general and development companies in particular; and
- general political, economic and market conditions.

Because we do not intend to pay, and have not paid, any cash dividends on our shares of common stock, our stockholders will not be able to receive a return on their shares unless the value of our common stock appreciates and they sell their shares.

We have never paid or declared any cash dividends on our common stock and we intend to retain any future earnings to finance the development and expansion of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Therefore, our stockholders will not be able to receive a return on their investment unless the value of our common stock appreciates and they sell their shares.

Our stockholders may experience substantial dilution as a result of the conversion of outstanding convertible debentures, or the exercise of options and warrants to purchase our common stock.

As of June 30, 2008, we have granted options outside of our stock option plan to purchase 10,000 shares of our common stock and outstanding warrants to purchase 19,796,926 shares of our common stock. In addition, as of June 30, 2008, we have reserved 6,000,000 shares of our common stock for issuance upon the exercise of options granted pursuant to our stock option plan, 3,805,600 of which have been granted, 90,000 of which have been exercised since inception, 3,715,600 of which are outstanding, and 2,194,400 of which may be granted in the future. The exercise of these options and warrants will result in dilution to our existing stockholders and could have a material adverse effect on our stock price. In addition, any shares issued in connection with the YA Global financing or Stanford Financing, as further discussed elsewhere in this Form 10-Q, can also have a dilutive effect and a possible material adverse effect on our stock price. The conversion price of the warrants are also subject to certain anti-dilution adjustments. The agreements with YA Global and Stanford provide for the potential issuance of up to an additional 61,833,332 shares of our common stock.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

We lease office space in New Brunswick, New Jersey for a current monthly rental fee of $6,460, subject to certain escalations for our proportionate share of increases, over the base year of 2001, in the building's operating costs. The monthly rental fee will continue to increase by one percent each year through the expiration date of the lease. The lease expires in May 2011. The space is in good condition, and we believe it will adequately serve as our headquarters over the term of the lease. We also believe that this office space is adequately insured by the lessor.

Item 3. Legal Proceedings.

We are not currently a party to any legal proceedings; however, we may become involved in various claims and legal actions arising in the ordinary course of business.

Item 4. Submission of Matters to a Vote of Security Holders.

None.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our common stock trades on the American Stock Exchange under the symbol SNT.

The following table sets forth the range of the high and low sales price for our common stock for each of the quarters since the quarter ended September 30, 2006, as reported on the American Stock Exchange.

Quarter Ended	Common Stock High	Common Stock Low
September 30, 2006	$ 1.83	$ 1.08
December 31, 2006	$ 1.40	$ 0.90
March 31, 2007	$ 1.33	$ 0.97
June 30, 2007	$ 1.69	$ 0.80
September 30, 2007	$ 1.25	$ 0.78
December 31, 2007	$ 1.05	$ 0.38
March 31, 2008	$ 1.28	$ 0.29
June 30, 2008	$ 1.99	$ 1.00

As of September 15, 2008, the approximate number of holders of record of our common stock was 275**.** This number does not include "street name" or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

We have neither paid nor declared dividends on our common stock since our inception and we do not plan to pay dividends on our common stock in the foreseeable future. We expect that any earnings, which we may realize, will be retained to finance the growth of our company.

The following table provides information about the securities authorized for issuance under our equity compensation plans as of June 30, 2008.

EQUITY COMPENSATION PLAN INFORMATION

	Number of securities to be issued upon exercise of outstanding options, warrants and rights and restricted stock units	Weighted-average exercise price of outstanding options, warrants and rights and restricted stock units	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders	4,053,300(1)	$ 1.95	1,856,700(2)

Equity compensation plans not approved by security holders	—	—	—
Total	4,053,300(1)	$ 1.95	1,856,700(2)

(1) Issued pursuant to our 1998 Stock Plan.

(2) Available for future issuance pursuant to our 1998 Stock Plan.

RECENT SALES OF UNREGISTERED SECURITIES

On August 1, 2007 and August 29, 2007, we entered into binding Securities Purchase Agreements with YA Global and Stanford to sell to each of YA Global and Stanford up to $5,000,000 of secured convertible notes and accompanying warrants for an aggregate gross proceeds of $10,000,000. The convertible notes convert into our common stock at a fixed price of $0.90 per share subject to certain adjustments, referred to herein as the Fixed Conversion Price, for a period of two years immediately following the signing date. After the second anniversary of the signing date, the convertible notes may convert into shares of our common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price, referred to herein as the VWAP, of our common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global is December 30, 2010. The maturity date of each of the convertible notes for Stanford is December 31, 2010. At the fixed conversion price, the number of shares of common stock issuable upon conversion of the $10,000,000 of convertible notes and shares of common stock to be issued upon exercise of the warrants represents, in the aggregate, 24,994,444 shares, plus an estimated additional 2,000,000 shares for the payment of interest in stock under the convertible notes.

The convertible notes accrue interest on their outstanding principal balances at an annual rate of 8%. We have the option to pay interest in cash or, upon certain conditions, common stock. If we pay interest in our common stock, the stock will be valued at a 10% discount to the average daily VWAP for the five day trading period prior to the interest payment date, referred to herein as the Interest Shares.

At our option, we can redeem a portion of, or all of, the principal owed under the convertible notes by providing the investors with at least 30 business days' written notice, provided that, at the time of receipt of the notice, either: (A)(i) the VWAP of our common stock exceeds 130% of the Fixed Conversion Price for at least 20 of 30 prior trading days and (ii) there is an effective registration statement for the resale of our common stock that will be issued under the redemption or (B) we redeem a portion, or all, of the principal owed at a 20% premium above the principal then outstanding and any accrued interest thereupon. If we redeem all or any of the principal outstanding under the convertible notes, we will pay an amount equal to the principal being redeemed plus accrued interest.

If there is an effective registration statement for the resale of the shares underlying the convertible notes or if such shares become freely tradable under rule 144, we will have the option to force the investors to convert 50% and 100% of our then-outstanding convertible notes if our common stock price exceeds 150% and 175% of the Fixed Conversion Price, respectively, for any 20 out of 30 trading days; provided that such forced conversion meets certain conditions, referred to herein as the Call Option. If we exercise our Call Option prior to the third anniversary of the signing date, we will issue additional warrants to the investors equal to 50% of

the number of shares underlying the convertible notes subject to the forced conversion. These warrants will be exercisable at the fixed conversion price and will have the same maturity as the other warrants issued under the YA Global Financing.

Our obligations under the convertible notes are secured by all of our and our subsidiary's assets and intellectual property, as evidenced by the Security Agreements and the Patent Security Agreements. Pursuant to a subordination agreement, YA Global is the senior secured creditor.

We have issued warrants to purchase an aggregate of 5,550,000 shares of our common stock to YA Global and warrants to purchase an aggregate of 8,333,333 of our common stock to Stanford. Such warrants are exercisable six months and one day from the date of issuance until their expiration on the date that is five years from the date of issuance. The warrants have been issued in two series. The exercise price of the Series A warrants is $1.01 per share, and the exercise price of the Series B warrants is $0.90 per share, subject to certain adjustments. The warrants provide a right of cashless exercise if, at the time of exercise, there is no effective registration statement registering the resale of the shares underlying the warrants.

The conversion rate of each convertible note and the exercise price of the Series B warrants are subject to adjustment for certain events, including dividends, stock splits, combinations and the sale of our common stock or securities convertible into or exercisable for our common stock at a price less than the then applicable conversion or exercise price.

The investors have a right of first refusal on any future funding that involves the issuance of our capital stock for so long as a portion of the convertible notes are outstanding.

The total gross proceeds from the issuance of the convertible notes and warrants is $10,000,000 before payment of 3.25% of the purchase price in commissions to Wainwright & Co., Inc., referred to herein as the Placement Agent. We have issued to the Placement Agent warrants to purchase 7% of the purchase price, or 777,777 shares, of our common stock with similar terms to the warrants that have been and will be issued to the investors. We have paid YA Global and Stanford a non-refundable structuring/due diligence fee of $30,000 each. We have also paid YA Global a commitment fee of 5% and Stanford a commitment fee of 7% of their respective purchase prices.

Specifics of YA Global Financing

Pursuant to the YA Global Securities Purchase Agreement, we have issued three convertible notes in the aggregate amount of $5,000,000 and two Series A warrants in the amount of 1,387,500 shares each on September 21, 2007 and October 16, 2007 and a Series B warrant in the amount of 2,775,000 shares on December 20, 2007. On April 29, 2008, YA Global converted $500,000 of the convertible notes into 555,556 shares of our common stock.

The convertible notes and warrants issued to YA Global are subject to a maximum cap of 30,500,000 on the number of shares of our common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

Specifics of Stanford Financing

Pursuant to the YA Global Securities Purchase Agreement, we have issued three convertible notes in the aggregate amount of $5,000,000 and Series A warrants in the aggregate amount of 4,166,666 shares and Series B warrants in the aggregate amount of 4,166,667 shares

each on December 20, 2007 and June 30, 2008.

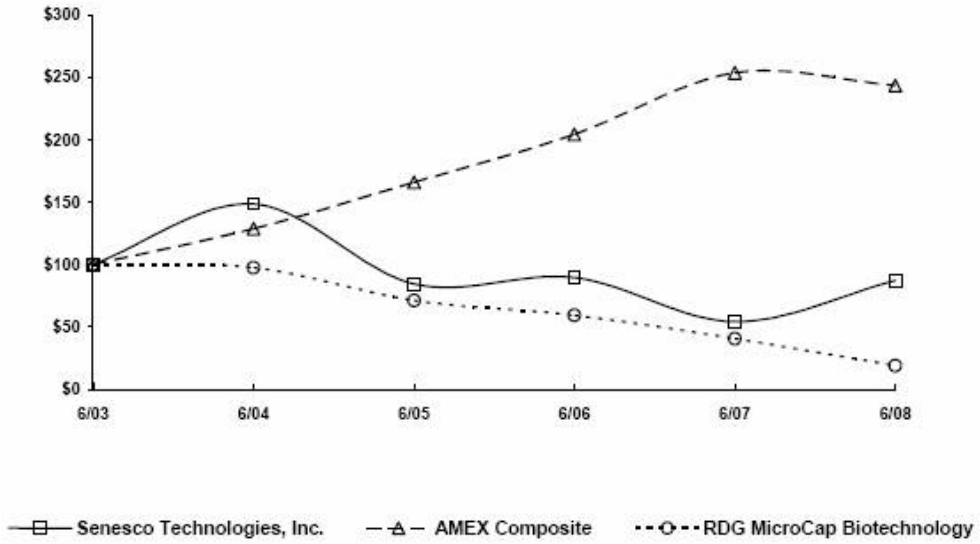
The convertible notes and warrants issued to Stanford will be subject to a maximum cap of 31,888,888 on the number of shares of our common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

The costs associated with the issuances to YA Global and Stanford in the amount of $1,291,427, $639,645 of which represent the black-scholes value of the warrants issued to the placement agent, have been recorded as deferred financing costs and are being amortized ratably over the term of the convertible notes.

PERFORMANCE GRAPH

The following graph compares the cumulative total stockholder return on our common stock with the cumulative total return on the AMEX Market Value (U.S.) Index and the RDG Microcap Biotechnology Index for the period beginning July 1, 2003 and ending on the last day of our last completed fiscal year. The stock performance shown on the graph below is not indicative of future price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Senesco Technologies, Inc., The AMEX Composite Index
And The RDG MicroCap Biotechnology Index



*$100 invested on 6/30/03 in stock & index-including reinvestment of dividends.
Fiscal year ending June 30.

	7/1/03	6/30/04	6/30/05	6/30/06	6/30/07	6/30/08
Senesco Technologies, Inc.	$ 100.00	$ 148.58	$ 84.43	$ 89.62	$ 54.25	$ 87.26
AMEX Market Value (U.S.) Index	$ 100.00	$ 128.79	$ 165.82	$ 204.19	$ 253.70	$ 243.41
RDG Microcap Biotechnology Index	$ 100.00	$ 97.45	$ 71.24	$ 59.29	$ 40.60	$ 19.01

The information in the performance graph is not deemed to be “soliciting material” or to be “filed” with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

Item 6. Selected Financial Data.

The following Selected Financial Data should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Item 8. Financial Statements and Supplementary Data" included elsewhere in this Annual Report on Form 10-K.

SELECTED FINANCIAL DATA

	Year Ended June 30,				
	2008	2007	2006	2005	2004
	(In thousands, except per share data)				
Statement of Operations Data:					
Revenue	$ 457	$ 300	$ 67	$ 125	$ 17
Operating expenses:					
General and administrative	2,291	2,413	1,920	2,030	2,907
Research and development	1,765	1,208	1,566	1,417	1,147
Total operating expenses	4,056	3,621	3,486	3,447	4,054
Loss from operations	(3,599)	(3,321)	(3,419)	(3,322)	(4,037)
Noncash income	—	—	—	136	186
Sale of state income tax loss - net	—	—	—	153	91
Amortization of debt discount and financing costs	(668)	—	—	—	—
Interest expense – convertible notes	(434)	—	—	—	—
Interest income, net	100	69	104	54	33
Net loss	$ (4,601)	$ (3,252)	$ (3,315)	$ (2,979)	$ (3,727)
Basic and diluted net loss per common share	$ (.26)	$ (.19)	$ (.21)	$ (.21)	$ (.29)
Basic and diluted weighted average number of common shares outstanding	17,660	16,917	15,469	14,054	12,668
Balance Sheet Data:					
Cash, cash equivalents and investments	$ 6,176	$ 658	$ 1,168	$ 4,481	$ 4,136
Working capital	5,673	259	859	3,959	3,840
Total assets	10,643	3,322	3,535	6,113	5,211
Accumulated deficit	(30,223)	(25,622)	(22,370)	(19,055)	(16,076)
Total stockholders' equity	9,836	2,690	2,952	5,590	4,731

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The discussion in "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains trend analysis, estimates and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, without limitation, statements containing the words "believes," "anticipates," "expects," "continue," and other words of similar import or the negative of those terms or expressions. Such forward-looking statements are subject to known and unknown risks, uncertainties, estimates and other factors that may cause our actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results could differ materially from those set forth in such forward-looking statements as a result of, but not limited to, the "Risk Factors" described in Part I, Item 1A. You should read the following discussion and analysis along with the "Selected Financial Data" and the financial statements and notes attached to those statements included elsewhere in this report.

Overview

We are a development stage company. We do not expect to generate significant revenues for approximately the next one to three years, during which time we will engage in significant research and development efforts. However, we have entered into nine agricultural license agreements to develop and commercialize our technology in corn, soy, cotton, rice, canola, lettuce, melons, trees, alfalfa, bedding plants, turf grass, and ethanol. Eight of the licenses provide for upfront payments, milestone payments and royalty payments to us upon commercial introduction. The ethanol license provides for annual payments for each of the licensee's ethanol production facilities that incorporates our technology. We also have entered into a joint venture to develop and commercialize our technology in banana plants. In connection with the joint venture, we will receive 50% of the profits from the sale of enhanced banana plants.

Consistent with our commercialization strategy, we intend to license our technology for additional crops, as the opportunities may arise, that may result in additional license fees, revenues from contract research and other related revenues. Successful future operations will depend on our and our partners' ability to transform our research and development activities into a commercially feasible technology.

We plan to employ the same partnering strategy in both the human health and agricultural target markets.

Our human health research program, which has consisted of pre-clinical in-vitro and in-vivo experiments designed to assess the role and method of action of the Factor 5A genes in human diseases, is performed by approximately thirteen third party researchers at our direction, at the University of Waterloo, Mayo Clinic and the University of Virginia.

Our primary human health initiative is to advance our technology for the potential treatment of multiple myeloma with the goal of initiating a clinical trial. In connection with the potential clinical trial, we have engaged a CRO to assist us through the process. We have also determined the delivery system for our technology, contracted for the supply of pharmaceutical

grade materials to be used in toxicology and human studies and have contracted with a third party laboratory to conduct toxicoly studies, Together with the assistance of our CRO, we will have the toxicology studies performed with the goal of filing an investigational new drug application, or IND application, with

the U.S. Food and Drug Administration, or FDA, for the review and consideration in order to initiate a clinical trial.. We estimate that it will take less than eighteen months to complete these objectives.

Our preclinical human health research has yielded data that we have presented to various biopharmaceutical companies that may be prospective licensees for the development and marketing of potential applications for our technology.

Critical Accounting Policies and Estimates

Revenue Recognition

We record revenue under technology license and development agreements related to the following. Actual fees received may vary from the recorded estimated revenues.

- Nonrefundable upfront license fees that are received in exchange for the transfer of our technology to licensees, for which no further obligations to the licensee exist with respect to the basic technology transferred, are recognized as revenue on the earlier of when payments are received or collections are assured.

- Nonrefundable upfront license fees that are received in connection with agreements that include time-based payments are, together with the time-based payments, deferred and amortized ratably over the estimated research period of the license.

- Milestone payments, which are contingent upon the achievement of certain research goals, are recognized as revenue when the milestones, as defined in the particular agreement, are achieved.

The effect of any change in revenues from technology license and development agreements would be reflected in revenues in the period such determination was made. Historically, no such adjustments have been made.

Estimates of Expenses

Our research and development agreements with third parties provide for an estimate of our expenses and costs, which are variable and are based on the actual services performed by the third party. We estimate the aggregate amount of the expenses based upon the projected amounts that are set forth in the agreements, and we accrue the expenses for which we have not yet been invoiced. In estimating the expenses, we consider, among other things, the following factors:

- the existence of any prior relationship between us and the third party provider;

- the past results of prior research and development services performed by the third party provider; and

- the scope and timing of the research and development services set forth in the agreement with the third party provider.

After the research services are performed and we are invoiced, we make any adjustments that are necessary to accurately report research and development expense for the period.

Valuation Allowances and Carrying Values

We have recorded valuation allowances against our entire deferred tax assets of $9,152,000 at June 30, 2008 and $7,719,000 at June 30, 2007. The valuation allowances relate primarily to the net operating loss carryforward deferred tax asset where the tax benefit of such asset is not assured.

As of June 30, 2008 and 2007, we have determined that the estimated future discounted cash flows related to our patent applications will be sufficient to recover their carrying value.

We have determined that we are receiving the economic benefit of the agricultural patent applications as well as all of the issued patents and are amortizing the agricultural patent application costs and all of the issued patents over seventeen years on a straight-line basis.

We do not have any off-balance sheet arrangements.

Stock-Based Compensation

We adopted FAS No. 123R, “Share-Based Payments”, effective July 1, 2005, using the modified-retrospective method. The adoption of this standard requires the recognition of stock-based compensation expense in the consolidated financial statements. Prior to July 1, 2005, we followed Accounting Principles Board Opinion 25, “Accounting for Stock Issued to Employees”, and related interpretations.

The fair value of each stock option and warrant is estimated on the date of grant using the Black-Scholes option-pricing model. Expected volatility is based on the historical volatility of our stock and of similar companies. The expected term of stock options and warrants granted is based upon the simplified method whereby expected term is calculated using the weighted average term of the vesting period of such options and warrants. The expected term is calculated for and applied to all groups of stock options and warrants as we do not expect substantially different exercise or post-vesting termination behavior amongst our employee population. The risk-free rate of stock options is based on the U.S. Treasury rate in effect at the time of grant for the expected term of the stock options and warrants. Expected forfeitures are based on historical data.

In connection with our Short-Term and Long-Term incentive plans, our management reviews the specific goals of such plans to determine if such goals have been achieved or are probable that they will be achieved. If the goals have been achieved or are probable of being achieved, then the amount of compensation expense determined on the date of grant related to those specific goals is charged to compensation expense at such time.

Convertible Notes

During the year we issued convertible notes and warrants for gross proceeds in the amount of $10,000,000. The proceeds have been allocated between convertible notes and warrants based upon their fair values, whereby the fair value of the warrants have been determined using the Black-Scholes model. The remaining amounts were allocated to the beneficial conversion feature based upon the effective conversion price compared to the fair

value of the common stock on the date of issuance of the convertible notes and warrants. As such, all of the proceeds of the convertible notes and warrants were recorded as equity. The convertible notes are being amortized to interest expense using the effective yield method over the term of the notes.

Research Program

We do not expect to generate significant revenues for approximately the next one to three years, during which time we will engage in significant research and development efforts. We expect to spend significant amounts on the research and development of our technology. We also expect our research and development costs to increase as we continue to develop and ultimately commercialize our technology. However, the successful development and commercialization of our technology is highly uncertain. We cannot reasonably estimate or know the nature, timing and expenses of the efforts necessary to complete the development of our technology, or the period in which material net cash inflows may commence from the commercialization of our technology, including the uncertainty of:

- the scope, rate of progress and expense of our research activities;
- the interim results of our research;
- the expense of additional research that may be required after review of the interim results;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish;
- the expense and timing of regulatory approvals;
- the effect of competing technological and market developments; and
- the expense of filing, prosecuting, defending and enforcing any patent claims or other intellectual property rights.

Liquidity and Capital Resources

Overview

As of June 30, 2008, our cash balance and investments totaled $6,176,985**,** and we had working capital of $5,673,107. As of June 30, 2007, we had a federal tax loss carryforward of approximately $19,924,000 and a state tax loss carry-forward of approximately $12,565,000 to offset future taxable income. We cannot assure you that we will be able to take advantage of any or all of such tax loss carryforwards, if at all, in future fiscal years.

Contractual Obligations

The following table lists our cash contractual obligations as of June 30, 2008:

	Payments Due by Period				
Contractual Obligations	**Total**	**Less than 1 year**	**1 - 3 years**	**4 - 5 years**	**More than 5 years**
Research and Development Agreements (1)	$ 1,103,707	$ 1,103,707	$ —	$ —	$ —
Facility, Rent and Operating Leases (2)	$ 231,496	$ 78,508	$ 152,988	$ —	$ —
Employment, Consulting and Scientific Advisory Board Agreements (3)	$ 817,040	$ 752,846	$ 64,194	$ —	$ —
Total Contractual Cash Obligations	$ 2,152,243	$ 1,935,061	$ 217,182	$ —	$ —

(1) Certain of our research and development agreements disclosed herein provide that payment is to be made in Canadian dollars and, therefore, the contractual obligations are subject to fluctuations in the exchange rate.

(2) The lease for our office space in New Brunswick, New Jersey is subject to certain escalations for our proportionate share of increases in the building's operating costs.

(3) Certain of our employment and consulting agreements provide for automatic renewal, which is not reflected in the table, unless terminated earlier by the parties to the respective agreements.

We expect our capital requirements to increase significantly over the next several years as we commence new research and development efforts, increase our business and administrative infrastructure and embark on developing in-house business capabilities and facilities. Our future liquidity and capital funding requirements will depend on numerous factors, including, but not limited to, the levels and costs of our research and development initiatives and the cost and timing of the expansion of our business development and administrative staff.

Effective September 1, 2008, we extended our research and development agreement with the University of Waterloo for an additional one-year period through August 31, 2009, in the amount of CAD $735,000 or approximately USD $735,000, which is not included in the above table of contractual obligations. Research and development expenses under this agreement aggregated $730,960 for the year ended June 30, 2008 and USD $568,872 for the year ended June 30, 2007 and USD $4,627,264 for the cumulative period from inception through June 30, 2008. Total research and development expenses aggregated $1,764,426 for the year ended June 30, 2008 and $1,208,321 for the year ended June 30, 2007 and $9,957,595 for the cumulative period from inception through June 30, 2008.

Capital Resources

Since inception, we have generated revenues of $1,175,000 in connection with the initial fees and milestone payments received under our license and development agreements. We have not been profitable since inception, we will continue to incur additional operating losses in the future, and we will require additional financing to continue the development and subsequent commercialization of our technology. While we do not expect to generate significant revenues from the licensing of our technology for at least the next one to three years, we may enter into additional licensing or other agreements with marketing and distribution partners that may result in additional license fees, receive revenues from contract research, or other related revenue.

License Agreements

On July 17, 2007 we entered into a license agreement with Bayer CropScience AG for the development and commercialization of Cotton. Under the terms of the license agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

On August 6, 2007 we entered into a license agreement with Monsanto for the development and commercialization of Corn and Soy. Under the terms of the license agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

On September 11, 2007 we entered into a license agreement with Bayer CropScience AG for the development and commercialization of Rice. Under the terms of the agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and additionally, upon commercialization, a royalty on net sales.

Financing

As discussed in Part II, Item 5, Recent Sales of Unregistered Securities, in this Annual Report on Form 10-K, on August 1, 2007 and August 29, 2007, we entered into binding Securities Purchase Agreements with YA Global and Stanford and have sold to each of YA Global and Stanford $5,000,000 of secured convertible notes and accompanying warrants for aggregate gross proceeds in the amount of $10,000,000.

We anticipate that, based upon our current cash and investments, we will be able to fund our operations for the next thirteen months from June 30, 2008. Over the next twelve months from June 30, 2008, we plan to fund our research and development and commercialization activities by:

- utilizing our current cash balance and investments,
- achieving some of the milestones set forth in our current licensing agreements,
- through the execution of additional licensing agreements for our technology, and
- through the placement of equity or debt instruments.

We cannot assure you that we will be able to raise money through any of the foregoing transactions, or on favorable terms, if at all.

Results of Operations

Fiscal Years ended June 30, 2008, 2007 and 2006

Revenue

Total revenues consisted of initial fees and milestone payments on our agricultural development and license agreements. During the year ended June 30, 2008, we earned revenue in the amount of $456,667 and during the year ended June 30, 2007, we earned revenue in the amount of $300,000. Such revenue consisted of initial payments, current milestone payments, and the amortized portion of previous milestone payments in connection with certain license agreements. During the year ended June 30, 2006, we earned revenue in the amount of $66,666 consisted of current milestone payments and the amortized portion of previous milestone payments in connection with certain license agreements.

We anticipate that we will continue to receive milestone payments in connection with our current agricultural development and license agreements while we continue to pursue our goal of attracting other companies to license our technologies in various other crops. Additionally, we anticipate that we will receive royalty payments from our license agreements when our partners commercialize their crops containing our technology. However, it is difficult for us to determine our future revenue expectations because we are a development stage biotechnology company. As such, the timing and outcome of our experiments, the timing of signing new partners and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

Operating expenses

	Year Ended June 30,							
	2008	2007	Change	%	2007	2006	Change	%
	(In thousands, except % values)							
General and administrative	$ 2,291	$ 2,413	$ (122)	(5)%	$ 2,413	$ 1,920	$ 493	26%
Research and development	1,765	1,208	557	46%	1,208	1,566	(358)	(23)%
Total operating expenses	$ 4,056	$ 3,621	$ 435	12%	$ 3,621	$ 3,486	$ 135	4%

We expect operating expenses to increase over the next twelve months as we anticipate that research and development expenses and other general and administrative expenses will increase as we continue to expand our research and development activities.

General and administrative expenses

General and administrative expenses consist of the following:

	Year ended June 30,		
	2008	2007	2006
	(In thousands)		
Stock-based compensation	$ 749	$ 910	$ 488
Payroll and benefits	669	616	607
Investor relations	305	278	341
Professional fees	261	217	211
Depreciation and amortization	97	166	40
Other general and administrative expenses	210	226	233
Total general and administrative expenses	$ 2,291	$ 2,413	$ 1,920

- Stock-based compensation consists primarily of the amortized portion of the Black-Scholes value of options and warrants granted to consultants, directors and employees as well as the value of restricted stock units granted to employees. During Fiscal 2008 and 2007, there were 1,069,600 and 240,000 options granted to such directors, employees and consultants and 1,000 and 2,500 warrants granted to a consultant. Additionally, during Fiscal 2008 and Fiscal 2007, 1,500,000 warrants were extended and repriced in connection with a financial advisory agreement. Also, during Fiscal 2008 there were 337,700 restricted stock units granted to employees under our short-term and long-term stock incentive programs, of which, 112,700 restricted stock units have been issued under the short-term incentive plan.

  Stock-based compensation was lower in Fiscal 2008 due to the extension and repricng of warrants in connection with a financial advisory agreement, The Black-Scholes value of the extension and repricing of warrants amounted to $385 in Fiscal 2008 compared with $683 in Fiscal 2007. This was partially offset by an increase in the Black-Scholes value of the options and warrants granted during Fiscal 2008 compared to the Black-Scholes value of the options and warrants granted during Fiscal 2007 because we granted more options during Fiscal 2008.

  Stock-based compensation was higher in Fiscal 2007 due to the extension and repricng of warrants in connection with a financial advisory agreement, which had a Black-Scholes value of $683. This was partially offset by a decrease in the Black-Scholes value of the options and warrants granted during Fiscal 2007 compared to the Black-Scholes value of the options and warrants granted during Fiscal 2006 because the market price of the common stock on the date of grant in Fiscal 2007 was lower than the market price of the common stock on the date of grant in Fiscal 2006.

- Payroll and benefits increased primarily as a result of salary and health insurance rate increases.

- Investor relations expense for Fiscal 2008 is higher than Fiscal 2007 primarily as a result of an increase in the cost of the annual report due to the inclusion of additional disclosure and the services of a proxy solicitor.

  Investor relations expense for Fiscal 2007 is lower than Fiscal 2006 primarily as a result of a decrease in the amount of consulting fees incurred.

- Professional fees increased during Fiscal 2008 compared to Fiscal 2007 primarily as a result of an increase in accounting and legal fees in connection with the additional disclosure included in the annual report.

  Professional fees increased during Fiscal 2007 compared to Fiscal 2006 primarily as a result of an increase in accounting fees which was partially offset by a decrease in legal fees.

- Depreciation and amortization decreased during Fiscal 2008 compared to Fiscal 2007 primarily as a result of a decrease in amortization of patent costs. During Fiscal 2008, we did not amortize the cost of our human health pending patent applications.

  Depreciation and amortization increased during Fiscal 2007 compared to Fiscal 2006 primarily as a result of an increase in amortization of patent costs. During Fiscal 2007, we began amortizing the cost of our pending patent applications.

We expect general and administrative expenses to modestly increase over the next twelve months primarily due to general price increases in the cost of services.

Research and development expenses

	Year Ended June 30,							
	2008	2007	Change	%	2007	2006	Change	%
	(In thousands, except % values)							
Stock-based compensation	$ 148	$ 60	$ 88	147%	$ 60	$ 189	$ (129)	(68)%
Other research and development	1,617	1,148	469	41%	1,148	1,377	(229)	(17)%
Total research and development	$ 1,765	$ 1,208	$ 557	46%	$ 1,208	$ 1,566	$ (358)	(23)%

- Stock-based compensation increased during Fiscal 2008 compared to Fiscal 2007 primarily because the Black-Scholes calculated fair value of the options and warrants granted during Fiscal 2008 were higher than Fiscal 2007 because the number of options granted were higher in Fiscal 2008.

  Stock-based compensation decreased during Fiscal 2007 compared to Fiscal 2006 primarily because the Black-Scholes calculated fair value of the options and warrants granted during Fiscal 2007 were lower than Fiscal 2006 because the market price of the common stock on the date of grant in Fiscal 2007 was lower than the market price of the common stock on the date of grant in Fiscal 2006.

- Other research and development costs increased during Fiscal 2008 compared to Fiscal 2007 primarily as a result of the initiation of our multiple myeloma project during Fiscal 2008. Additionally, the budget in connection with the research agreement with the University of Waterloo was increased

and the U.S. dollar was weaker against the Canadian dollar.

Other research and development costs decreased during Fiscal 2007 compared to Fiscal 2006 primarily as a result of a reduction of the budget in connection with the research agreement with the University of Waterloo as well as the completion of certain human health research programs being performed at certain universities.

The breakdown of our research and development expenses between our agricultural and human health research programs are as follows:

	Year ended June 30,					
	2008	%	2007	%	2006	%
	(In thousands, except % values)					
Agricultural research programs	$ 771	44%	$ 701	58%	$ 813	52%
Human health research programs	994	56%	507	42%	753	48%
Total research and development expenses	$ 1,765	100%	$ 1,208	100%	$ 1,566	100%

- Agricultural research expenses increased during Fiscal 2008 compared to Fiscal 2007 primarily as a result of an increase in the budget in connection with our research agreement at the University of Waterloo, an increase in stock-based compensation, and the U.S. dollar was weaker against the Canadian dollar.

  Agricultural research expenses decreased during Fiscal 2007 compared to Fiscal 2006 primarily as a result of a decrease in the budget in connection with our research agreement at the University of Waterloo and a decrease in stock-based compensation.

- Human health research expenses increased during Fiscal 2008 compared to Fiscal 2007 primarily as a result of the initiation of the multiple myeloma project.

  Human health research expenses increased during Fiscal 2007 compared to Fiscal 2006 primarily as a result of the completion of certain human health research programs being performed at certain universities.

We expect the percentage of human health research programs to increase as a percentage of the total research and development expenses as we continue to expand our human health initiatives.

Amortization of debt discount and financing costs

During Fiscal 2008, we issued $10,000,000 in convertible notes and warrants. The net proceeds of those notes and warrants were recorded as equity. The discount on the convertible notes is being amortized using the effective yield method over the term of the convertible notes. The related costs of issuance were recorded as deferred financing costs and are amortized on a straight line basis over the term of the convertible notes.

Interest expense – convertible notes

Interest expense – convertible notes represents the fair value of the common stock issued in lieu of paying cash for the 8% coupon rate of interest related to the convertible notes issued during Fiscal 2008.

Interest income

	Year Ended June 30,							
	2008	2007	Change	%	2007	2006	Change	%
	(In thousands, except % values)							
Interest income	$ 100	$ 69	$ 31	45%	$ 69	$ 105	$ (36)	(34)%

The increase in interest income for Fiscal 2008 compared to Fiscal 2007 is due to a

higher average cash and investments balance during the year.

The decrease in interest income for Fiscal 2007 compared to fiscal 2006 is due to a lower average cash and investments balance during the year, which was partially offset by higher interest rates.

From Inception on July 1, 1998 through June 30, 2008

From inception of operations on July 1, 1998 through June 30, 2008, we earned revenues in the amount of $1,175,000, which consisted of the initial license fees and milestone payments in connection with our various development and license agreements. We do not expect to generate significant revenues for at least the next one to three years, during which time we will engage in significant research and development efforts.

We have incurred losses each year since inception and have an accumulated deficit of $30,223,030 at June 30, 2008. We expect to continue to incur losses as a result of expenditures on research, product development and administrative activities.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Foreign Currency Risk

Our financial statements are denominated in United States dollars and, except for our agreement with the University of Waterloo, which is denominated in Canadian dollars, all of our contracts are denominated in United States dollars. Therefore, we believe that fluctuations in foreign currency exchange rates will not result in any material adverse effect on our financial condition or results of operations. In the event we derive a greater portion of our revenues from international operations or in the event a greater portion of our expenses are incurred internationally and denominated in a foreign currency, then changes in foreign currency exchange rates could effect our results of operations and financial condition.

Interest Rate Risk

We invest in high-quality financial instruments, primarily money market funds, federal agency notes, corporate debt securities and United States treasury notes, with an effective duration of the portfolio of less than nine months, and no security with an effective duration in excess of one year, which we believe are subject to limited credit risk. We currently do not hedge our interest rate exposure. Due to the short-term nature of our investments, which we plan to hold until maturity, we do not believe that we have any material exposure to interest rate risk arising from our investments.

Item 8. Financial Statements and Supplementary Data.

The financial statements required to be filed pursuant to this Item 8 are included in this Annual Report on Form 10-K. A list of the financial statements filed herewith is found at "Item 15. Exhibits, Financial Statement Schedules."

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our chief executive officer and chief financial officer have concluded that, as of the end of such period, our disclosure controls and procedures were adequate and effective.

Internal Control Over Financial Reporting

Our company's management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, our company's principle executive and principal financial officers and effected by our company's board of directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the U.S. and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of our company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of our company are being made only in accordance with authorization of management and directors of our company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of our company's internal control over financial reporting as of June 30, 2008. In making this assessment, management used the criteria

established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO.

Based on this assessment, management has concluded that, as of June 30, 2008 our company's internal control over financial reporting is effective.

This report does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting, pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

No change in our internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal year ended June 30, 2008 that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

Limitations on the Effectiveness of Controls

Our company's management, including its chief executive officer and chief financial officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within an organization have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake.

Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving our stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements, due to error or fraud may occur and not be detected.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information relating to our directors, nominees for election as directors and executive officers under the headings "Election of Directors" and "Executive Officers" in our definitive proxy statement for the 2008 Annual Meeting of Stockholders is incorporated herein by reference to such proxy statement.

Item 11. Executive Compensation.

The discussion under the heading "Executive Compensation" in our definitive proxy statement for the 2008 Annual Meeting of Stockholders is incorporated herein by reference to such proxy statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The discussion under the heading "Security Ownership of Certain Beneficial Owners and Management" in our definitive proxy statement for the 2008 Annual Meeting of Stockholders is incorporated herein by reference to such proxy statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The discussion under the heading "Certain Relationships and Related Transactions" in our definitive proxy statement for the 2008 Annual Meeting of Stockholders is incorporated herein by reference to such proxy statement.

Item 14. Principal Accounting Fees and Services.

The discussion under the heading "Principal Accountant Fees and Services" in our definitive proxy statement for the 2008 Annual Meeting of Stockholders is incorporated herein by reference to such proxy statement.

Item 15. Exhibits and Financial Statement Schedules.

(a) (1) Financial Statements.

Reference is made to the Index to Financial Statements on Page F-1.

(a) (2) Financial Statement Schedules.

None.

(a) (3) Exhibits.

Reference is made to the Exhibit Index on Page F-38.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized this 26th day of September 2008.

SENESCO TECHNOLOGIES, INC.

By: /s/ Bruce C. Galton
Bruce C. Galton, President and
Chief Executive Officer
(principal executive officer)

By: /s/ Joel Brooks
Joel Brooks, Chief Financial Officer
(principal financial and accounting
officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Ruedi Stalder Ruedi Stalder	Chairman and Director	September 26, 2008
/s/ Bruce C. Galton Bruce C. Galton	President and Chief Executive Officer (principal executive officer) and Director	September 26, 2008
/s/ Joel Brooks Bruce C. Galton	Chief Financial Officer and Treasurer (principal financial and accounting officer)	September 26, 2008
/s/ John E. Thompson John E. Thompson	Executive Vice President, Chief Scientific Officer and Director	September 26, 2008
/s/ Christopher Forbes Christopher Forbes	Director	September 26, 2008
/s/ Thomas C. Quick Thomas C. Quick	Director	September 26, 2008
/s/ David Rector David Rector	Director	September 26, 2008
/s/ Jack Van Hulst Jack Van Hulst	Director	September 26, 2008
/s/ John Braca John Braca	Director	September 26, 2008

SENESCO TECHNOLOGIES, INC.
AND SUBSIDIARY
(a development stage company)

CONSOLIDATED FINANCIAL STATEMENTS

JUNE 30, 2008

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(a development stage company)

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
Senesco Technologies, Inc.

We have audited the accompanying consolidated balance sheet of Senesco Technologies, Inc. and Subsidiary (a development stage company) as of June 30, 2008, and the related consolidated statements of operations, stockholders' equity and cash flows for the year then ended and cumulative amounts from July 1, 1998 (inception) to June 30, 2008. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit. The financial statements for the period from July 1, 1998 (inception) to June 30, 2007 were audited by other auditors and our opinion, insofar as it relates to cumulative amounts included for such periods, is based solely on the reports of such auditors.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, based on our audit and the reports of other auditors, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Senesco Technologies, Inc. and Subsidiary as of June 30, 2008, and the results of their operations and their cash flows for the year then ended and cumulative amounts from July 1, 1998 (inception) to June 30, 2008, in conformity with U.S. generally accepted accounting principles.

We were not engaged to examine management's assertion about the effectiveness of Senesco Technologies, Inc.'s internal control over financial reporting as of June 30, 2008, included in the accompanying Item 9A. Report on Internal Control Over Financial Reporting and, accordingly, we do not express an opinion thereon.

/s/ McGladrey & Pullen, LLP
New York, New York

September 26, 2008

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors of
Senesco Technologies, Inc.

We have audited the accompanying consolidated balance sheet of Senesco Technologies, Inc. and Subsidiary (a development stage company) as of June 30, 2007, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the two years in the period ended June 30, 2007 and cumulative amounts from July 1, 1998 (inception) to June 30, 2007. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the Standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Senesco Technologies, Inc. and Subsidiary as of June 30, 2007, and the results of their operations and their cash flows for each of the two years in the period ended June 30, 2007 and cumulative amounts from July 1, 1998 (inception) to June 30, 2007 in conformity with United States generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company is a development stage company and has incurred recurring losses from operations that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

GOLDSTEIN GOLUB KESSLER LLP
New York, New York

September 26, 2007

(a development stage company)

CONSOLIDATED BALANCE SHEET

	June 30, 2008	June 30, 2007
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 5,676,985	$ 408,061
Short-term investments	500,000	250,000
Prepaid expenses and other current assets	180,556	104,526
Total current assets	6,357,541	762,587
Property and Equipment, net	5,459	7,526
Intangibles, net	3,213,543	2,544,447
Deferred Financing Costs, net of amortization of $168,706	1,059,230	—
Deferred Income Tax Asset, net of valuation allowance of $9,152,000 and $ 7,719,000, respectively	—	—
Security Deposit	7,187	7,187
Total Assets	$ 10,642,960	$ 3,321,747
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 370,167	$ 109,258
Accrued expenses	314,267	377,359
Deferred revenue	—	16,667
Total current liabilities	684,434	503,284
Convertible Notes Payable, net of discount of $9,499,943	57	—
Grant Payable	99,728	99,728
Other Liability	23,062	29,196
Total liabilities	807,281	632,208
Commitments		
Stockholders' Equity:		
Preferred stock - $0.01 par value; authorized 5,000,000 shares, no shares issued	—	—
Common stock - $0.01 par value; authorized 100,000,000 and 60,000,000 shares, respectively, issued and outstanding 18,375,117 and 17,473,694, respectively	183,751	174,737
Capital in excess of par	39,874,958	28,136,342
Deficit accumulated during the development stage	(30,223,030)	(25,621,540)
Stockholders' equity	9,835,679	2,689,539
Total Liabilities and Stockholders' Equity	$ 10,642,960	$ 3,321,747

See Notes to Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(a development stage company)

CONSOLIDATED STATEMENT OF OPERATIONS

	Year ended June 30, 2008	Year ended June 30, 2007	Year ended June 30, 2006	Cumulative Amounts from Inception
Revenue	$ 456,667	$ 300,000	$ 66,666	$ 1,175,000
Operating expenses:				
General and administrative	2,291,263	2,412,679	1,919,740	21,725,456
Research and development	1,764,426	1,208,321	1,566,267	9,957,595
Total operating expenses	4,055,689	3,621,000	3,486,007	31,683,051
Loss from operations	(3,599,022)	(3,321,000)	(3,419,341)	(30,508,051)
Noncash income	—	—	—	321,259
Sale of state income tax loss - net	—	—	—	586,442
Amortization of debt discount and financing costs	(668,763)	—	—	(668,763)
Interest expense – convertible notes	(434,154)	—	—	(434,154)
Interest income - net	100,449	69,303	104,456	480,237

Net loss	$ (4,601,490)	$ (3,251,697)	$ (3,314,885)	$ (30,223,030)
Basic and diluted net loss per common share	$ (.26)	$ (.19)	$ (.21)	—
Basic and diluted weighted-average number of common shares outstanding	17,660,466	16,916,918	15,469,881	—

See Notes to Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(a development stage company)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2008

	Common Stock		Capital in Excess of Par	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Number of Shares	Amount			
Common stock outstanding	2,000,462	$ 20,005	$ (20,005)	—	—
Contribution of capital	—	85,179	—	—	$ 85,179
Issuance of common stock in reverse merger on January 22, 1999 at $0.01 per share	3,400,000	34,000	(34,000)	—	—
Issuance of common stock for cash on May 21, 1999 for $2.63437 per share	759,194	7,592	1,988,390	—	1,995,982
Issuance of common stock for placement fees on May 21, 1999 at $0.01 per share	53,144	531	(531)	—	—
Net loss	—	—	—	$ (1,168,995)	(1,168,995)
Balance at June 30, 1999	6,212,800	62,128	2,019,033	(1,168,995)	912,166
Issuance of common stock for cash on January 26, 2000 for $2.867647 per share	17,436	174	49,826	—	50,000
Issuance of common stock for cash on January 31, 2000 for $2.87875 per share	34,737	347	99,653	—	100,000
Issuance of common stock for cash on February 4, 2000 for $2.924582 per share	85,191	852	249,148	—	250,000
Issuance of common stock for cash on March 15, 2000 for $2.527875 per share	51,428	514	129,486	—	130,000
Issuance of common stock for cash on June 22, 2000 for $1.50 per share	1,471,700	14,718	2,192,833	—	2,207,551
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2000	—	—	(260,595)	—	(260,595)
Fair market value of options and warrants granted and vested during the year ended June 30, 2000	—	—	1,475,927	—	1,475,927
Net loss	—	—	—	(3,346,491)	(3,346,491)
Balance at June 30, 2000	7,873,292	78,733	5,955,311	(4,515,486)	1,518,558

(continued)

See Notes to Consolidated Financial Statements

	Common Stock		Capital in Excess of Par	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Number of Shares	Amount			
Fair market value of options and warrants granted and vested during the year ended June 30, 2001	—	—	$ 308,619	—	$ 308,619
Net loss	—	—	—	$ (2,033,890)	(2,033,890)
Balance at June 30, 2001	7,873,292	$ 78,733	6,263,930	(6,549,376)	(206,713)
Issuance of common stock and warrants for cash from November 30, 2001 through April 17, 2002 at $1.75 per unit	3,701,430	37,014	6,440,486	—	6,477,500
Issuance of common stock and warrants associated with bridge loan conversion on December 3, 2001	305,323	3,053	531,263	—	534,316
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2002	—	—	(846,444)	—	(846,444)

Fair market value of options and warrants granted and vested during the year ended June 30, 2002	—	—	1,848,726	—	1,848,726
Net loss	—	—	—	(3,021,709)	(3,021,709)
Balance at June 30, 2002	11,880,045	118,800	14,237,961	(9,571,085)	4,785,676
Fair market value of options and warrants granted and vested during the year ended June 30, 2003	—	—	848,842	—	848,842
Net loss	—	—	—	(2,778,004)	(2,778,004)
Balance at June 30, 2003	11,880,045	118,800	15,086,803	(12,349,089)	2,856,514
Issuance of common stock and warrants for cash from January 15, 2004 through February 12, 2004 at $2.37 per unit	1,536,922	15,369	3,627,131	—	3,642,500
Allocation of proceeds to warrants	—	—	(2,099,090)		(2,099,090)
Reclassification of warrants	—	—	1,913,463	—	1,913,463
Commissions, legal and bank fees associated with issuances from January 15, 2004 through February 12, 2004	—	—	(378,624)	—	(378,624)

(continued)

See Notes to Consolidated Financial Statements

	Common Stock		Capital in Excess of Par	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Number of Shares	Amount			
Fair market value of options and warrants vested during the year ended June 30, 2004	—	—	$ 1,826,514	—	$ 1,826,514
Options and warrants exercised during the year ended June 30, 2004 at exercise prices ranging from $1.00 - $3.25	370,283	$ 3,704	692,945	—	696,649
Net loss	—	—	—	$ (3,726,951)	(3,726,951)
Balance at June 30, 2004	13,787,250	137,873	20,669,142	(16,076,040)	4,730,975
Issuance of common stock and warrants for cash on May 9, 2005 at $2.11 per unit	1,595,651	15,957	3,350,872	—	3,366,829
Allocation of proceeds to warrants	—	—	(1,715,347)	—	(1,715,347)
Reclassification of warrants	—	—	1,579,715	—	1,579,715
Commissions, legal and bank fees associated with issuance on May 9, 2005	—	—	(428,863)	—	(428,863)
Fair market value of options and warrants vested during the year ended June 30, 2005	—	—	974,235	—	974,235
Options and warrants exercised during the year ended June 30, 2005 at exercise prices ranging from $1.50 - $3.25	84,487	844	60,281	—	61,125
Net loss	—	—	—	(2,978,918)	(2,978,918)
Balance at June 30, 2005	15,467,388	154,674	24,490,035	(19,054,958)	5,589,751
Fair market value of options and warrants vested during the year ended June 30, 2006	—	—	677,000	—	677,000
Warrants exercised during the year ended June 30, 2006 at an exercise price of $0.01	10,000	100	—	—	100
Net loss	—	—	—	(3,314,885)	(3,314,885)
Balance at June 30, 2006	15,477,388	154,774	25,167,035	(22,369,843)	2,951,966

(continued)

See Notes to Consolidated Financial Statements

	Common Stock		Capital in Excess of Par	Deficit Accumulated During the Development Stage	Total Stockholders' Equity (Deficiency)
	Number of Shares	Amount			
Issuance of common stock and warrants for cash on October 10, 2006 at $1.135 per unit	1,986,306	$ 19,863	$ 2,229,628	—	$ 2,249,491
Commissions, legal and bank fees associated with issuance on October 10, 2006	—	—	(230,483)	—	(230,483)
Warrants exercised during the year ended June 30, 2007 at an exercise price of $0.01	10,000	100	—	—	100
Fair market value of options and warrants vested during	—	—	970,162	—	970,162

the year ended June 30, 2007					
Net loss	—	—	—	$ (3,251,697)	(3,251,697)
Balance at June 30, 2007	17,473,694	174,737	28,136,342	(25,621,540)	2,689,539
Allocation of proceeds, net of fees paid to holder, from issuance of convertible notes and warrants during the year ended June 30, 2008	—	—	9,340,000	—	9,340,000
Convertible notes converted into common stock during the year ended June 30, 2008, net of deferred financing costs	555,556	5,556	430,952	—	436,508
Issuance of common stock in lieu of cash payment for interest during the year ended June 30, 2008	345,867	3,458	430,696	—	434,154
Fair market value of options and warrants vested during the year ended June 30, 2008	—	—	1,536,968	—	1,536,968
Net loss	—	—	—	(4,601,490)	(4,601,490)
Balance at June 30, 2008	18,375,117	$ 183,751	$ 39,874,958	$ (30,223,030)	$ 9,835,679

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(a development stage company)

CONSOLIDATED STATEMENT OF CASH FLOWS

	Year ended June 30,			Cumulative Amounts from Inception
	2008	2007	2006	
Cash flows from operating activities:				
Net loss	$ (4,601,490)	$ (3,251,697)	$ (3,314,885)	$ (30,223,030)
Adjustments to reconcile net loss to net cash used in operating activities:				
Noncash capital contribution	—	—	—	85,179
Noncash conversion of accrued expenses into equity	—	—	—	131,250
Noncash income related to change in fair value of warrant liability	—	—	—	(321,259)
Issuance of common stock and warrants for interest	434,154	—	—	443,469
Share-based compensation expense	897,321	970,162	677,000	9,696,097
Depreciation and amortization	96,847	166,172	40,112	460,688
Amortization of convertible note discount	500,057	—	—	500,057
Amortization of deferred financing costs	168,706	—	—	168,706
(Increase) decrease in operating assets:				
Prepaid expenses and other current assets	(76,030)	35,058	16,960	(180,556)
Security deposit	—	—	—	(7,187)
Increase (decrease) in operating liabilities:				
Accounts payable	260,909	31,563	(139,874)	370,167
Accrued expenses	(63,092)	47,475	149,882	314,267
Deferred revenue	(16,667)	(25,000)	8,334	—
Other liability	(6,134)	(5,222)	32,082	23,062
Net cash used in operating activities	(2,405,419)	(2,031,489)	(2,530,389)	(18,539,090)
Cash flows from investing activities:				
Patent costs	(761,093)	(495,852)	(792,069)	(3,506,800)
Redemption (purchase) of investments, net	(250,000)	600,000	3,339,395	(500,000)
Purchase of property and equipment	(2,783)	(2,179)	—	(172,890)
Net cash provided by (used in) investing activities	(1,013,876)	101,969	2,547,326	(4,179,690)
Cash flows from financing activities:				
Proceeds from grant	—	—	9,578	99,728
Proceeds from issuance of bridge notes	—	—	—	525,000
Proceeds from issuance of convertible notes	9,340,000	—	—	9,340,000
Deferred financing costs	(651,781)	—	—	(651,781)
Proceeds from issuance of common stock and warrants, net and exercise of warrants and options	—	2,019,108	100	19,082,818
Net cash provided by financing activities	8,688,219	2,019,108	9,678	28,395,765
Net increase in cash and cash equivalents	5,268,924	89,588	26,615	5,676,985
Cash and cash equivalents at beginning of period	408,061	318,473	291,858	—
Cash and cash equivalents at end of period	$ 5,676,985	$ 408,061	$ 318,473	$ 5,676,985

See Notes to Consolidated Financial Statements

	Year ended June 30,			Cumulative Amounts from Inception
	2008	2007	2006	
Supplemental disclosure of cash flow information:				
Cash paid during the period for interest	$ —	$ —	$ —	$ 22,317

Supplemental schedule of noncash financing activity:				
Conversion of bridge notes into common stock	$ —	$ —	$ —	$ 534,316
Conversion of convertible note into common stock, net of unamortized financing costs of $63,492	$ 500,000	$ —	$ —	$ 500,000
Allocation of convertible debt proceeds to warrants and beneficial conversion feature	$ 9,340,000	$ —	$ —	$ 9,340,000
Warrants issued for financing costs	$ 639,645	$ —	$ —	$ 639,645
Issuance of common stock for interest payments on convertible notes	$ 434,154	$ —	$ —	$ 443,469

See Notes to Consolidated Financial Statements

1. PRINCIPAL BUSINESS ACTIVITY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

The accompanying consolidated financial statements include the accounts of Senesco Technologies, Inc. ("ST") and its wholly owned subsidiary, Senesco, Inc. ("SI") (collectively, the "Company"). All significant intercompany accounts and transactions have been eliminated in consolidation.

The Company is a development stage biotechnology company whose mission is to develop novel approaches to treat programmed cell death diseases in humans (apoptosis), and to enhance the quality and productivity of fruits, flowers, vegetables and agronomic crops through the control of cell death in plants (senescence).

SI, a New Jersey corporation, was incorporated on November 24, 1998 and is the successor entity to Senesco, L.L.C., a New Jersey limited liability company that was formed on June 25, 1998 but commenced operations on July 1, 1998.

Liquidity

The Company has a limited operating history and limited assets and capital and has incurred losses each year since inception. The Company has generated minimal revenues by licensing its technology for certain crops to companies willing to share in its development costs. In addition, the Company's technology may not be ready for commercialization for several years. The Company expects to continue to incur losses for the next several years because it anticipates that its expenditures on research and development, and administrative activities will significantly exceed its revenues during that period. The Company cannot predict when, if ever, it will become profitable.

The Company's operations to date have required significant cash expenditures. The Company's future capital requirements will depend on the results of its research and development activities, preclinical and clinical studies, and competitive and technological advances.

The Company may not be able to obtain adequate funds for its operations when needed or on acceptable terms. If the Company is unable to raise additional funds, it will need to do one or more of the following:

- delay, scale-back or eliminate some or all of its research and product development programs;
- license third parties to develop and commercialize products or technologies that it would otherwise seek to develop and commercialize itself;
- seek strategic alliances or business combinations;
- attempt to sell the Company;
- cease operations; or
- declare bankruptcy.

Cash, Cash Equivalents and Investments

Cash equivalents consist of investments which are readily convertible into cash with original maturities of three months or less. The Company maintains its cash in money market and bank deposit accounts which, at times, may exceed

federally insured limits. The Company believes that there is no significant credit risk with respect to these accounts.

The Company invests in United States treasury notes and high-grade corporate debt instruments. Based on the Company's intentions regarding these instruments, the Company has classified all marketable debt securities as held-to-maturity and has accounted for these investments at amortized cost. Marketable securities maturing in one year or less are classified as current assets.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. Depreciation of property and equipment is provided for by the straight-line method over the estimated useful lives of the assets.

Intangibles

The Company conducts research and development activities, the cost of which is expensed as incurred, in order to generate patents that can be licensed to third parties in exchange for license fees and royalties. Because the patents are the basis of the Company's future revenue, the patent costs are capitalized. The capitalized patent costs represent the outside legal fees incurred by the Company to submit and undertake all necessary efforts to have such patent applications issued as patents.

The length of time that it takes for an initial patent application to be approved is generally between four to six years. However, due to the unique nature of each patent application, the actual length of time may vary. If a patent application is denied, the associated cost of that application would be written off. However, the Company has not had any patent applications denied as of June 30, 2008. Additionally, should a patent application become impaired during the application process, the Company would write down or write off the associated cost of that patent application.

Issued patents and agricultural patent applications pending are being amortized over a period of 17 years, the expected economic life of the patent.

The Company assesses the impairment in value of intangible assets whenever events or circumstances indicate that their carrying value may not be recoverable. Factors the Company considers important which could trigger an impairment review include the following:

- significant negative industry trends:
- significant underutilization of the assets:
- significant changes in how the Company uses the assets or its plans for their use; and
- changes in technology and the appearance of competing technology.

If the Company's review determines that the future discounted cash flows related to these assets will not be sufficient to recover their carrying value, the Company will reduce the carrying values of these assets down to its estimate of fair value and continue amortizing them over their remaining useful lives. To date, the Company has not recorded any impairment of

intangible assets.

Deferred Financing Costs

Deferred financing costs represent the costs related to the placement of convertible notes during the year ended June 30, 2008. Such costs are being amortized ratably over the term of the convertible notes, (see Note 7).

Deferred Income Tax Asset

Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are measured using enacted rates expected to apply when the differences are expected to be realized.

Deferred Revenue and Revenue Recognition

The Company receives certain nonrefundable upfront fees in exchange for the transfer of its technology to licensees. Upon delivery of the technology, the Company has no further obligations to the licensee with respect to the basic technology transferred and, accordingly, recognizes revenue at that time. The Company may, however, receive additional payments from its licensees in the event such licensees achieve certain development or commercialization milestones in their particular field of use. Other nonrefundable upfront fees and milestone payments, where the milestone payments are a function of time as opposed to achievement of specific achievement-based milestones, are deferred and amortized ratably over the estimated research period of the license.

Convertible Notes

During the year ended June 30, 2008, the Company issued $10,000,000 of convertible notes and warrants. The proceeds of the convertible notes and warrants have been allocated between the convertible notes and warrants based upon their fair values whereby the fair value for the warrants have been determined using the Black-Scholes model. Additional amounts were allocated to the beneficial conversion feature based upon the effective conversion price compared to the fair value of the common stock on the date of issuance of the convertible notes and warrants. Debt discount associated with the Convertible Notes is amortized to interest expense, using the effective yield method, over the remaining life of the Convertible Notes. Upon conversion of the Convertible Notes into Common Stock, any unamortized debt discount relating to the portion converted will be charged to interest for amortization of debt discount and equity.

Fair Value of Financial Instruments

The carrying value of cash and cash equivalents, short-term investments, prepaid and other current assets, accounts payable and accrued expenses reported in the

consolidated balance sheets equal or approximate fair value due to their short maturities. The fair value of the convertible notes approximates the amortized portion of the principal amount as such instruments are at market rates currently available to the Company.

Common Stock

On December 12, 2002, the stockholders approved a proposal to increase the authorized Common Stock of the Company from 20,000,000 shares to 30,000,000 shares. On December 14, 2006, the stockholders approved a proposal to increase the authorized Common Stock of the Company from 30,000,000 shares to 60,000,000 shares. On December 13, 2007, the stockholders approved a proposal to increase the authorized Common Stock of the Company from 60,000,000 shares to 100,000,000 shares.

Share Based Payments

As further discussed in Note 7, the Company adopted FAS No. 123R, "Share-Based Payment" ("FAS No. 123R") effective July 1, 2005 using the modified-retrospective method. The adoption of this standard requires the recognition of stock-based compensation expense in the consolidated financial statements. Prior to July 1, 2005, the Company followed Accounting Principles Board Opinion 25, "Accounting for Stock Issued to Employees" ("APB No. 25"), and related interpretations.

Loss Per Common Share

Loss per common share is computed by dividing the loss by the weighted-average number of common shares outstanding during the period. Shares to be issued upon the exercise of the outstanding options and warrants aggregating 23,522,526 and 7,790,315 as of June 30, 2008 and 2007, respectively, are not included in the computation of loss per share as their effect is anti-dilutive. Additionally, as of June 30, 2008, 10,555,556 shares to be issued upon the conversion of convertible notes at a fixed conversion price of $0.90 are not included in the computation of diluted loss per share as the effect is anti-dilutive.

Management Estimates and Judgments

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. The critical accounting policies that require management's most significant estimate and judgment are the assessment of the recoverability of intangible assets, and the valuation allowance on deferred tax assets. Actual results experienced by the Company may differ from management's estimates.

Recent Accounting Pronouncements Applicable to the Company

EITF Issue No. 07-1 – Accounting for Collaborative Arrangements

This pronouncement defines a collaborative arrangement as a contractual arrangement that involves a joint operating activity that involves two or more parties who are both active participants in the activity and exposed to significant risks and rewards dependent on the commercial success of the activity. The pronouncement also defines how the costs incurred and revenues generated from transactions with third parties should be recorded and presented in each entity's income statement. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years, and shall be applied retrospectively to all prior periods presented for all collaborative arrangements existing as of the effective date. The Company does not believe that this pronouncement will have any material effect on its financial statements.

EITF Issue No. 07-3 – Accounting for Nonrefundable Advance Payments for Goods or Services Received for Use in Future Research and Development Activities.

This pronouncement states that nonrefundable advance payments for future research and development activities should be deferred and capitalized. This pronouncement is effective for financial statements issued for fiscal years beginning after December 15, 2007, and interim periods within those fiscal years. Early application is not permitted. The Company does not believe that this pronouncement will have any material effect on its financial statements.

SFAS No. 157 – Fair Value Measurements

In September 2006, the FASB issued SFAS No. 157, "Fair Value Measurements"("SFAS No. 157"). SFAS No. 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. SFAS No. 157 applies under other accounting standards that require or permit fair value measurements. Accordingly, SFAS No. 157 does not require any new fair value measurement. SFAS No. 157 emphasizes that fair value is a market-based measurement that should be determined based on the assumptions that market participants would use in pricing an asset or liability. Companies will be required to disclose the extent to which fair value is used to measure assets and liabilities, the inputs used to develop the measurements and the effect of certain of the measurements on earnings (or cha nges in net assets) for the period. SFAS No. 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. The Company is currently evaluating the effect, if any, that SFAS No. 157 will have on its consolidated financial position or results of operations.

SFAS No. 159 – The Fair Value Option for Financial Assets and Financial Liabilities–Including an Amendment of FASB Statement No. 115

In February 2007, the FASB issued SFAS No. 159, "The Fair Value Option for Financial Assets and Financial Liabilities—Including an Amendment of FASB Statement No. 115" ("SFAS No. 159"). SFAS No. 159 permits entities to choose to measure many financial instruments and certain other items at fair value that are not currently required to be measured at fair value. SFAS No. 159 is

effective for fiscal years beginning after November 15, 2007. The Company is currently evaluating the effect, if any, that SFAS No. 159 will have on its consolidated financial position or results of operations.

FASB Interpretation No. 48 – Accounting for Uncertainty in Income Taxes

In July 2006, the Financial Accounting Standards Board issued FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes – an interpretation of FASB Statement No. 109" ("FIN 48"). FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an entity's financial statements in accordance with FASB Statement No. 109, "Accounting for Income Taxes". FIN 48 prescribes a recognition threshold and measurement attribute for financial statement disclosure of tax positions taken or expected to be taken on a tax return. Additionally, FIN 48 provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition. The Company adopted FIN 48 effective July 1, 2007 and there was no material effect on our results of operations or financial position.

FASB Staff Position No. EITF 00-19-2

In December 2006, the FASB issued FASB Staff Position No. EITF 00-19-2. This FSP addresses an issuer's accounting for registration payment arrangements and specifies that the contingent obligation to make future payments or otherwise transfer consideration under a registration payment arrangement should be separately recognized and measured in accordance with FASB No. 5. The guidance in this FSP amends FASB Statements 133 and 150 and FASB Interpretation No. 45 to include scope exceptions for registration payment arrangements. This FSP further clarifies that a financial instrument sub ject to a registration payment arrangement should be accounted for without regard to the contingent obligation to transfer consideration pursuant to the registration payment arrangement. This guidance is effective for financial statements issued for fiscal years beginning after December 15, 2006 and for transactions entered on or after December 22, 2006. The standard did not impact the Company's consolidated financial position or results of operations for the year ended June 30, 2008.

Management does not believe that any other recently issued, but not yet effective, accounting standards if currently adopted would have a material effect on the accompanying financial statements.

2. INVESTMENTS:

At June 30, 2008 and 2007, the amortized cost basis, aggregate fair value, gross unrealized gains and maturity by majority security type were as follows:

	Gross Unrealized Gain / (Loss)	Aggregate Fair Value	Amortized Cost Basis
June 30, 2008			
Held-to-maturity securities:			
Corporate debt securities (maturing within one year)	$ -0-	$ 500,000	$ 500,000
June 30, 2007			
Held-to-maturity securities:			
Corporate debt securities (maturing within one year)	$ -0-	$ 250,000	$ 250,000

Realized gains and losses are determined based on the specific-identification method.

3. PREPAID EXPENSES AND OTHER CURRENT ASSETS:

The following are included in prepaid expenses and other current assets at:

	June 30, 2008	June 30, 2007
Prepaid insurance	$ 37,117	$ 34,361
Prepaid research and research supplies	119,153	11,796
Prepaid legal	—	41,051
Prepaid other	24,286	17,318

	$ 180,556	$ 104,526

4. PROPERTY AND EQUIPMENT:

Property and equipment, at cost, consists of the following at:

	June 30, 2008	June 30, 2007	Estimated Useful Life
Equipment	$ 35,736	$ 32,953	4 years
Furniture and fixtures	67,674	67,674	7 years
	103,410	100,627	
Accumulated depreciation	(97,951)	(93,101)	
	$ 5,459	$ 7,526	

Depreciation expense aggregated $4,850, $4,971, $19,720 and $167,431 for the years ended June 30, 2008, 2007, 2006, and cumulatively from inception through June 30, 2008, respectively.

5. INTANGIBLE ASSETS:

Intangible assets, at cost, consists of the following at:

	June 30, 2008	June 30, 2007
Patents approved	$ 809,863	$ 473,847
Patents pending	2,696,937	2,271,860
	3,506,800	2,745,707
Accumulated amortization	(293,257)	(201,260)
	$ 3,213,543	$ 2,544,447

Amortization expense amounted to $91,997, $161,201, $20,392 and $293,257 for the years ended June 30, 2008, 2007, 2006, and cumulatively from inception through June 30, 2008, respectively.

Estimated amortization expense for the next five years is as follows:

Year ending June 30,	
2009	$ 102,000
2010	102,000
2011	102,000
2012	102,000
2013	102,000

6. ACCRUED EXPENSES:

The following are included in accrued expenses at:

	June 30, 2008	June 30, 2007
Accrued research	$ 149,154	$ 271,000
Accrued deferred financing costs	96,962	—
Accrued accounting	—	40,000
Accrued patent costs	50,000	45,000
Accrued legal	9,489	10,186
Accrued other	8,662	11,173
	$ 314,267	$ 377,359

7. STOCKHOLDERS' EQUITY AND CONVERTIBLE NOTES:

2005 Private Placement of Common Stock and Warrants

In May 2005, the Company completed a private placement to certain accredited investors (the "2005 Accredited Investor Private Placement") for an aggregate amount of 1,595,651 shares of Common Stock and warrants to purchase 797,836 shares of Common Stock for the aggregate cash consideration of $3,366,829.

The 2005 Accredited Investor Private Placement offered units of one share of Common Stock and a five-year warrant to purchase 0.50 shares of Common Stock at a price equal to $2.11 per unit. The warrants were issued at an exercise price equal to $3.38 per share, with such warrants vesting on the date of grant. The costs associated with the 2005 Accredited Investor Private Placement totaled $428,863. In addition, the Company has caused its directors and officers to enter into Lock-up Agreements for a period of six months from the Closing Date with the Placement Agent for the benefit of the Purchasers.

On May 27, 2005, the Company filed a registration statement with the SEC on Form S-3 to register all of the shares and the shares underlying the warrants acquired by the purchasers and placement agent (see below) in the 2005

Accredited Investor Private Placement. The registration statement was declared effective by the SEC on June 17, 2005, and remained in effect until May 9, 2007.

Due to the Company's obligation to file a registration statement to register for resale the shares underlying the warrants under the Securities Act of 1933, as amended, in accordance with EITF 00-19, "Accounting for Derivative Financial Instruments Indexed To, and Potentially Settled In a Company's Own Common Stock," the value of the warrants amounting to $1,715,347 was recorded as a liability until the filing was declared effective. The decrease in market value of the Common Stock from the closing of its financing to June 17, 2005, the effective date of the registration statement, resulted in noncash other income to reflect the decrease in Black-Scholes value of the warrants between those two dates. As a result, the Company incurred a decrease in liability and other noncash income of $135,632 as of June 17, 2005. Upon the Company meeting its obligation to file a registration statement, the fair value of the warrants amounting to $1,579,715, was reclassified to equity.

Oppenheimer and Co. Inc. ("Oppenheimer") acted as the placement agent for the 2005 Accredited Investor Private Placement, As consideration for their services to the Company, Oppenheimer was issued warrants to purchase an aggregate of 167,544 shares of Common Stock, on the same terms and conditions as the warrants issued to the purchasers in the 2005 Accredited Investor Private Placement.

2006 Private Placement of Common Stock and Warrants

On October 11, 2006, the Company completed a private placement to certain members of the Company's board of directors, institutional and accredited investors (the "Private Placement") for an aggregate amount of 1,986,306 shares of Common Stock and warrants to purchase 993,153 shares of Common Stock for the aggregate cash consideration of $2,249,491. The Private Placement offered units of one share of Common Stock and a five-year warrant to purchase 0.50 shares of Common Stock at a price equal to $1.1325 per unit. The warrants were issued at an exercise price equal to $1.18 per share, with such warrants vesting on the date of grant, but not exercisable for a six-month period from the date of closing. The costs associated with the Private Placement totaled $230,483. In addition, the Company entered into a Registration Rights Agreement with these purchasers. The Registration Rights Agreement required the Company to file a registration statement for the shares within 30 days of the closing date (the "Filing Date"), and to have such registration statement declared effective within 120 days of the closing date (the "Effective Date"). If the Company failed to file a registration statement on or before the Filing Date, it was required to pay to each purchaser in the Private Placement 1.0% of the aggregate purchase price for each 30 day period that such registration statement had not been filed. If the registration statement was not declared effective on or before the Effective Date, the Company was required to pay to each purchaser in the Private Placement 2.0% of the aggregate purchase price paid by such purchaser for the first thirty day period following the Effective Date and 1.0% for each thirty day period thereafter, with all payments subject to a maximum of 10.0% of the purchase price. The Company filed the registration statement on November 3, 2006 and the registration statement was declared effective by the SEC on November 27, 2006, and will remain in effect, subject to the Company

being in compliance with all the applicable rules and regulations, until October 10, 2011. Accordingly, the Company was not required to pay any liquidated damages to any of the purchasers.

H.C. Wainwright and Co., Inc. ("Wainwright") acted as the placement agent for the Private Placement. As consideration for their services to the Company, Wainwright was issued a five-year warrant to purchase 139,041 shares of Common Stock, at a strike price equal to $1.07. Such warrant is immediately exercisable.

2007 Private Placement of Convertible Notes and Warrants

On August 1, 2007 and August 29, 2007, the Company entered into binding Securities Purchase Agreements with YA Global Investments L.P. ("YA Global") and Stanford Venture Capital Holdings, Inc. ("Stanford"), respectively, to sell to each of YA Global and Stanford up to $5,000,000 of secured convertible notes and accompanying warrants for an aggregate gross proceeds of $10,000,000. The convertible notes convert into the Company's common stock at a fixed price of $0.90 per share subject to certain adjustments (the "Fixed Conversion Price"), for a period of two years immediately following the signing date, provided that the Company has achieved the following milestones by January 31, 2008: (i) successful completion of animal studies, other than toxicology studies, necessary for the advancement of Factor 5A1 in human clinical trials, (ii) the engagement of a contract research organization for human clinical studies of Factor 5A1, and (iii) the signing of at least one (1) corporate partnership or license agreement after August 1, 2007 with an agricultural company utilizing the Company's proprietary platform. As of January 31, 2008, the Company has completed all of the three required milestones. After the second anniversary of the signing date, the convertible notes may convert into shares of the Company's common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price (the "VWAP"), of the common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global and Stanford is December 30, 2010 and December 31, 2010, respectively. Currently, at the fixed conversion price, the number

of shares of common stock issuable upon conversion of the remaining $9,500,000 (during the year ended June 30, 2008, YA Global converted $500,000 of convertible notes into 555,556 shares of common stock) of convertible notes outstanding and shares of common stock to be issued upon exercise of the warrants outstanding at June 30, 2008 represents, in the aggregate, 24,438,888 shares, plus an estimated additional 1,400,000 shares for the payment of interest in stock under the convertible notes.

The convertible notes accrue interest on their outstanding principal balances at an annual rate of 8%. The Company has the option to pay interest in cash or, upon certain conditions, common stock. If the Company pays interest in common stock, the stock will be valued at a 10% discount to the average daily VWAP for the five day trading period prior to the interest payment date (the "Interest Shares").

At the Company's option, it can redeem a portion of, or all of, the principal owed under the convertible notes by providing the investors with at least 30 business days' written notice, provided that, at the time of receipt of the notice, either: (A)(i) the VWAP of the common stock exceeds 130% of the Fixed Conversion

Price for at least 20 of 30 prior trading days and (ii) there is an effective registration statement for the resale of the common stock that will be issued under the redemption or (B) it redeems a portion, or all, of the principal owed at a 20% premium above the principal then outstanding and any accrued interest thereupon. If the Company redeems all or any of the principal outstanding under the convertible notes, it will pay an amount equal to the principal being redeemed plus accrued interest.

If there is an effective registration statement for the resale of the shares underlying the convertible notes or if such shares become 144(k) eligible, the Company will have the option to force the investors to convert 50% and 100% of its then-outstanding convertible notes if its common stock price exceeds 150% and 175% of the Fixed Conversion Price, respectively, for any 20 out of 30 trading days; provided that such forced conversion meets certain conditions (the "Call Option"). If the Company exercises its Call Option prior to the third anniversary of the signing date, it will issue additional warrants to the investor equal to 50% of the number of shares underlying the convertible note subject to the forced conversion. These warrants will be exercisable at the fixed conversion price and will have the same maturity as the other warrants issued under the YA Global financing.

The Company's obligations under the convertible notes are secured by all of its and its subsidiary's assets and intellectual property, as evidenced by certain Security Agreements and certain Patent Security Agreements by and between the Company and each of YA Global and Stanford. Pursuant to a subordination agreement, YA Global is the senior secured creditor.

The agreements with YA Global and Stanford provide for the issuance of warrants to purchase an aggregate of 5,550,000 and 8,333,333, respectively, of the Company's Common Stock, exercisable six months and one day from the date of issuance until their expiration on the date that is five years from the date of issuance. The warrants have been issued in two series. The exercise price of the Series A warrants is $1.01 per share, and the exercise price of the Series B warrants is $0.90 per share, subject to certain adjustments. The warrants provide a right of cashless exercise if, at the time of exercise, there is no effective registration statement registering the resale of the shares underlying the warrants.

The conversion rate of each convertible note and the exercise price of the Series B warrants are subject to adjustment for certain events, including dividends, stock splits, combinations and the sale of the Company's Common Stock or securities convertible into or exercisable for the Company's Common Stock at a price less than the then applicable conversion or exercise price.

The investors have a right of first refusal on any future funding that involves the issuance of the Company's capital stock for so long as a portion of the convertible notes is outstanding.

Both YA Global and Stanford entered into Registration Rights Agreements. Generally Stanfords registration rights do not become effective until all of YA Globals registration rights have been fulfilled. Pursuant to YA Global's Registration Rights Agreement, the Company filed an initial registration statement on October 12, 2007 to register 3,333,333 shares of common stock,

underlying the convertible notes, issuable to YA Global, and such registration statement became effective on November 1, 2007. The Company was required to register an additional 891,667 shares of common stock issuable to YA Global. However, YA Global has amended its Registration Rights Agreement deferring its right to have such additional shares registered. If the shares issuable to YA Global remain outstanding after all shares under the registration statements have been sold, the Company may be required to file additional registration statements for those shares. These registration rights for YA Global will cease once the shares issuable to YA Global on December 20, 2007 are eligible for sale by the investor without restriction under Rule 144(k), which is December 20, 2008. The registration rights for Stanford will cease once the shares issuable to Stanford on June 30, 2008 are eligible for sale by the investor without restriction under Rule 144(k), which is June 30, 2009. Upon certain events, the Company has agreed to pay as partial liquidated damages an amount equal to 1.0% of the aggregate purchase price paid by the investors for any convertible debentures then held by the investors, but these payments may not exceed 12% of the aggregate purchase price paid by the investors. The maximum liquidated damages payable under the Registration Rights Agreement was $600,000. The Company did not record an estimated registration rights liability as the Company anticipated that it would fulfill its obligations under the Registration Rights Agreement.

The total gross proceeds from the issuance of the convertible notes and warrants was $10,000,000 before a payment of 3.25% of the purchase price in commissions to Wainwright & Co., Inc. (the "Placement Agent"). On April 29, 2008, YA Global converted $500,000 of the Convertible Notes into 555,556

shares of the Company's common stock.

The Company has issued to the Placement Agent warrants to purchase 7% of the purchase price, or 777,777 shares, of the Company's Common Stock with similar terms to the warrants that will be issued to the investors. The Company paid YA Global and Stanford a non-refundable structuring/due diligence fee of $30,000 each. The Company has also paid YA Global and Stanford a commitment fee of 5% and 7%, respectively, of its purchase price, which was paid proportionately at each closing.

Specifics of YA Global Financing

Pursuant to the YA Global Securities Purchase Agreement, the Company has issued three convertible notes in the aggregate amount of $5,000,000 and two Series A warrants in the amount of 1,387,500 shares each on September 21, 2007 and October 16, 2007 and a Series B warrant in the amount of 2,775,000 shares on December 20, 2007.

The gross proceeds, less $280,000 paid to YA Global, of $4,720,000 from the issuance of convertible notes and warrants have been allocated between the convertible notes and warrants based upon their fair values, whereby the fair value for the warrants have been determined using the Black-Scholes model. Additional amounts were allocated to the beneficial conversion feature based upon the effective conversion price compared to the fair value of the common stock on the date of issuance of the convertible notes and warrants. The material factors incorporated in the Black-Scholes model in estimating the value of the warrants include the following:

Estimated life in years	5
Risk-free interest rate	3.5% - 4.4%
Volatility	100%
Dividend paid	None

As of June 30, 2008, net proceeds of $4,720,000 were allocated to the warrants and beneficial conversion feature and recorded as equity.

The convertible notes and warrants issued to YA Global are subject to a maximum cap of 30,500,000 on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

Specifics of Stanford Financing

Pursuant to the Stanford Securities Purchase Agreement, on December 20, 2007 and June 30, 2008, the Company issued an aggregate of three convertible notes in the aggregate amount of $5,000,000 and three Series A and three Series B warrants in the aggregate amount of 8,333,333 shares

The gross proceeds, less $380,000 paid to Stanford, of $4,620,000 from the issuance of the convertible notes and warrants have been allocated between the convertible notes and warrants based upon their fair values, whereby the fair value for the warrants have been determined using the Black-Scholes model. Additional amounts were allocated to the beneficial conversion feature based upon the effective conversion price compared to the fair value of the common stock on the date of issuance of the convertible notes and warrants. The material factors incorporated in the Black-Scholes model in estimating the value of the warrants include the following:

Estimated life in years	5
Risk-free interest rate	3.4% - 3.5%
Volatility	100%
Dividend paid	None

The convertible notes and warrants issued to Stanford are subject to a maximum cap of 31,888,888 on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants.

As of June 30, 2008, the outstanding balance of the Convertible Notes were $57, which is comprised of notes with an aggregate face amount of $9,500,000 less unamortized debt discount of $9,499,943.

Debt discount associated with the Convertible Notes is amortized to interest expense, using the effective yield method, over the remaining life of the Convertible Notes. Upon conversion of the Convertible Notes into Common Stock, any unamortized debt discount relating to the portion converted will be charged to interest. Total charges to interest for amortization of debt discount were $500,057 for the year ended June 30, 2008 and from inception through June 30, 2008.

The costs associated with the issuances in the amount of $1,291,427 have been recorded as deferred financing costs and are being amortized ratably over the term of the convertible notes. The balance of deferred financing costs as of June 30, 2008 amounted to $1,059,230.

Stock Option Plan

In 1999, the Company adopted the 1998 Stock Incentive Plan, as amended (the "Plan"), which provides for the grant of stock options and stock purchase rights to certain designated employees and certain other persons performing services for the Company, as designated by the board of directors. Pursuant to the Plan, an aggregate of 6,000,000 shares of common stock have been reserved for issuance. On March 28, 2003, the Company filed a registration statement with the SEC to register all of the 3,000,000 shares of Common Stock underlying the Plan. On January 26, 2007, the Company amended the registration statement to register an additional 3,000,000 shares of Common Stock underlying the Plan. The registration statement and amendment was deemed effective upon filing.

The terms and vesting schedules for share-based awards vary by type of grant and the employment status of the grantee. Generally, the awards vest based upon time-based conditions.

The fair value of each stock option granted has been determined using the Black-Scholes model. The material factors incorporated in the Black-Scholes model in estimating the value of the options reflected in the above table include the following:

	Year Ended June 30,		
	2008	2007	2006
Estimated life in years	4-6	6-10	6-10
Risk-free interest rate (1)	1.9%-4.1%	4.2%-4.65%	4.2%-4.5%
Volatility	100%	70%-80%	70%-111%
Dividend paid	None	None	None

(1) represents the interest rate on a U.S. Treasury security with a maturity date corresponding to that of the option term.

The economic values of the options will depend on the future price of the Company's common stock, par value $0.01 (the "Common Stock"), which cannot be forecast with reasonable accuracy.

Stock option activity under the Plan is summarized as follows:

	Shares	Weighted-average Exercise Price
Options outstanding at July 1, 2005	2,111,500	$ 2.74
Granted	318,000	$ 1,40
Exercised	—	—
Expired	(3,000)	$ 3.48
Options outstanding at June 30, 2006	2,426,500	$ 2.56
Granted	338,000	$ 1.08
Exercised	—	—
Expired	(118,500)	$ 3.42
Options outstanding at June 30, 2007	2,646,000	$ 2.33
Granted	1,069,600	$ 0.99
Exercised	—	—
Expired	—	—
Options outstanding at June 30, 2008	3,715,600	$ 1.95
Options exercisable at June 30, 2006	2,181,337	$ 2.64
Options exercisable at June 30, 2007	2,396,334	$ 2.45
Options exercisable at June 30, 2008	2,778,336	$ 2.25
Weighted-average fair value of options granted during the year ended June 30, 2006		$ 0.92
Weighted-average fair value of options granted during the year ended June 30, 2007		$ 0.85
Weighted-average fair value of options granted during the year ended June 30, 2008		$ 0.77

Non-vested stock option activity under the Plan is summarized as follows:

	Number of Options	Weighted-average Grant-Date Fair Value
Non-vested stock options at July 1, 2005	276,992	$ 2.98
Granted	318,000	$ 0.92
Vested	(349,162)	$ 2.05
Forfeited	(667)	$ 3.23
Non-vested stock options at June 30, 2006	245,163	$ 1.47
Granted	338,000	$ 0.86
Vested	(328,497)	$ 1.30
Forfeited	(5,000)	$ 0.87
Non-vested stock options at June 30, 2007	249,666	$ 1.07
Granted	1,069,600	$ 0.76
Vested	(382,002)	$ 0.82

Forfeited	—	—
Non-vested stock options at June 30, 2008	937,264	$ 0.77

The following table summarizes information about stock options outstanding at June 30, 2008:

	Options Outstanding			Options Exercisable	
Ranges of Exercise Prices	Number Outstanding at June 30, 2008	Weighted -average Remaining Contractual Life (Years)	Weighted-average Exercise Price	Number Exercisable at June 30, 2008	Weighted-average Exercise Price
$0.99 - $1.65	1,813,100	8.5	$ 1.11	875,836	$ 1.17
$2.05 - $2.35	1,025,000	2.9	$ 2.12	1,025,000	$ 2.12
$3.15 - $4.00	877,500	4.3	$ 3.49	877,500	$ 3.49
$0.99 - $4.00	3,715,600	6.0	$ 1.95	2,778,336	$ 2.25

As of June 30, 2008, the aggregate intrinsic value of stock options outstanding was $1,343,166, with a weighted-average remaining term of 6.0 years. The aggregate intrinsic value of stock options exercisable at that same date was $544,809, with a weighted-average remaining term of 4.9 years. As of June 30, 2008, the Company has 1,856,700 shares available for future stock option grants.

As of June 30, 2008, total compensation expense not yet recognized related to stock option grants amounted to $183,413, which will be recognized over the next 18 months, and an additional $640,000 which may be recognized as achievement of certain target goals under the Company's Long-Term Incentive Program become probable over the next 30 months.

Short-Term Incentive Program

On December 13, 2007, upon recommendation of the Company's Compensation Committee, the Board adopted a Short-Term Equity Incentive Program for the members of the executive management team. The Programs are intended to ensure the achievement of certain goals of the Company, continuity of the Company's executive management, and to align the interests of the executive management with those of the shareholders.

Pursuant to and as defined in the Short-Term Equity Incentive Program, each executive will be awarded shares of the Company's Common Stock, or options to acquire shares of the Company's Common Stock, if the Company achieves certain target goals relating to research, financing, licensing, investor relations and other administrative items during the fiscal year ending June 30, 2008.

The number of eligible shares and options to be awarded to the executive is based upon the following weightings:

1. 45% of eligible shares and options for contributions relating to the Company's Multiple Myeloma project;

2. 25% of eligible shares and options for contributions relating to the Company's current financing;

3. 15% of eligible shares and options for contributions relating to the Company's licensing and licensing support activities;

4. 5% of eligible shares and option for contributions relating to the Company's audits and Securities and Exchange filings;

5. 4% of the eligible shares and options for contributions relating to the administration of the Company's intellectual property;

6. 3% of the eligible shares and options for contributions relating to the Company's investor relations program;

7. 1% of the eligible shares and options for contributions relating to the administration of the Company's website;

8. 1% of the eligible shares and options for contributions relating to the administration and monitoring of the requirements of the American Stock Exchange; and

9. 1% of the eligible shares and options for contributions relating to planning for future financing requirements.

If the target goals are achieved by the Company, the executive officers would be awarded the following number of shares and options for the Fiscal year ended June 30, 2008:

	Number of Shares	Number of Options (1)

Bruce C. Galton	50,225	—
John E. Thompson, Ph.D.	—	52,676
Joel Brooks	37,275	—
Richard Dondero	—	71,924
Sascha P. Fedyszyn	25,200	—
Total	112,700	124,600

(1) Such options are exercisable at a strike price of $0.99, which represents the closing price of the common stock on December 12, 2007.

As of June 30, 2008, the Company has determined that the target goals have been achieved. The total amount of compensation expense in connection with the short-term incentive program in the amount of $206,269 has been recorded ratably over the six and one-half month period from December 13, 2007 through June 30, 2008. Such compensation expense was determined under a black-scholes model on the date of adoption of the Short-Term Equity Incentive Program.

Long-Term Incentive Program

On December 13, 2007, upon recommendation of the Company's Compensation Committee, the Board adopted a Long-Term Equity Incentive Program for the members of the executive management team. The Programs are intended to ensure the achievement of certain goals of the Company, continuity of the Company's executive management, and to align the interests of the executive management with those of the shareholders.

Pursuant to and as defined in the Long-Term Equity Incentive Program, each executive will be awarded shares of the Company's Common Stock and options to acquire shares of the Company's Common Stock if the Company achieves certain target goals relating to its Multiple Myeloma research project over the next three fiscal years.

The number of eligible shares and options to be awarded to the executive is based upon the following weightings:

1. 20% of the eligible shares upon the execution of a research agreement to conduct a phase I/II clinical trial at a research facility;

2. 20% of the eligible shares upon the filing and acceptance by the FDA of an investigational new drug application; and

3. 60% of the eligible shares upon the successful completion of a FDA approved phase I/II clinical trial .

If the target goals are achieved by the Company, the executive officers would be awarded the following number of shares and options :

	Goal 1	Goal 2	Goal 3
Number of Shares			
Bruce C. Galton	25,000	25,000	75,000
Joel Brooks	10,000	10,000	30,000
Sascha P. Fedyszyn	10,000	10,000	30,000
Total number of shares	45,000	45,000	135,000
Number of Options (1)			
John E. Thompson, Ph.D.	50,000	50,000	150,000
Richard Dondero	60,000	60,000	180,000
Total number of options	110,000	110,000	330,000

(1) Such options are exercisable at a strike price of $0.99, which represents the closing price of the common stock on December 12, 2007.

As of June 30, 2008, the Company is not able to determine if the achievement of the target goals under the Long-Term Equity Incentive Program are probable and, therefore, has not yet begun to recognize any of the $640,000 compensation expense that was computed on the date of adoption of the program. The Company will begin recognizing such compensation expense ratably over the remaining term of the plan at such time that the Company is able to determine that the achievement of the target goals are probable.

Warrants

On September 7, 1999, the Company granted to its patent counsel, as partial consideration for services rendered, options to purchase 10,000 shares of the Company's Common Stock at an exercise price equal to $3.50 per share, with 3,332 options vesting on the date of grant, 3,334 options vesting on the first anniversary of the date of grant, and 3,334 options vesting on the second anniversary of the date of grant. Such options were granted outside of the Company's Plan.

The following table represents warrants outstanding as of:

Exercise Price	June 30, 2008	June 30, 2007
$ 7.00	10,000	10,000
3.79	842,141	842,141
3.59	237,600	237,600
3.50	280,000	280,000
3.45	15,000	15,000
3.38	965,380	965,380
3.25	—	750,000
3.15	20,000	20,000
2.35	15,000	15,000
2.15	110,000	110,000
2.00	—	750,000
1.40	5,000	5,000
1.18	993,153	993,153
1.08	2,500	2,500
1.07	139,041	139,041
1.01	7,175,000	—
1.00	1,500,000	—
.99	1,000	—
.90	7,330,555	—
.74	155,556	—
	19,796,926	5,134,815

As of June 30, 2008, 19,796,259 of the above warrants are exercisable expiring at various dates through 2017. At June 30, 2008, the weighted-average exercise price on the above warrants was $1.29.

Share Based Compensation

Effective July 1, 2005, the Company adopted FAS No. 123R, utilizing the modified-retrospective method. FAS No. 123R requires the recognition of stock-based compensation expense in the consolidated financial statements. Under the modified-retrospective method, the provisions of FAS No. 123R apply to all awards granted or modified after the date of adoption. Prior year results have been adjusted to reflect the amortized portion of the fair value of the options granted prior to the date of adoption, which have been measured under the original provisions of FAS No. 123. In addition, the unamortized portion of the options that were granted prior to the date of adoption, also determined under the original provisions of FAS No. 123, shall be recognized in the periods after the date of adoption.

The following stock-based compensation expense of $897,321, $970,162, $677,000 and $9,696,097 was recognized for the years ended June 30, 2008, 2007, 2006 and cumulatively from inception through June 30, 2008, respectively:

	Year Ended June 30, 2008	2007	2006	Cumulative From Inception
General and administrative expenses	$ 749,100	$ 909,848	$ 488,000	$ 8,286,041
Research and development expenses	148,221	60,314	189,000	1,410,056
Total stock-based compensation expense	$ 897,321	$ 970,162	$ 677,000	$ 9,696,097
Basic and diluted loss per common share	$ .05	$ .06	$ .04	

8. INCOME TAXES:

The Company files a consolidated federal income tax return. The subsidiary files separate state and local income tax returns.

The reconciliation of the effective income tax rate to the federal statutory rate is as follows:

Year ended June 30,	2008	2007	2006
Federal statutory rate	(34.0)%	(34.0)%	(34.0)%
Stock based compensation	0.5%	2.7%	5.9%
Interest expense paid with common stock	2.5%	—	—
Amortization of debt discount and financing costs	2.9%	—	—
Other	0.1%	0.1%	0.1%

Valuation allowance	28.0%	31.2%	28.0%
	-0-%	- 0 -%	- 0 -%

The deferred income tax asset consists of the following at:

	June 30, 2008	June 30, 2007
Deferred tax asset:		
Net operating loss carryforward	$ 7,528,000	$ 6,443,000
Stock-based compensation	1,506,000	1,181,000
Other	118,000	95,000
	9,152,000	7,719,000
Valuation allowance	(9,152,000)	(7,719,000)
	$ - 0-	$ - 0 -

At June 30, 2008, the Company has federal and state net operating loss carryforwards of approximately $19,924,000 and $12,565,000, respectively, available to offset future taxable income expiring on various dates through 2028. The timing and extent to which the Company can utilize future tax deductions in any year may be limited by provisions of the Internal Revenue Code regarding changes in ownership of Corporations (i.e. IRS Code Section 382).

9. COMMITMENTS:

Research Agreement

Effective September 1, 1998, the Company entered into a research and development agreement, which has subsequently been renewed, with a university that a researcher, who is an officer, director and stockholder of the Company, is affiliated. Pursuant to the agreement, the university provides research and development under the direction of the researcher and the Company. The agreement is renewable annually by the Company which has the right of termination upon 30 days' advance written notice. Effective September 1, 2008, the Company extended the research and development agreement for an additional one-year period through August 31, 2009, in the amount of Can $735,000, or approximately U.S. $735,000. Research and development expenses under this agreement for the years ended June 30, 2008, 2007 and 2006 aggregated U.S. $730,960, U.S. $568,872 and U.S. $692,982, respectively, and U.S. $4,627,264 for the cumulative period through June 30, 2008. Future obligations to be paid under the agreement through August 31, 2009 equal approximately $855,000.

Supply Agreements

On June 27, 2008, the Company entered into a supply agreement with VGXI, Inc. ("VGXI") under which VGXI will supply the Company with the plasmid portion of the Company's combination therapy consisting of the Factor 5A gene and siRNA against Factor 5A (the "Plasmid Product"). The agreement has an initial term that commences on the date of the agreement and runs for a period of five (5) years. The agreement shall, upon mutual agreement, renew for consecutive one (1) year periods thereafter. The Company's financial obligation under the agreement is dependent upon the amount of Plasmid Product ordered by the Company.

On June 30, 2008, the Company entered into a supply agreement with POLYPLUS under which POLYPLUS will supply the Company with its "*in vivo*-jetPEI" (the "Product"), which is used for systemic delivery of the Company's combination therapy of siRNA against Factor 5A and a plasmid of the Factor 5A gene. The agreement has an initial term which commences on the date of the agreement and runs until the eighth anniversary of the first sale of the Product. The agreement shall automatically renew for consecutive one (1) year periods thereafter, except if terminated by either party upon six (6) months written notice prior to the initial or any subsequent renewal term. The Company's financial obligation under the agreement is dependent upon the amount of Product ordered by the Company.

In the aggregate, the Company anticipates that it will pay $876,000 under the terms of the supply agreements over to the next 12 months.

Employment and Consulting Agreements

Effective May 1, 1999, the Company entered into a consulting agreement for research and development with a researcher. Effective January 1, 2003, 2005, and 2007, the agreement was amended to provide for an increase in the monthly

payments from $3,000 to $5,000, $5,000 to $5,200, and $5,200 to $5,417, respectively. The agreement was renewed for an additional two-year term through June 30, 2009. Future obligations to be paid under the agreement equal $65,000.

The Company has employment agreements with certain employees, all of whom are also stockholders of the Company. These agreements provide for a base compensation and additional amounts, as defined. The agreements expire between January 2009 and October 2009. Future base compensation to be paid through October 2009 under the agreements as of June 30, 2008 is $665,540.

Facility Lease

The Company is obligated under a noncancelable operating lease of office space expiring on May 31, 2011. The aggregate minimum future payments, subject to certain escalations, is payable as follows:

Year ending June 30,	
2009	78,508
2010	79,420
2011	73,568
	$ 231,496

Rent expense charged to operations aggregated $75,602, $92,872, $86,849 and $585,809 for the years ended June 30, 2008, 2007, 2006, and from inception through June 30, 2008, respectively.

The lease provides for scheduled increases in base rent. Rent expense is charged to operations ratably over the term of the lease, which results in deferred rent payable and represents the cumulative rent expense charged to operations from inception of the lease in excess of the required lease payments.

Financial Advisory Agreement

On October 11, 2006, the Company entered into a three-year non-exclusive financial advisory agreement with Stanford Group Company ("Stanford"). As compensation under the agreement, previously issued warrants that were purchased by Stanford and its affiliates in a private placement were amended. The original exercise prices on 1,500,000 warrants, 750,000 of which had an exercise price of $3.25 and 750,000 of which had an exercise price of $2.00, were reduced to $2.00 and $1.50, respectively. Additionally, the original expiration dates of December 2006 and January 2007 were each extended for a three-year period through December 2009 and January 2010, respectively. Stock-based compensation in the amount of $683,000 related to the amendment of such warrants was recorded during the year ended June 30, 2007. Stanford was also granted piggyback registration rights in connection with the shares underlying the warrants.

On February 14**,** 2008, the Company amended the agreement. The amendment extended the term of the agreement through June 30, 2012 and expanded the

services to be provided to the Company. As compensation for the term extension and expansion of services, previously issued warrants were amended. The exercise prices of the 1,500,000 shares of Common Stock underlying the warrants, 750,000 of which had an exercise price of $2.00 and 750,000 of which had an exercise price of $1.50, were reduced to $1.01. Additionally, the expiration dates of December 2009 and January 2010 were each extended through June 30**,** 2012. A compensation charge in the amount of $384,500 was recorded during the year ended June 30, 2008 in connection with extension and repricing of the warrants. The agreement may be terminated by either party upon sixty days written notice.

10. JOINT VENTURE:

On May 14, 1999, the Company entered into a joint venture agreement ("Joint Venture") with an Israeli partnership that is engaged in the worldwide marketing of tissue culture plants. The purpose of the Joint Venture is to develop enhanced banana plants which will result in banana fruit with improved consumer- and grower-driven traits. For the period from inception on May 14, 1999 to June 30, 2008, the Joint Venture has had no revenue, expenses, assets or liabilities. The program has been performed as a joint collaboration whereby the Company pays for 50% of the research costs of the program. The Company's portion of the expenses of the collaboration approximated $205,000 and $162,500 for the years ended June 30, 2008 and 2007, respectively, and is included in research and development expenses.

In July 1999, the Joint Venture applied for and received a conditional grant from the Israel - United States Binational Research and Development Foundation (the "BIRD Foundation"). This agreement, as amended, allowed the Joint Venture to receive $340,000 over a five-year period ending May 31, 2004. Grants received from the BIRD Foundation will be paid back only upon the commercial success of the Joint Venture's technology, as defined. The Company has received a total of $99,728, of which $9,578 was received during the year ended June 30, 2006 and none was received during the years ended June 30, 2008 and June 30, 2007.

11. LICENSE AND DEVELOPMENT AGREEMENTS:

In June 2002, the Company entered into a three-year exclusive worldwide development and option agreement with ArborGen, ("ArborGen") (the "Agreement") to develop the Company's technology in certain species of trees. In July 2002, the Company received an initial fee. In November 2004 and January 2006, the Company received milestone payments. On December 21, 2006, ArborGen converted the Agreement into a commercial license agreement for the development and commercialization of certain species of trees. Under the terms of the license agreement, the Company will receive certain annual payments over two years and, additionally, upon commercialization, a royalty on incremental net sales.

On November 8, 2006, the Company entered into a license agreement with Bayer CropScience GmbH for the development and commercialization of Canola (the "Agreement"). Under the terms of the Agreement, the Company (i) received an upfront payment, (ii) will receive milestone payments upon the achievement of certain development milestones, and (iii) will receive commercialization fees based upon specified benchmarks.

On July 17, 2007, the Company entered into a license agreement with Bayer CropScience AG for the development and commercialization of cotton (the "Bayer Cotton Agreement"). Under the terms of the Bayer Cotton Agreement, the Company (i) received an upfront initial payment, (ii) will receive milestone payments upon the achievement of certain development milestones, and (iii) additionally, upon commercialization, a royalty on net sales.

On August 6, 2007, the Company entered into a license agreement with the Monsanto Company for the development and commercialization of corn and soy (the "Monsanto Agreement"). Under the terms of the Monsanto Agreement, the Company (i) received an upfront initial payment, (ii) will receive milestone payments upon the achievement of certain development milestones, and (iii) additionally, upon commercialization, a royalty on net sales.

On September 11, 2007, the Company entered into a license agreement with Bayer CropScience AG for the development and commercialization of Rice (the "Bayer Rice Agreement"). Under the terms of the Bayer Rice Agreement, the Company (i) received an upfront payment, (ii) will receive milestone payments upon the achievement of certain development milestones, and (iii) additionally, upon commercialization, a royalty on net sales.

12. VALUATION AND QUALIFYING ACCOUNTS:

Years Ended June 30, 2008, 2007, and 2006.

	Balance at Beginning of Year	Additions Charged to Expense(*)	Deductions	Balance at End of Year
Year ended June 30, 2008: Valuation allowance –deferred tax asset	$ 7,719,000	$ 1,433,000	$ 0	$ 9,152,000
Year ended June 30, 2007: Valuation allowance –deferred tax asset	$ 6,523,000	$ 1,196,000	$ 0	$ 7,719,000
Year ended June 30, 2006: Valuation allowance –deferred tax asset	$ 5,428,000	$ 1,095,000	$ 0	$ 6,523,000

(*) Offset to tax benefit of net operation losses.

13. QUARTERLY FINANCIAL DATA (UNAUDITED) :

	Year Ended June 30, 2008			
Quarter Ended	September 30	December 31 (Restated)	March 31 (Restated)	June 30
Revenue	$ 371,250	$ 6,250	$ 79,167	$ —
Total operating expenses	741,954	978,105	1,351,142	984,488
Loss from operations	(370,704)	(971,855)	(1,271,975)	(984,488)
Interest expense and amortization of debt discount and financing costs	(18,221)	(103,210)	(254,149)	(727,337)
Interest income	6,879	25,227	43,907	24,436
Net loss	$ (382,046)	$ (1,049,838)	$ (1,482,217)	$ (1,687,389)
Basic and diluted net loss per common share	$ (0.02)	$ (0.06)	$ (0.08)	$ (0.09)
Basic and diluted weighted-average number of common shares outstanding	17,473,694	17,474,870	17,583,461	18,113,932

	Year Ended June 30, 2007			
Quarter Ended	September 30	December 31	March 31	June 30
Revenue	$ 81,250	$ 181,250	$ 6,250	$ 31,250
Total operating expenses	692,633	1,342,989	828,483	756,895
Loss from operations	(611,383)	(1,161,739)	(822,233)	(725,645)
Interest income	10,918	26,102	20,916	11,367
Net loss	$ (600,465)	$ (1,135,637)	$ (801,317)	$ (714,278)
Basic and diluted net loss per common share	$ (0.04)	$ (0.07)	$ (0.05)	$ (0.04)
Basic and diluted weighted-average number of common shares outstanding	15,480,649	17,257,791	17,473,694	17,473,694

Certain quarterly amounts for the quarters ended December 31, 2007 and March 31, 2008 have been restated. Effective April 1, 2008, the Company changed the method of amortization of debt discount from the straight-line method to the effective yield method in accordance with EITF 98-5. The effect of this restatement, on a quarterly basis, is as follows:

	Quarter Ended	
	December 31, 2007	March 31, 2008
Decrease in interest expense and amortization of debt discount and financing costs	$ 244,833	$ 561,950
Decrease in net loss	$ 244,833	$ 561,950
Decrease in basic and diluted net loss per common share	$ 0.01	$ 0.04
Decrease in convertible notes payable	$ 244,833	$ 806,783
Increase in stockholder's Equity	$ 244,833	$ 806,783

EXHIBIT INDEX

Exhibit No.	Description of Exhibit
2.1	Merger Agreement and Plan of Merger by and among Nava Leisure USA, Inc., an Idaho corporation, the Principal Stockholders (as defined therein), Nava Leisure Acquisition Corp., and Senesco, Inc., dated October 9, 1998. (Incorporated by reference to Senesco Technologies, Inc. definitive proxy statement on Schedule 14A dated January 11, 1999.)
2.2	Merger Agreement and Plan of Merger by and between Senesco Technologies, Inc., an Idaho corporation, and Senesco Technologies, Inc., a Delaware corporation, dated September 30, 1999. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 1999.)
3.1	Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on January 22, 2007. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended December 31, 2006.)
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on January 22, 2008. (Incorporated by reference to Exhibit 3.1 of Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended December 31, 2007.)
3.3	Amended and Restated By-laws of Senesco Technologies, Inc. as adopted on October 2, 2000. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2000.)
4.1	Form of Warrant with Forbes, Inc. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 1999.)
4.2	Form of Option Agreement with Kenyon & Kenyon. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 1999.)
4.3	Form of Warrant with Parenteau Corporation. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 1999.)
4.4	Form of Warrant with Strategic Growth International, Inc. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 1999.)
4.5	Form of Warrant issued to Stanford Venture Capital Holdings, Inc. and certain officers of Stanford Venture Capital Holdings, Inc. (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2001.)
4.6	Form of Warrant issued to certain accredited investors (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 4.2 of Senesco

Exhibit No.	Description of Exhibit
	Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2002.)
4.7	Form of Warrant issued to certain third parties for services rendered (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 4.3 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2002.)
4.8	Warrant issued to Sands Brothers International Ltd. dated September 25, 2003. (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 2003.)
4.9	Warrant issued to Sands Brothers International Ltd. Dated September 25, 2003. (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 2003.)

4.10	Form of Warrant issued to certain accredited investors (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 3, 2004.)
4.11	Form of Warrant issued to certain accredited investors (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on May 4, 2005.)
4.12	Form of Warrant issued to Oppenheimer & Co. Inc. or its designees, dated as of May 9, 2005. (Incorporated by reference to Exhibit 4.2 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended March 31, 2005.)
4.13	Form of Warrant issued to H.C. Wainwright & Co., Inc., or its designees, dated as of October 10, 2006 (Incorporated by reference to Exhibit 10.42 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
4.14	Form or Warrant issued to certain accredited investors dated October 10, 2006 (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.40 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
4.15	Form of Series A Warrant issued to YA Global Investments, L.P. (Incorporated by reference to Exhibit 4.15 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
4.16	Form of Series A Warrant issued to Stanford Venture Capital Holdings, Inc. (Incorporated by reference to Exhibit 4.16 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
4.17	Form of Debenture issued to YA Global Investments, L.P. (Incorporated by reference to Exhibit 4.17 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
4.18	Form of Debenture issued to Stanford Venture Capital Holdings, Inc. (Incorporated by reference to Exhibit 4.18 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)

Exhibit No.	Description of Exhibit
	for the period ended June 30, 2007.)
4.19	Form of Series B Warrant issued to YA Global Investments, L.P. (Incorporated by reference to Exhibit 4.19 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
4.20	Form of Series B Warrant issued to Stanford Venture Capital Holdings, Inc. (Incorporated by reference to Exhibit 4.20 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
4.21 †	Form of Warrant issued to H.C. Wainwright & Co., Inc or its designees.
10.1	Indemnification Agreement by and between Senesco Technologies, Inc. and Christopher Forbes, dated January 21, 1999. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 1998.) (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 3, 2004.)
10.2	Indemnification Agreement by and between Senesco Technologies, Inc. and Thomas C. Quick, dated February 23, 1999. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended March 31, 1999.)
10.3	Indemnification Agreement by and between Senesco Technologies, Inc. and Ruedi Stalder, dated March 1, 1999. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended March 31, 1999.)
10.4	Indemnification Agreement by and between Senesco Technologies, Inc. and Bruce C. Galton, dated October 4, 2001. (Incorporated by reference to Exhibit 10.10 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the quarterly period ended December 31, 2001.)
10.5	Indemnification Agreement by and between Senesco Technologies, Inc. and Jack Van Hulst, dated January 16, 2007. (Incorporated by reference to Exhibit 10.13 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007)
10.6	Indemnification Agreement by and between Senesco Technologies, Inc. and John Braca, dated October 8, 2003. (Incorporated by reference to Exhibit 10.38 of Senesco Technologies, Inc. annual report on Form 10-KSB for the period ended June 30, 2004.)
10.7	Indemnification Agreement with David Rector dated as of April, 2002. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 2004.)
10.8 *	Employment Agreement by and between Senesco, Inc. and Sascha P. Fedyszyn, dated January 21, 1999. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 1998.)
10.9*	Employment Agreement by and between Senesco Technologies, Inc. and Bruce C. Galton, dated October 4, 2001. (Incorporated by reference to Exhibit 10.9 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2001.)

Exhibit	Description of Exhibit

No.	
10.10*	Employment Agreement by and between Senesco Technologies, Inc. and Joel Brooks, dated July 1, 2003. (Incorporated by reference to Exhibit 10.29 of Senesco Technologies, Inc. annual report on Form 10-KSB for the period ended June 30, 2003.)
10.11*	Employment Agreement by and between Senesco Technologies, Inc. and Richard Dondero, dated July 19, 2004. (Incorporated by reference to Exhibit 10.39 of Senesco Technologies, Inc. annual report on Form 10-KSB for the period ended June 30, 2004.)
10.12*	Consulting Agreement by and between Senesco Technologies, Inc. and John E. Thompson, Ph.D., dated July 12, 1999. (Incorporated by reference to Senesco Technologies, Inc. annual report on Form 10-KSB for the period ended June 30, 2000.)
10.13*	Amendment to Consulting Agreement of July 12, 1999, as modified on February 8, 2001, by and between Senesco, Inc. and John E. Thompson, Ph.D., dated December 13, 2002. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2002.)
10.14 *	Amendment# 5 to Consulting Agreement of July 12, 1999, as modified, by and between Senesco, Inc. and John E. Thompson, Ph.D., dated June 15, 2007. (Incorporated by reference to Exhibit 10.49 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.15 +	License Agreement by and between Senesco Technologies, Inc. and Harris Moran Seed Company, dated November 19, 2001. (Incorporated by reference to Exhibit 10.8 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2001.)
10.16 +	Development Agreement by and between Senesco Technologies, Inc. and ArborGen, LLC, dated June 28, 2002. (Incorporated by reference to Exhibit 10.31 of Senesco Technologies, Inc. annual report on Form 10-KSB for the year ended June 30, 2002.)
10.17 +	Commercial License Agreement by and between Senesco Technologies, Inc. and ArborGen, LLC dated as of December 21, 2006. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended December 31, 2006.)
10.18 +	Development and License Agreement by and between Senesco Technologies, Inc. and Calwest Seeds, dated September 14, 2002. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 2002.)
10.19 +	Development and License Agreement by and between Senesco Technologies, Inc. and The Scotts Company, dated March 8, 2004. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended March 31, 2004.)

Exhibit No.	Description of Exhibit
10.20 +	Development and License Agreement with Broin and Associates, Inc. (currently known as Poet) dated as of October 14, 2004. (Incorporated by reference to Exhibit 10.2 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended September 30, 2004.)
10.21 +	License Agreement by and between Senesco Technologies, Inc. and Bayer CropScience GmbH, dated as of November 8, 2006. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-Q for the quarterly period ended December 31, 2006.)
10.22 +	License Agreement with Bayer CropScience AG dated as of July 23, 2007. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended September 30, 2007.)
10.23 +	Patent License Agreement with Monsanto Company dated as of August 6, 2007. (Incorporated by reference to Exhibit 10.2 of Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended September 30, 2007.)
10.24 +	License Agreement with Bayer CropScience AG dated as of September 17, 2007. (Incorporated by reference to Exhibit 10.3 of Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended September 30, 2007.)
10.25	Research Agreement by and among Senesco Technologies, Inc., Dr. John E. Thompson and the University of Waterloo, dated September 1, 1998, as amended. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 1998.)
10.26	Research Agreement by and among Senesco Technologies, Inc., Dr. John E. Thompson and the University of Waterloo, dated May 1, 2002. (Incorporated by reference to Exhibit 10.29 of Senesco Technologies, Inc. annual report on Form 10-KSB for the year ended June 30, 2002.)
10.27	Amendment to Research Agreement by and among the University of Waterloo, Senesco, Inc., and Dr. John E. Thompson, Ph.D., dated August 1, 2007. (Incorporated by reference to Exhibit 10.42 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.28†	Amendment to Research Agreement by and among the University of Waterloo, Senesco, Inc. and Dr. John E. Thompson, Ph.D., dated August 25, 2008.
10.29†+	Master Product Sale Agreement with VGXI, Inc. dated as of June 27, 2008.
10.30†	Master Product Sale Agreement with Polyplus-transfection dated as of June 30, 2008.
10.31	Agreement for Service on Senesco Technologies, Inc. Scientific Advisory Board by and between Senesco Technologies, Inc. and Dr. Charles A. Dinarello, dated February 12, 2002. (Incorporated by reference to Exhibit 10.6 of Senesco Technologies, Inc. quarterly report on Form 10-QSB

for the period ended March 31, 2002.)

10.32 Agreement for Service on Senesco Technologies, Inc. Scientific Advisory Board by

Exhibit No.	Description of Exhibit
	and between Senesco Technologies, Inc. and James W. Mier, M.D., dated April 2, 2007. (Incorporated by reference to Exhibit 10.43 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.33	Financial Advisory Agreement by and among Senesco Technologies, Inc., Stanford Group Company, Stanford Venture Capital Holdings, Inc., Stanford International Bank, Ltd., Ronald Stein, Daniel Bogar, Osvaldo Pi and William Fusselmann dated October 11, 2006. (Incorporated by reference to Exhibit 10.35 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
10.34	Amendment No. 1 to the financial advisory agreement by and between Stanford Group Company and Senesco Technologies, Inc., dated February 14, 2008. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. quarterly report on Form 10-Q for the period ended December 31, 2007.)
10.35	Form of Securities Purchase Agreement by and between Senesco Technologies, Inc. and certain accredited investors (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 3, 2004.)
10.36	Form of Registration Rights Agreement by and between Senesco Technologies, Inc. and certain accredited investors (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.2 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 3, 2004.)
10.37	Amendment No. 1 to the Securities Purchase Agreement by and between Senesco Technologies, Inc. and Crestview Capital Master, L.L.C. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 13, 2004.)
10.38	Amendment No. 1 to the Registration Rights Agreement by and between Senesco Technologies, Inc. and Crestview Capital Master, L.L.C. (Incorporated by reference to Exhibit 10.2 of Senesco Technologies, Inc. Current Report on Form 8-K, filed on February 13, 2004.)
10.39	Form of Securities Purchase Agreement by and between the Company and certain accredited investors (with schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. Current Report on Form 8-K filed on May 4, 2005.)
10.40	Registration Rights Agreement by and among Senesco Technologies, Inc., Stanford Group Company, Stanford Venture Capital Holdings, Inc., Stanford International Bank, Ltd., Ronald Stein, Daniel Bogar, Osvaldo Pi and William Fusselmann dated October 11, 2006. (Incorporated by reference to Exhibit 10.36 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
10.41	Form of Securities Purchase Agreement by and between Senesco Technologies, Inc. and certain accredited investors dated October 10, 2006 (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.38 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)

Exhibit No.	Description of Exhibit
10.42	Form of Registration Rights Agreement by and between Senesco Technologies, Inc and certain accredited investors dated October 10, 2006 (with attached schedule of parties and terms thereto). (Incorporated by reference to Exhibit 10.39 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
10.43	Placement Agent Agreement by and between Senesco Technologies, Inc. and H.C. Wainwright & Co., Inc., dated May 1, 2006. (Incorporated by reference to Exhibit 10.41 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2006.)
10.44	Amendment to Placement Agent Agreement by and between Senesco Technologies, Inc. and H.C. Wainwright & Co., Inc. dated August 3, 2007. (Incorporated by reference to Exhibit 10.41 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.45	Securities Purchase Agreement by and between Senesco Technologies, Inc. and YA Global Investments, L.P. (Incorporated by reference to Exhibit 10.44 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.46	Registration Rights Agreement by and between Senesco Technologies, Inc. and YA Global Investments, L.P. (Incorporated by reference to Exhibit 10.45 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.47	Securities Purchase Agreement by and between Senesco Technologies, Inc. and Stanford Venture Capital Holdings, Inc. (Incorporated by reference to Exhibit 10.46 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.48	Registration Rights Agreement by and between Senesco Technologies, Inc. and Stanford Venture Capital Holdings, Inc. (Incorporated by reference to Exhibit 10.47 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.49	Security Agreement dated as of September 21, 2007 by and between Senesco Technologies, Inc. and its subsidiaries and YA Global

	Investments, L.P. (Incorporated by reference to Exhibit 10.48 of Senesco Technologies, Inc. annual report on Form 10-K for the period ended June 30, 2007.)
10.50 †	Security Agreement dated as of December 20, 2007 by and between Senesco Technologies, Inc. and its subsidiaries and Stanford Venture Capital Holdings, Inc.
10.51	Office lease by and between Senesco Technologies, Inc. and Matrix/AEW NB, LLC, dated March 16, 2001. (Incorporated by reference to Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended March 31, 2001.)
10.52	First amendment of office lease by and between Senesco Technologies, Inc. and Matrix/AEW NB, LLC, dated May 13, 2005 (Incorporated by reference to Exhibit 10.8 of Senesco Technologies, Inc annual report on Form 10-KSB for the period ended June 30, 2005.)

Exhibit No.	Description of Exhibit
10.53 *	1998 Stock Incentive Plan, as amended on December 13, 2002. (Incorporated by reference to Exhibit 10.7 of Senesco Technologies, Inc. quarterly report on Form 10-QSB for the period ended December 31, 2002.)
21	Subsidiaries of the Registrant. (Incorporated by reference to Senesco Technologies, Inc. annual report on Form 10-KSB for the period ended June 30, 1999.)
23.1 †	Consent of Goldstein Golub Kessler LLP.
23.2 †	Consent of McGladrey Pullen, LLP.
31.1 †	Certification of the principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2 †	Certification of the principal financial and accounting officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1 †	Certification of the principal executive officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2 †	Certification of the principal financial and accounting officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

* A management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 13(a) of Form 10-K.

† Filed herewith.

\+ The SEC granted Confidential Treatment for portions of this Exhibit.

PLACEMENT AGENT WARRANT

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS, OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR APPLICABLE STATE SECURITIES LAWS OR UNLESS SOLD PURSUANT TO RULE 144 UNDER SAID ACT.

SENESCO TECHNOLOGIES, INC.

Warrant To Purchase Common Stock

Warrant No.: SNT-PA-1

Number of Shares:	116,667
Warrant Exercise Price:	$0.90
Expiration Date:	, 2012

Date of Issuance: , 2008

Senesco Technologies, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, H.C. Wainwright & Co., Inc. (the "Holder"), the registered holder hereof or its permitted assigns, is entitled, subject to the terms set forth below, to purchase from the Company upon surrender of this Warrant, at any time or times after the six month anniversary after the date hereof, but not after 11:59 P.M. Eastern Time on the Expiration Date (as defined herein) up to 116,667 fully paid and nonassessable shares of Common Stock (as defined herein) of the Company (the "Warrant Shares") at the exercise price per share provided in Section 1(b) below or as subsequently adjusted; provided, however, that in no event shall the holder be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect to such exercise, would cause the aggregate number of shares of Common Stock beneficially owned by the holder and its affiliates to exceed 4.99% of the outstanding shares of the Common Stock following such exercise, except within sixty (60) days of the Expiration Date (however, such restriction may be waived by Holder (but only as to itself and not to any other holder) upon not less than 65 days prior notice to the Company). For purposes of the foregoing proviso, the aggregate number of shares of Common Stock beneficially owned by the holder and its affiliates shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such proviso is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised Warrants beneficially owned by the holder and its affiliates and

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(ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the holder and its affiliates (including, without limitation, any convertible notes or preferred stock) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock a holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company's most recent Form 10-Q or Form 10-K, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written request of any holder, the Company shall promptly, but in no event later than one (1) Business Day following the receipt of such notice, confirm in writing to any such holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the exercise of Warrants (as defined below) by such holder and its affiliates since the date as of which such number of outstanding shares of Common Stock was reported.

Section 1.

(a) This Warrant is one of the warrants issued pursuant the Engagement Letter and Proposal ("Letter Agreement") dated April 28, 2006, as amended on August 3, 2007 between the Company and the H.C. Wainwright & Co., Inc. or issued in exchange or substitution thereafter or replacement thereof. Each Capitalized term used, and not otherwise defined herein, shall have the meaning ascribed thereto in the Securities Purchase Agreement ("Securities Purchase Agreement") dated August 1, 2007 between the Company and the Buyers listed on Schedule I thereto..

(b) Definitions. The following words and terms as used in this Warrant shall have the following meanings:

(i) "Approved Stock Plan" means a stock option plan that has been approved by the Board of Directors of the Company prior to the date of the Securities Purchase Agreement, pursuant to which the Company's securities may be issued only to any employee, officer or director for services provided to the Company.

(ii) "Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in the State of New Jersey are authorized or required by law to remain closed.

(iii) "Closing Bid Price" means the closing bid price of Common Stock as quoted on the Principal Market (as reported by Bloomberg Financial Markets ("Bloomberg") through its "Volume at Price" function).

(iv) "Common Stock" means (i) the Company's common stock, par value $0.01 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(v) "Debenture(s)" means the convertible debentures issued pursuant to the Securities Purchase Agreement.

(vi) "Event of Default" means an event of default under the Securities Purchase Agreement or the Debentures issued in connection therewith.

(vii) "Excluded Securities" means, (a) shares issued or deemed to have been issued by the Company pursuant to an Approved Stock Plan (b) shares of Common Stock issued or deemed to be issued by the Company upon the conversion, exchange or exercise of any right, option, obligation or security outstanding on the date prior to date of the Securities Purchase Agreement, provided that the terms of such right, option, obligation or security are not amended or otherwise modified on or after the date of the Securities Purchase Agreement, and provided that the conversion price, exchange price, exercise price or other purchase price is not reduced, adjusted or otherwise modified and the number of shares of Common Stock issued or issuable is not increased (whether by operation of, or in accordance with, the relevant governing documents or otherwise) on or after the date of the Securities Purchase Agreement, (c) shares issued in connection with any (i) acquisition by the Company, whether through an acquisition of stock or a merger of any business, assets or technologies, leasing arrangement or any other transaction the primary purpose of which is not to raise equity capital, or (ii) license agreement, consulting agreement, strategic partnership or similar business arrangement, and (d) the shares of Common Stock issued or deemed to be issued by the Company upon conversion of the Debenture or the Warrants.

(viii) "Expiration Date" means , 2013.

(ix) "Issuance Date" means the date hereof.

(x) "Options" means any rights, warrants or options to subscribe for or purchase Common Stock or Convertible Securities.

(xi) "Person" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(xii) "Primary Market" means on any of (a) the American Stock Exchange, (b) New York Stock Exchange, (c) the Nasdaq Global Select Market, (d) the Nasdaq Global Market, (e) the Nasdaq Capital Market, or (e) the NASD Over-the-Counter Bulletin Board ("OTCBB").

(xiii) "Securities Act" means the Securities Act of 1933, as amended.

(xiv) "Warrant" means this Warrant and all Warrants issued in exchange, transfer or replacement thereof.

(xv) "Warrant Exercise Price" shall be equal to $0.90.

(c) Other Definitional Provisions.

(i) Except as otherwise specified herein, all references herein (A) to the Company shall be deemed to include the Company's successors and (B) to any applicable law defined or referred to herein shall be deemed references to such applicable law as the same may have been or may be amended or supplemented from time to time.

(ii) When used in this Warrant, the words "herein", "hereof", and "hereunder" and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section", "Schedule", and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant unless otherwise specified.

(iii) Whenever the context so requires, the neuter gender includes the masculine or feminine, and the singular number includes the plural, and vice versa.

Section 2. Exercise of Warrant.

(a) Subject to the terms and conditions hereof, this Warrant may be exercised by the holder hereof then registered on the books of the Company, pro rata as hereinafter provided, at any time on any Business Day on or after the opening of business on such Business Day, commencing with the first day after the date hereof, and prior to 11:59 P.M. Eastern Time on the Expiration Date (i) by delivery of a written notice, in the form of the subscription notice attached as Exhibit A hereto (the "Exercise Notice"), of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, payment to the Company of an amount equal to the Warrant Exercise Price(s) applicable to the Warrant Shares being purchased, multiplied by the number of Warrant Shares (at the applicable Warrant Exercise Price) as to which this Warrant is being exercised (plus any applicable issue or transfer taxes) (the "Aggregate Exercise Price") in cash or wire transfer of immediately available funds and the surrender of this Warrant (or an indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) to a common carrier for overnight delivery to the Company as soon as practicable following such date ("Cash Basis") or (ii) if at the time of exercise, the Warrant Shares are not subject to an effective registration statement, by delivering an Exercise Notice and in lieu of making payment of the Aggregate Exercise Price in cash or wire transfer, elect instead to receive upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (the "Cashless Exercise"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of Warrant Shares with respect to which this Warrant is then being exercised.

B = the Closing Bid Price of the Common Stock on the date of exercise of the Warrant.

C = the Warrant Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

In the event of any exercise of the rights represented by this Warrant in compliance with this Section 2, the Company shall on or before the fifth (5th) Business Day following the date of receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or an indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) and the receipt of the representations of the holder specified in Section 6 hereof, if requested by the Company (the "Exercise Delivery Documents"), and if the Common Stock is DTC eligible, credit such aggregate number of shares of Common Stock to which the holder shall be entitled to the holder's or its designee's balance account with The Depository Trust Company; provided, however, if the holder who submitted the Exercise Notice requested physical delivery of any or all of the Warrant Shares, or, if the Common Stock is not DTC eligible then the Company shall, on or before the fifth (5^{th}) Business Day following receipt of the Exercise Delivery Documents, issue and surrender to a common carrier for overnight delivery to the address specified in the Exercise Notice, a certificate, registered in the name of the holder, for the number of shares of Common Stock to which the holder shall be entitled pursuant to such request. Upon delivery of the Exercise Notice and Aggregate Exercise Price referred to in clause (i) or (ii) above, the holder of this Warrant shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised. In the case of a dispute as to the determination of the Warrant Exercise Price, the Closing Bid Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the holder the number of Warrant Shares that is not disputed and shall submit the disputed determinations or arithmetic calculations to the holder via facsimile within one (1) Business Day of receipt of the holder's Exercise Notice.

(b) If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or arithmetic calculation of the Warrant Shares within one (1) day of such disputed determination or arithmetic calculation being submitted to the holder, then the Company shall immediately submit via facsimile (i) the disputed determination of the Warrant Exercise Price or the Closing Bid Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the holder of the results no later than forty-eight (48) hours from the time it receives the disputed determinations or calculations. Such investment banking firm's or accountant's determination or calculation, as the case may be, shall be deemed conclusive absent manifest error.

(c) Unless the rights represented by this Warrant shall have expired or shall have been fully exercised, the Company shall, as soon as practicable and in no event later than five (5) Business Days after any exercise and at its own expense, issue a new Warrant identical in all respects to this Warrant exercised except it shall represent rights to purchase the number of Warrant Shares purchasable immediately prior to such exercise under this Warrant exercised, less the number of Warrant Shares with respect to which such Warrant is exercised.

(d) No fractional Warrant Shares are to be issued upon any pro rata exercise of this Warrant, but rather the number of Warrant Shares issued upon such exercise of this Warrant shall be rounded up or down to the nearest whole number.

(e) RESERVED.

(f) RESERVED.

Section 3. Covenants as to Common Stock. The Company hereby covenants and agrees as follows:

(a) This Warrant is, and any Warrants issued in substitution for or replacement of this Warrant will upon issuance be, duly authorized and validly issued.

(b) All Warrant Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be validly issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof.

(c) During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved at least one hundred percent (100%) of the number of shares of Common Stock needed to provide for the exercise of the rights then represented by this Warrant and the par value of said shares will at all times be less than or equal to the applicable Warrant Exercise Price. If at any time the Company does not have a sufficient number of shares of Common Stock authorized and available, then the Company shall call and hold a special meeting of its stockholders within sixty (60) days of that time for the sole purpose of increasing the number of authorized shares of Common Stock.

(d) If at any time after the date hereof the Company shall file a registration statement, the Company shall include the Warrant Shares issuable to the holder, pursuant to the terms of this Warrant and shall maintain, so long as any other shares of Common Stock shall be so listed, such listing of all Warrant Shares from time to time issuable upon the exercise of this Warrant; and the Company shall so list on each national securities exchange or automated quotation system, as the case may be, and shall maintain such listing of, any other shares of capital stock of the Company issuable upon the exercise of this Warrant if and so long as any shares of the same class shall be listed on such national securities exchange or automated quotation system.

(e) The Company will not, by amendment of its Articles of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed by it hereunder, but will at all times in good faith assist in the carrying out of all the provisions of this Warrant and in the taking of all such action as may reasonably be requested by the holder of this Warrant in order to protect the exercise privilege of the holder of this Warrant against dilution or other impairment, consistent with the tenor and purpose of this Warrant. The Company will not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Warrant Exercise Price then in effect, and (ii) will take all such actions as may be necessary or appropriate in order that

the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant.

(f) This Warrant will be binding upon any entity succeeding to the Company by merger, consolidation or acquisition of all or substantially all of the Company's assets.

Section 4. Taxes. The Company shall pay any and all taxes, except any applicable withholding, which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant.

Section 5. Warrant Holder Not Deemed a Stockholder. Except as otherwise specifically provided herein, no holder, as such, of this Warrant shall be entitled to vote or receive dividends or be deemed the holder of shares of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the holder of this Warrant of the Warrant Shares which he or she is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on such holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 5, the Company will provide the holder of this Warrant with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

Section 6. Representations of Holder. The holder of this Warrant, by the acceptance hereof, represents that it is acquiring this Warrant and the Warrant Shares for its own account for investment only and not with a view towards, or for resale in connection with, the public sale or distribution of this Warrant or the Warrant Shares, except pursuant to sales registered or exempted under the Securities Act; provided, however, that by making the representations herein, the holder does not agree to hold this Warrant or any of the Warrant Shares for any minimum or other specific term and reserves the right to dispose of this Warrant and the Warrant Shares at any time in accordance with or pursuant to a registration statement or an exemption under the Securities Act. The holder of this Warrant further represents, by acceptance hereof, that, as of this date, such holder is an "accredited investor" as such term is defined in Rule 501(a)(1) of Regulation D promulgated by the Securities and Exchange Commission under the Securities Act (an "Accredited Investor"). Upon exercise of this Warrant, the holder shall, if requested by the Company, confirm in writing, in a form satisfactory to the Company, that the Warrant Shares so purchased are being acquired solely for the holder's own account and not as a nominee for any other party, for investment, and not with a view toward distribution or resale and that such holder is an Accredited Investor. If such holder cannot make such representations because they would be factually incorrect, it shall be a condition to such holder's exercise of this Warrant that the Company receive such other representations as the Company considers reasonably necessary to assure the Company that the issuance of its securities upon exercise of this Warrant shall not violate any United States or state securities laws.

Section 7. Ownership and Transfer.

(a) The Company shall maintain at its principal executive offices (or such other office or agency of the Company as it may designate by notice to the holder hereof), a register for this Warrant, in which the Company shall record the name and address of the person in whose name this Warrant has been issued, as well as the name and address of each transferee. The Company may treat the person in whose name any Warrant is registered on the register as the owner and holder thereof for all purposes, notwithstanding any notice to the contrary, but in all events recognizing any transfers made in accordance with the terms of this Warrant.

Section 8. Adjustment of Warrant Exercise Price and Number of Shares. The Warrant Exercise Price and the number of shares of Common Stock issuable upon exercise of this Warrant shall be adjusted from time to time as follows, subject to the Share Cap (as defined in the Debenture) and Exchange Cap as set forth in Section 8(b)(viii) below:

(a) Adjustment of Exercise Price upon Issuance of Common Stock. If the Company, at any time while this Warrant is outstanding, issues or sells, or in accordance with this Section 8(a) is deemed to have issued or sold, any shares of Common Stock, excluding shares of Common Stock deemed to have been issued or sold by the Company in connection with any Excluded Securities, for a consideration per share less than a price equal to the Exercise Price in effect immediately prior to such issue or sale (such price the "Applicable Price") (the foregoing a "Dilutive Issuance"), then immediately after such Dilutive Issuance the Exercise Price then in effect shall be reduced to an amount equal to the product of (A) the Exercise Price in effect immediately prior to such Dilutive Issuance and (B) the quotient determined by dividing (1) the sum of (I) the product derived by multiplying the Exercise Price in effect immediately prior to such Dilutive Issuance and the number of shares of Common Stock Deemed Outstanding immediately prior to such Dilutive Issuance plus (II) the consideration, if any, received by the Company upon such Dilutive Issuance, by (2) the product derived by multiplying (I) the Exercise Price in effect immediately prior to such Dilutive Issuance by (II) the number of shares of Common Stock deemed outstanding immediately after such Dilutive Issuance.

Notwithstanding anything herein to the contrary, the Exercise Price of this Warrant shall never be adjusted below a "hard floor" of $0.90 per share, which is greater than the closing price per share of the Company's Common Stock as of the date of the Securities Purchase Agreement.

(b) Effect on Warrant Exercise Price of Certain Events. For purposes of determining the adjusted Warrant Exercise Price under Section 8(a) above, the following shall be applicable:

(i) Issuance of Options. If after the date hereof, the Company in any manner grants any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion or exchange of any convertible securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 8(b)(i), the lowest price per share for which one share of Common Stock is issuable upon exercise of such Options or upon conversion or exchange of

such Convertible Securities shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option or upon conversion or exchange of any convertible security issuable upon exercise of such Option. No further adjustment of the Warrant Exercise Price shall be made upon the actual issuance of such Common Stock or of such convertible securities upon the exercise of such Options or upon the actual issuance of such Common Stock upon conversion or exchange of such convertible securities.

(ii) Issuance of Convertible Securities. If the Company in any manner issues or sells any convertible securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such convertible

securities for such price per share. For the purposes of this Section 8(b)(ii), the lowest price per share for which one share of Common Stock is issuable upon such conversion or exchange shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to one share of Common Stock upon the issuance or sale of the convertible security and upon conversion or exchange of such convertible security. No further adjustment of the Warrant Exercise Price shall be made upon the actual issuance of such Common Stock upon conversion or exchange of such convertible securities, and if any such issue or sale of such convertible securities is made upon exercise of any Options for which adjustment of the Warrant Exercise Price had been or are to be made pursuant to other provisions of this Section 8(b), no further adjustment of the Warrant Exercise Price shall be made by reason of such issue or sale.

(iii) Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion or exchange of any convertible securities, or the rate at which any convertible securities are convertible into or exchangeable for Common Stock changes at any time, the Warrant Exercise Price in effect at the time of such change shall be adjusted to the Warrant Exercise Price which would have been in effect at such time had such Options or convertible securities provided for such changed purchase price, additional consideration or changed conversion rate, as the case may be, at the time initially granted, issued or sold and the number of Warrant Shares issuable upon exercise of this Warrant shall be correspondingly readjusted. For purposes of this Section 8(b)(iii), if the terms of any Option or convertible security that was outstanding as of the Issuance Date of this Warrant are changed in the manner described in the immediately preceding sentence, then such Option or convertible security and the Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such change. No adjustment pursuant to this Section 8(b) shall be made if such adjustment would result in an increase of the Warrant Exercise Price then in effect.

Notwithstanding anything herein to the contrary, the Exercise Price of this Warrant shall never be adjusted below a "hard floor" of $0.90 per share, which is greater than the closing price per share of the Company's Common Stock as of the date of the Securities Purchase Agreement.

(iv) Calculation of Consideration Received. If any Common Stock, Options or convertible securities are issued or sold or deemed to have been issued or sold for cash, the consideration received therefore will be deemed to be the net amount received by the Company therefore. If any Common Stock, Options or convertible securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of marketable securities, in which case the amount of consideration received by the Company will be the market price of such securities on the date of receipt of such securities. If any Common Stock, Options or convertible securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefore will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such Common Stock, Options or convertible securities, as the case may be. The fair value of any consideration other than cash or securities will be determined jointly by the Company and the holders of Warrants representing at least two-thirds of the Warrant Shares issuable upon exercise of the Warrants then outstanding. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the "Valuation Event"), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10^{th}) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the holders of Warrants representing at least two-thirds of the Warrant Shares issuable upon exercise of the Warrants then outstanding. The determination of such appraiser shall be final and binding upon all parties and the fees and expenses of such appraiser shall be borne jointly by the Company and the holders of Warrants.

(v) Integrated Transactions. In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction in which no specific consideration is allocated to such Options by the parties thereto, the Options will be deemed to have been issued for a consideration of $.01.

(vi) Treasury Shares. The number of shares of Common Stock outstanding at any given time does not include shares owned or held by or for the account of the Company, and the disposition of any shares so owned or held will be considered an issue or sale of Common Stock.

(vii) Record Date. If the Company takes a record of the holders of Common Stock for the purpose of entitling them (1) to receive a dividend or other distribution payable in Common Stock, Options or in convertible securities or (2) to subscribe for or purchase Common Stock, Options or convertible securities, then such record date will be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(viii) Primary Market Regulation. The Company shall not be obligated to issue any shares of Common Stock upon exercise of this Warrant, and the Holder of this Warrant shall not have the right to receive upon exercise of this Warrant any shares of Common Stock, if the issuance of such shares of Common Stock would exceed the aggregate number of shares of Common Stock which the Company may issue upon conversion or exercise, as

applicable, of the Debentures and Warrants, including the securities issued by the Company in connection with the Stanford Closing (as defined in the Securities Purchase Agreement), without breaching the Company's obligations under the rules or regulations of the (a) the American Stock Exchange, (b) New York Stock Exchange, (c) the Nasdaq Global Market, (d) the Nasdaq Capital Market, or (e) the NASD OTC Bulletin Board ("OTCBB") (each, a "Primary Market") (the number of shares which may be issued without violating such rules and regulations, the "Exchange Cap"), except that such limitation shall not apply in the event that the Company (A) obtains the approval of its stockholders as required by the applicable rules of such Primary Market for issuances of Common Stock in excess of such amount or (B) obtains a written opinion from outside counsel to the Company that such approval is not required, which opinion shall be reasonably satisfactory to the Holder. Unless and until such approval or written opinion is obtained, the purchaser of the Warrant pursuant to the Securities Purchase Agreement (or any subsequent holder) shall not be issued in the aggregate, upon conversion or exercise or otherwise, as applicable, of Debenture or Warrants, shares of Common Stock in an amount greater than the Exchange Cap. In addition to the foregoing, the Share Cap (as defined in the Debentures) shall also apply to this Warrant.

(c) Adjustment of Warrant Exercise Price upon Subdivision or Combination of Common Stock. If the Company at any time after the date of issuance of this Warrant subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, any Warrant Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of shares of Common Stock obtainable upon exercise of this Warrant will be proportionately increased. If the Company at any time after the date of issuance of this Warrant combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a

smaller number of shares, any Warrant Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares issuable upon exercise of this Warrant will be proportionately decreased. Any adjustment under this Section 8(c) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(d) Distribution of Assets. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case:

(i) any Warrant Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Warrant Exercise Price by a fraction of which (A) the numerator shall be the Closing Sale Price of the Common Stock on the trading day immediately preceding such record date minus the value of the Distribution (as determined in good faith by the Company's Board of Directors) applicable to one share of Common Stock, and (B) the denominator shall be the Closing Sale Price of the Common Stock on the trading day immediately preceding such record date; and

(ii) either (A) the number of Warrant Shares obtainable upon exercise of this Warrant shall be increased to a number of shares equal to the number of shares of Common Stock obtainable immediately prior to the close of business on the record date fixed for the determination of holders of Common Stock entitled to receive the Distribution multiplied by the reciprocal of the fraction set forth in the immediately preceding clause (i), or (B) in the event that the Distribution is of common stock of a company whose common stock is traded on a national securities exchange or a national automated quotation system, then the holder of this Warrant shall receive an additional warrant to purchase Common Stock, the terms of which shall be identical to those of this Warrant, except that such warrant shall be exercisable into the amount of the assets that would have been payable to the holder of this Warrant pursuant to the Distribution had the holder exercised this Warrant immediately prior to such record date and with an exercise price equal to the amount by which the exercise price of this Warrant was decreased with respect to the Distribution pursuant to the terms of the immediately preceding clause (i).

(e) Certain Events. If any event occurs of the type contemplated by the provisions of this Section 8 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Warrant Exercise Price and the number of shares of Common Stock obtainable upon exercise of this Warrant so as to protect the rights of the holders of the Warrants; provided, except as set forth in section 8(c),that no such adjustment pursuant to this Section 8(e) will increase the Warrant Exercise Price or decrease the number of shares of Common Stock obtainable as otherwise determined pursuant to this Section 8.

(f) Notices.

(i) Immediately upon any adjustment of the Warrant Exercise Price, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail, and certifying, the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change (as defined below), dissolution or liquidation, provided that such information shall be made known to the public prior to or in conjunction with such notice being provided to such holder.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place, provided that such information shall be made known to the public prior to or in conjunction with such notice being provided to such holder.

Section 9. Purchase Rights; Reorganization, Reclassification, Consolidation, Merger or Sale.

(a) In addition to any adjustments pursuant to Section 8 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "Purchase Rights"), then the holder of this Warrant will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which such holder could have acquired if such holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

(b) Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other transaction in each case which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as an "Organic Change." Prior to the consummation of any (i) sale of all or substantially all of the Company's assets to an acquiring Person or (ii) other Organic Change following which the Company is not a surviving entity, the Company will secure from the Person purchasing such assets or the successor resulting from such Organic Change (in each case, the "Acquiring Entity") a written agreement (in form and substance satisfactory to the holders of Warrants representing at least two-thirds (iii) of the Warrant Shares issuable upon exercise of the Warrants then outstanding) to deliver to each holder of Warrants in exchange for such Warrants, a security of the Acquiring Entity evidenced by a written instrument substantially similar in form and substance to this Warrant and satisfactory to the holders of the Warrants (including an adjusted warrant exercise price equal to the value for the Common Stock reflected by the terms of such consolidation, merger or sale, and exercisable for a corresponding number of shares of Common Stock acquirable and receivable upon exercise of the Warrants without regard to any limitations on exercise, if the value so reflected is less than any Applicable Warrant Exercise Price immediately prior to such consolidation, merger or sale). Prior to the consummation of any other Organic Change, the Company shall make appropriate provision (in form and substance satisfactory to the holders of Warrants representing a majority of the Warrant Shares issuable upon exercise of the Warrants then outstanding) to insure that each of the holders of the Warrants will thereafter have the right to acquire and receive in lieu of or in addition to (as the case may be) the Warrant Shares immediately theretofore issuable and

receivable upon the exercise of such holder's Warrants (without regard to any limitations on exercise), such shares of stock, securities or assets that would have been issued or payable in such Organic Change with respect to or in exchange for the number of Warrant Shares which would have been issuable and receivable upon the exercise of such holder's Warrant as of the date of such Organic Change (without taking into account any limitations or restrictions on the exercisability of this Warrant).

Section 10. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company shall promptly, on receipt of an indemnification

undertaking (or, in the case of a mutilated Warrant, the Warrant), issue a new Warrant of like denomination and tenor as this Warrant so lost, stolen, mutilated or destroyed.

Section 11. Notice. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Warrant must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of receipt is received by the sending party transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to Holder:
H.C. Wainwright & Co., Inc.
52 Vanderbilt Avenue
12th Floor
New York, NY 10017
Attention: Anthony J. Sarkis

With Copy to:
H.C. Wainwright & Co., Inc.
52 Vanderbilt Avenue
12th Floor
New York, NY 10017
Attention: Jason A. Stein

If to the Company, to:
Senesco Technologies, Inc.
303 George Street, Suite 420
New Brunswick, NJ 08901
Attention:Chief Executive Officer
Telephone: (732) 296-8400
Facsimile: (732) 296-9292

With a copy to:
Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540
Attention: Emilio Ragosa, Esq.
Telephone: (609) 919-6633
Facsimile: (609) 919-6701

If to a holder of this Warrant, to it at the address and facsimile number set forth in this Section 11, or at such other address and facsimile as shall be delivered to the Company upon the issuance or transfer of this Warrant. Each party shall provide five days' prior written notice to the other party of any change in address or facsimile number. Written confirmation of receipt (A) given by the recipient of such notice, consent, facsimile, waiver or other communication, (or (B) provided by a nationally recognized overnight delivery service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

Section 12. Date. The date of this Warrant is set forth on page 1 hereof. This Warrant, in all events, shall be wholly void and of no effect after the close of business on the Expiration Date.

Section 13. Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the holders of Warrants representing at least two-thirds of the Warrant Shares issuable upon exercise of the Warrants then outstanding; provided that, except for Section 8(d), no such action may increase the Warrant Exercise Price or decrease the number of shares or class of stock obtainable upon exercise of any Warrant without the written consent of the holder of such Warrant.

Section 14. Descriptive Headings; Governing Law. The descriptive headings of the several sections and paragraphs of this Warrant are inserted for convenience only and do not constitute a part of this Warrant. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of New Jersey, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New Jersey or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New Jersey. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in Hudson County and the United States District Court for the District of New Jersey, for the adjudication of any dispute hereunder or in connection herewith or therewith, or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy

thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

Section 15. Waiver of Jury Trial. **AS A MATERIAL INDUCEMENT FOR EACH PARTY HERETO TO ENTER INTO THIS WARRANT, THE PARTIES HERETO HEREBY WAIVE ANY RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING RELATED IN ANY WAY TO THIS WARRANT AND/OR ANY AND ALL OF THE OTHER DOCUMENTS ASSOCIATED WITH THIS TRANSACTION.**

Section 16. Accounting Provision. For purposes of clarity, the Company shall not be obligated to settle any exercise of this Warrant in cash, except as a result of the negligence or willful misconduct of the Company, then in such case, any cash settlement shall be as per the terms of this Warrant.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed as of the date first set forth above.

SENESCO TECHNOLOGIES, INC.

By: _____
Name:
Title:

EXHIBIT A TO WARRANT

EXERCISE NOTICE

TO BE EXECUTED
BY THE REGISTERED HOLDER TO EXERCISE THIS WARRANT

SENESCO TECHNOLOGIES, INC.

The undersigned holder hereby exercises the right to purchase of the shares of Common Stock ("Warrant Shares") of Senesco Technologies, Inc. (the "Company"), evidenced by the attached Warrant (the "Warrant"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

Specify Method of exercise by check mark:

1. o Cash Exercise

(a) Payment of Warrant Exercise Price. The holder shall pay the Aggregate Exercise Price of $ to the Company in accordance with the terms of the Warrant.

(b) Delivery of Warrant Shares. The Company shall deliver to the holder Warrant Shares in accordance with the terms of the Warrant.

2. o Cashless Exercise

(a) Payment of Warrant Exercise Price. In lieu of making payment of the Aggregate Exercise Price, the holder elects to receive upon such exercise the Net Number of shares of Common Stock determined in accordance with the terms of the Warrant.

(b) Delivery of Warrant Shares. The Company shall deliver to the holder Warrant Shares in accordance with the terms of the Warrant.

Date: ,

Name of Registered Holder

By: _____
Name: _____
Title: _____

EXHIBIT B TO WARRANT

FORM OF WARRANT POWER

FOR VALUE RECEIVED, the undersigned does hereby assign and transfer to , Federal Identification No. , a warrant to purchase shares of the capital stock of Senesco Technologies, Inc. represented by warrant certificate no. , standing in the name of the undersigned on the books of said corporation. The undersigned does hereby irrevocably constitute and appoint , attorney to transfer the warrants of said corporation, with full power of substitution in the premises.

Dated: _____ _____

By: _____
Name: _____
Title: _____

Exhibit 10.28

August 25, 2008

Ms. Judy Brown, Contracts Manager
Office of Research
University of Waterloo
200 University Avenue West
Waterloo, Ontario, Canada N2L 3G1

Re: Amendment to Extension and Amendment to Budget and Research Agreement between Waterloo, Thompson, and Senesco for a One Year Period From September 1, 2008 Through August 31, 2009

Dear Ms. Brown:

Pursuant to the Research Agreement effective September 1, 1998 (the "Agreement"), copy attached, between the University of Waterloo ("Waterloo"), Dr. John E. Thompson ("Thompson"), and Senesco, Inc. ("Senesco"), Waterloo, Thompson and Senesco hereby agree to extend the Agreement for an additional one year term, effective September 1, 2008 through August 31, 2009, under the same terms and conditions provided in the Agreement, except that the parties hereby amend the Budget set forth in the Revised Budget for Year 10, effective September 1, 2007 to the amended Revised Annual Budget for Year 11 , attached hereto, effective September 1, 2008 through August 31, 2009. The Amended Revised Annual Budget for Year 11 supercedes and replaces the Revised Budget for Year 10 of the Agreement for all work commencing on or after September 1, 2008.

Very truly yours,

/s/ Bruce C. Galton
Bruce C. Galton
President
Senesco, Inc.

Agreed and Accepted:

University of Waterloo

/s/ Dr. John Thompson, Ph.D.
Dr. John Thompson, Ph.D.

REVISED ANNUAL BUDGET
YEAR 11

PERIOD: September 1, 2008 – August 31, 2009

Salaries	**Cdn $/Month**	**Cdn $/12 Months**
Senior Research Associate ($84,000/year + 15% benefits)	$ 8,058.33	$ 96,700.00
Senior Research Associate ($74,800/year + 15% benefits)	7,166.67	86,000.00
Research Associate (Partial salary and benefits – no overhead)	4,166.66	50,000.00
Research Associate ($42,000/year + 15% benefits)	4,025.00	48,300.00
Research Associate ($42,000/year + 15% benefits)	4,025.00	48,300.00
Research Associate ($42,000/year + 15% benefits)	4,025.00	48,300.00
Research Associate ($27,300/year + 15% benefits)	2,616.67	31,400.00
Supplies		
Operating Expenses	14,000.00	168,000.00
Overhead		
30% on total direct costs	13,166.67	158,000.00
TOTAL ANNUAL BUDGET	**$ 61,250.00**	**$ 735,000.00**

FINAL CONFIDENTIAL

MASTER PRODUCT SALE AGREEMENT

This MASTER PRODUCT SALE AGREEMENT (this "Agreement") is entered into as of June 27, 2008 by and between Senesco Technologies Inc, a Delaware corporation having its principal place of business at 303 George Street, Suite 420, New Brunswick, NJ 08901 ("CUSTOMER"), and among VGXI, Inc., a Delaware corporation having an address of 2700 Research Forest Drive Suite 180, The Woodlands, Texas 77381, and VGX International, Inc. a Korean company having an address of Jung-Hun Building, #701, 944-1 Daechi 3-Dong, Gangnam-gu, Seoul, Korea, (collectively, "VGX") with reference to the following facts:

BACKGROUND

A. VGX has developed specific expertise and technology relating to production and testing of DNA plasmids and is in the business of developing, manufacturing and testing plasmid based products for research and therapeutic benefit.

B. CUSTOMER desires to have VGX produce, from time to time, certain quantities of products for human clinical and/or non-human pre-clinical testing ("Contract Materials"), on each occasion, on the terms and conditions set forth in this Agreement and Purchase Order therefore.

NOW, THEREFORE, in consideration of the above premises and the mutual covenants hereinafter recited, the parties agree as follows:

1. **Definitions**.

When used in this Agreement, each of the following terms shall have the meanings as set forth in this Article

1.1. "VGX Technology" shall mean VGX proprietary information, trade secrets, and/or know-how used by VGX in the performance of this Agreement, including, but not limited to, information relating to materials, devices and methods for fermenting bacteria and the purification and testing of DNA Plasmids.

1.2. "Affiliates" shall mean any corporation, firm, limited liability company, partnership or other entity, which directly or indirectly controls or is controlled by or is under the common control with a Party, or any corporation, firm, limited liability company, partnership or other entity of behalf of which either Party is acting as an agent, advisor, or distributor.

1.3. "Agreement" shall mean this Master Product Sale Agreement, as amended from time to time.

1.4. "Bill of Testing" shall be the tests agreed to in Exhibit B of this Agreement for each particular Purchase Order. The Bill of Testing will be considered a draft until mutually agreed upon in writing for a particular Purchase Order.

1.5. "Biosafety Level 1" shall mean a basic level of containment that relies on standard microbiological practices with no special primary or secondary barriers recommended other than a sink for hand washing, in which work is done with defined and characterized strains of viable microorganisms not known to cause disease in healthy adult humans and classified as such by the relevant authorities, regulations or law.

1.6. "Calendar Year" shall mean each successive period of twelve (12) consecutive calendar months commencing on January 1 and ending on December 31.

1.7. "Cell Banking Activities" shall mean the creation, testing, and maintenance of a Master Cell Bank (MCB) and/or a Manufacturer's Working Cell Bank (MWCB) under cGMP conditions, containing copies of the Parent Plasmid, each of which will meet the specifications in Exhibit B as finalized pursuant to a particular Purchase Order.

1.8. "Commencement Date" with respect to any particular order, shall mean the first date specified in the Purchase Order.

1.9. "Contract Materials" shall mean all of the materials to be produced by VGX for CUSTOMER as specified in Exhibit A including Product. The Parties hereto will prepare and sign new Exhibits A, for each new DNA plasmid that VGX is to produce hereunder.

1.10. "CUSTOMER Materials" shall mean all materials sent by CUSTOMER to VGX related to this Agreement and to the applicable Purchase Order and documentation.

1.11. "Direct Materials Costs" shall mean the cost to VGX of materials utilized in the performance of Production Services, including freight-in costs, sales and excise taxes imposed thereon and customs duty and charges levied by government authorities, and all costs of packaging components.

1.12. "External Testing Costs" shall mean the cost of any tests listed as "contract" on the draft or final Bill of Testing, as well as any other testing not performed at the VGX facility.

1.13. "FDA" shall mean the U.S. Food and Drug Administration.

1.14. "Good Laboratory Practices" or "GLP" shall mean prescribed practices and policies related to all laboratory manufacturing and test methods intended to assure quality, safety and integrity of the resulting product, with the intent that such product shall be subject to oversight by U.S. regulatory authorities and the corresponding authorities of the European Union, Member States of the European Union, and other countries to the extent they are applicable.

1.15. “Good Manufacturing Practices” or “GMP” shall mean the good manufacturing practices required by the U.S. Food and Drug Administration for the manufacture and testing of pharmaceutical materials, and the corresponding requirements of the European Union, Member States of the European Union, and other countries to the

extent they are applicable. “cGMP” or “current GMP” shall mean the GMP practices in effect at a particular time.

1.16. “Information” means all (a) techniques and data pertaining and/or related to the Product, including, but not limited to, ideas, inventions (including patentable inventions), practices, methods, knowledge, know-how, trade secrets, skill, experience, documents, apparatus, clinical and regulatory strategies, test data, including pharmacological, toxicological and clinical test data, analytical and quality control data, manufacturing, patent and legal data or descriptions and (b) chemical formulations, compositions of matter, product samples and assays pertaining and/or related to the Product.

1.17. “Manufacturer’s Working Cell Bank” or “MWCB” shall mean viable E. coli containing Parent Plasmid, cultured from the MCB under GMP conditions, diluted in glycerol and stored in sealed vials at less than minus sixty degrees Celsius.

1.18. “Master Cell Bank” or “MCB” shall mean viable E. coli containing Parent Plasmid, transformed directly from CUSTOMER supplied stock under GMP conditions, diluted in glycerol and stored in sealed vials at less than minus sixty degrees Celsius.

1.19. “Party” shall mean either CUSTOMER or VGX as the case may be.

1.20. “Parent Plasmid” shall mean the original DNA plasmid construct, prepared by CUSTOMER and provided to VGX, listed in Exhibit C.

1.21. “Person” shall mean a natural person, a corporation, a partnership, a trust, a joint venture, any governmental authority or any other entity or organization.

1.22. “Pilot DNA Services” shall mean the production of Research DNA at a sufficiently large scale as to provide a reasonable indication of the growth, quality and yield of a GMP batch produced with the same cell bank.

1.23. “Price” shall mean the amount payable to VGX in U.S. dollars for the performance of Production Services hereunder with respect to any Purchase Order.

1.24. “Product” shall mean finished goods in final container/closure or other product as specified in Exhibit A, meeting those specifications in Exhibit B and to be delivered to CUSTOMER.

1.25. “Production Services” shall mean the activities to be performed by VGX hereunder, which shall mean the production of the Product and relevant supporting documentation accordingly to the Purchase Order.

1.26. “Purchase Order” means a purchase order for a specific project, substantially in the form of a complete, signed set of each of Exhibit A to this Agreement.

1.27. “Research Cell Bank” or “RCB” shall mean a small cell bank produced under research conditions used for the production of Research DNA only. This material is provided “as-is”.

1.28. “Research DNA” shall mean a small amount of DNA prepared by VGX under Research Laboratory Conditions from the RCB as an initial indication of growth, yield, and quality characteristics. This material is provided “as-is”

1.29. “Research Laboratory Conditions” shall mean practices and policies generally accepted by trained scientists to assure quality and integrity of laboratory experiments. Such practices include, but are not necessarily limited to, aseptic techniques to avoid microbial contamination, accurate measurements and calculations and documentation of research results.

1.30. “Resuspension Buffer” shall mean the liquid used to resuspend DNA in the Finished Product and having the composition specified by the CUSTOMER in Exhibit C.

1.31. “Sample Plasmid” shall mean a DNA plasmid supplied by CUSTOMER, of sufficiently similar characteristics to the Parent Plasmid to perform initial quality control assay evaluations and/or initial process development testing. Sample Plasmid and Parent Plasmid should be the same plasmid whenever possible to ensure the validity of the results.

1.32. “Specifications” means, with respect to any Product, the specifications therefore as set forth in Exhibit B of the Purchase Order for such Product.

1.33. “Third Party” means any person or entity other than VGX or CUSTOMER.

2. **Purchase Orders**.

2.1. Supply. During the term of, and subject to the terms and conditions in, this Agreement, CUSTOMER may purchase from, and have Product produced by, VGX. Neither shall CUSTOMER have any commitment to purchase any minimum quantity of Product nor shall VGX have any

commitment to produce and sell any minimum quantity of Product. CUSTOMER shall become obligated to purchase, and VGX shall be obligated to produce, Product only upon execution and delivery by both VGX and CUSTOMER of a Purchase Order for such Product, as set forth below.

Neither VGX nor CUSTOMER may amend a Purchase Order after it has been executed, except according to the provisions of Section 11 or by mutual agreement in writing as provided in Section 12.5. CUSTOMER may cancel an existing Purchase Order prior to the Commencement date and forfeit any prepayments made for such Purchase Order. For each new Product that is to be produced by VGX pursuant to this Agreement, the Parties will prepare and sign new, a Purchase Order, and upon signing such new Purchase Order shall become a part of this Agreement. Each such new Purchase Order shall specifically reference this Agreement and be signed by both Parties hereto. Each

new Purchase Order will contain project details for the production and testing of some or all of the Contract Material.

2.2. Project Specifications. VGX will produce under appropriate conditions the specified amounts or number of cycles of Contract Materials and Product. Such Product will be produced, tested, released and delivered to CUSTOMER according to the schedule in Exhibit A. VGX shall ship the Contract Materials directly to CUSTOMER. VGX will keep in its possession any required documentation, regulatory retains, and will maintain certain additional samples and/or cell banks at the request of CUSTOMER for an additional fee (to be determined in the applicable Purchase Order).

2.3. Laboratory Test Production of Research DNA. Within one (1) week of the Commencement Date, CUSTOMER will supply VGX with more than fifteen (15) milligrams of each Parent Plasmid or more than ten (10) vials of a qualified cell bank containing Parent Plasmid for VGX use and retain. VGX shall perform, under Research Laboratory Conditions, the experiments in Exhibit A to establish optimum fermentation and purification conditions for the Parent Plasmid, to determine yield, stability, purity and form of the plasmid DNA. Such work will be performed in accordance with the schedule in Exhibit A.

2.4. Modification If Research Results Not Satisfactory. If the Research DNA produced pursuant to this Section does not meet the draft productivity or purity standards in Exhibits A and B, the Parent Plasmid shall be deemed not to be suitable for performing Production Services. CUSTOMER and VGX shall then meet and negotiate, in good faith, appropriate modifications to the Agreement to address the failure to meet the criteria. VGX will produce additional Research DNA batches if deemed necessary by mutual written agreement between VGX and CUSTOMER. The cost of producing the additional batches will be borne by CUSTOMER. If the parties agree that VGX should take other actions to address the purity or productivity problems, they will also agree upon the appropriate modifications to the payments in Exhibit A and execute an appropriate amendment. If the parties are unable to reach an agreement despite good faith negotiations, either party may terminate this Agreement by written notice to the other.

2.5. Testing to Release Manufacture. If the Research DNA produced meets the standards in Exhibits A and B, VGX shall produce and perform relevant testing needed to release the MCB and/or MWCB into its facility, or evaluate and test any CUSTOMER supplied MCB and/or MWCB as appropriate. Such work shall be performed in accordance with the schedule in Exhibit A.

2.6. Finished Product Production. If the Pilot DNA produced by VGX meets the standards in the draft Bill of Testing, the final Bill of Testing will be signed by VGX and the CUSTOMER and attached to this Agreement as Exhibit B. VGX shall then commence with preparing for each Parent Plasmid under GMP conditions the specified number of production cycles of Finished Product. Such Finished Product will be produced, tested, released and delivered to CUSTOMER according to the schedule in Exhibit A.

2.7. Pilot Production Unsatisfactory. If the Pilot DNA produced by VGX does not meet the standards in the draft Bill of Testing, VGX and CUSTOMER will discuss the possible amendment of the Bill of Testing. VGX will produce an additional Pilot DNA batch if deemed necessary by mutual written agreement between VGX and CUSTOMER. The cost of producing the additional batch will be borne by CUSTOMER. If the parties agree that VGX should take other actions to address the purity or productivity problems, they will also agree upon the appropriate modifications to the payments in Exhibit A and execute an appropriate amendment. If the parties are unable to reach an agreement despite good faith negotiations, either party may terminate this Agreement by written notice to the other.

3. **Materials and Information**.

Promptly after execution of a Purchase Order pursuant to Section 2.1, CUSTOMER shall deliver to VGX all materials and Information that are necessary for VGX to produce and manufacture the Products, and that such Purchase Order provides are to be delivered by CUSTOMER to VGX. Information supplied pursuant to this Article 3 shall be in a format acceptable to VGX. CUSTOMER shall bear the risk of loss of, and damage to, such materials and Information until actual receipt by VGX. Following their receipt, VGX shall be responsible for the risk of loss of, and damage to, such materials and Information.

4. **Production**.

4.1. Performance of Work. VGX shall produce the Product in accordance with this Agreement, the Purchase Order therefore and any agreed technical or descriptive specifications.

VGX may subcontract the performance of certain services necessary for the performance of this Agreement, such as, but not limited to, external testing. CUSTOMER agrees to VGX' use of the subcontractors listed in Exhibit A. VGX will not subcontract to persons other than those listed in Exhibit A without CUSTOMER's written approval.

4.2. Quality Control and Assurance. VGX shall manufacture Product in compliance and in accordance with the Specifications and all applicable laws and regulations. Prior to each shipment of Product, VGX shall perform quality control testing on Product in accordance with Specifications as outlined in the Purchase Order. VGX shall, during and after the term of this Agreement, maintain such records and data that document its compliance with this Section 4.2 as is required by law and regulation applicable to the manufacture of the Product. In performing its obligations

under this Agreement, VGX shall comply with all applicable environmental and health and safety laws. VGX shall be solely responsible for determining how to carry out these obligations.

4.3. Audits by CUSTOMER.

(a) Upon the written request of CUSTOMER, VGX shall permit CUSTOMER or an independent consulting firm specializing in pharmaceutical manufacturing facility inspections selected by CUSTOMER and reasonably acceptable to VGX, at CUSTOMER's expense, to have access during VGX normal business hours to inspect such of the records and facilities of VGX as may be reasonably necessary to verify that Products manufactured by VGX are manufactured in accordance with Good Manufacturing Practices and conform to the Specifications as outlined in a Purchase Order which is dated not more than twelve (12) months prior to the date of such request**.** CUSTOMER's right to inspection shall continue until twelve (12) months from delivery of the Products. Only information that is related to this Agreement will be the subject of such inspection. VGX shall make all efforts to address any GMP or Specifications deficiencies found by CUSTOMER in such inspection

(b) CUSTOMER may make a preproduction inspection of the facilities upon reasonable notice, prior to signing the first Purchase Order. VGX shall make all good faith efforts to address any GMP deficiencies found by CUSTOMER in any pre-production inspection. If deficiencies are addressed to CUSTOMER's satisfaction in a reasonable time period, this Agreement or the applicable Purchase Order will continue. If deficiencies are not addressed to CUSTOMER's satisfaction, CUSTOMER may terminate this Agreement or the applicable Purchase Order by written notice to VGX and neither party shall have any further liability hereunder as a result of such termination.

(c) CUSTOMER shall treat all information subject to review under this Section 4.3 in accordance with the confidentiality provisions of this Agreement, and shall cause its consultants who review such information to be bound by the same confidentiality provisions.

4.4. Certificate of Release and Analysis. Concurrent with its delivery of Product, VGX shall deliver to CUSTOMER the certificate of pharmaceutical release and a written report summarizing analytical and manufacturing documentation which will include the final certificate of analysis for such Product.

4.5. Samples and Batch Records. VGX shall prepare and maintain or cause to be prepared and maintained batch records and a file sample, properly stored, from each lot or batch of Product manufactured and shipped hereunder sufficient to perform each quality control test identified in the Specifications. All batch records will be made available to CUSTOMER in English upon completion of each batch. Such batch records will be accessible for review by CUSTOMER at mutually convenient times for both parties.

4.6 Inspections by Government Agencies. If any governmental agency shall inspect any facility at which any Product is manufactured or the records with respect to the compliance by VGX with laws and regulations applicable to the manufacturing of such Product, VGX shall notify CUSTOMER of such inspection, the results thereof and, if VGX was required, as a result of any such inspection, to take any corrective action in

order to comply with any applicable law or regulation, any such action it has taken in response to such requirement.

5. **Shipment and Delivery**.

5.1. Storage. VGX shall store each batch of Product ordered pursuant to a Purchase Order in accordance with the specifications in that Purchase Order, or, if not specified therein, in accordance with good commercial standards. In no case will VGX be responsible for the storage of a batch for greater than two months from quality release.

5.2. Packing. VGX shall pack each batch of Product ordered pursuant to a Purchase Order in accordance with the specifications in that Purchase Order, or, if not specified therein, in accordance with good commercial standards.

5.3. Shipment. VGX shall notify CUSTOMER not less than five (5) business days before shipment of a batch of Product that such batch will be ready for shipment by the date specified in such notice. CUSTOMER shall be obligated to notify VGX of the route and carrier by which CUSTOMER desires such batch to be shipped to it. If VGX receives notice of the route and carrier by which CUSTOMER desires a batch of Product to be shipped no later than five (5) business days before the date stated in VGX' notice to CUSTOMER, VGX shall ship such batch in accordance with CUSTOMER's directions; however, if CUSTOMER fails to notify VGX as provided, VGX may ship such batch of Product by a carrier and on a route selected by VGX. For purposes of this Section 5.3, a "business day" is a day when VGX' production facilities and administrative offices are generally open for business.

All customs, duties, taxes, insurance premiums, and other third party expenses relating to the sale or transportation and delivery shall be paid by CUSTOMER.

5.4. Notice of Receipt. Upon receipt of Finished Product, CUSTOMER shall notify VGX of its receipt.

5.5. Risk of Loss. Title to and risk of loss to all Contract Materials and other items shipped by VGX shall pass to CUSTOMER upon delivery to shipper.

6. Intended Use Specifications.

6.1. CUSTOMER Use Only. All Contract Materials are being manufactured hereunder exclusively for the CUSTOMER. The CUSTOMER shall use the Contract Materials only for its own purposes or studies under CUSTOMER's control and shall not forward such materials to any third party except for testing or manufacturing services without VGX' prior written approval, which shall not be unreasonably withheld. For the

avoidance of doubt, this section 6.1 is intended to prevent the resale of the Contract Materials to third parties, and is not intended to limit the use of the Contract Materials by the CUSTOMER for its own purposes.

6.2. CUSTOMER Proprietary Materials. All CUSTOMER Materials and materials derived from CUSTOMER Materials shall remain CUSTOMER's proprietary

property. VGX shall use such CUSTOMER Materials solely for the purposes of this Agreement and will not forward CUSTOMER Materials to third parties except in connection with work by approved subcontractors.

6.3. CUSTOMER Use. The CUSTOMER agrees to use the Contract Materials in compliance with all regulations and laws and warrants and that such materials shall only be used for purposes of civil research and development, quality control, clinical research and/or validation of process steps. The CUSTOMER will maintain full documentation in accordance with its standard procedures on the use of the Contract Materials.

6.4. Other Laws and Regulations. In performing its obligations under this Agreement, VGX shall comply with all applicable environmental and health and safety laws. VGX shall be solely responsible for determining how to carry out these obligations.

6.5 Improvements to VGX Technology. Customer shall promptly disclose to VGX any improvements or additions made by Customer relating to the VGX Technology and/or applications or uses thereof, and such improvements, and improvements to VGX Technology made jointly by VGX and Customer, will be solely owned by VGX. Customer hereby assigns all rights to the aforementioned improvements to VGX and agrees to execute all documents required to confirm such assignment or to protect such improvements.

7.4. Customer Responsibility. FDA and ICH guidelines provide that a sponsor seeking a license is considered the "manufacturer" even if they use a contract manufacturing organization, and the sponsor is responsible for ensuring GMP compliance for those activities that have been contracted out (US FDA 21 CFR 600.3(t), ICH Q7A Section 2). Therefore, VGX shall provide Customer, its employees, agents, and consultants reasonable access to VGX facilities, records, and personnel in order that appropriate inspections, evaluations, testing and audits may be carried out. Customer shall notify VGX in writing of any noted compliance deficiencies during any visit, audit, or at any time when Customers Contract Materials are being produced, packaged, shipped, or stored. VGX will use good faith efforts to correct any noted deficiencies in a reasonable time. Failure to correct any such deficiency to Customer's reasonable satisfaction shall be grounds for Customer to terminate this Agreement as specified in Section 11.3 upon written notice to VGX.

7. **Payment**.

7.1. Price. The price payable by CUSTOMER for all work performed and Product delivered pursuant to a Purchase Order shall be the Price specified therefore in that Purchase Order. All payments made under this Agreement are non-refundable except as specified in sections 2 and 11.

7.2. Invoices. Upon its execution, and concurrent with its delivery of a Purchase Order unless otherwise specified in the applicable Purchase Order, VGX shall

deliver to CUSTOMER an invoice for ** of the Price stated therein for Pilot DNA Services and ** of all other services listed in the Purchase Order. For the avoidance of doubt, production capacity and Commencement Date will not be considered to be reserved until such time as Customer has made an appropriate non-refundable payment. ** days prior to the scheduled Commencement Date of each line item of a Purchase Order, VGX shall deliver to CUSTOMER an invoice for ** for each line item. Upon, and concurrent with, its delivery of each Contract Material as specified in the amount and order of a particular Purchase Order, VGX shall deliver to CUSTOMER an invoice for the remaining ** of the Price stated in the Purchase Order for such Contract Material. Payment for External Testing Costs, shipping costs, and all additional costs listed in Exhibit A shall be made within thirty (30) days of receipt of an invoice therefore from VGX, which invoice may be sent in advance of such costs being incurred, with a final calculation and reconciliation of such costs to be made after completion of activities under this Agreement; any amounts paid by CUSTOMER in excess of actual invoiced costs shall be credited against CUSTOMER's final payment or, if no payment is due, returned to CUSTOMER.

7.3. Price Modification. The amounts set forth in Exhibit A are based on the number of experiments and production cycles provided therein. The yield and quality for each production batch of Contract Material cannot be determined prior to commencement of the Agreement or particular Purchase Order. If after the initial research and pilot stages are completed the plasmid yield or quality does not meet the needs of the CUSTOMER, the Parties shall negotiate the steps to take and appropriate price adjustments as provided in Section 2. If either party terminates the Agreement pursuant to Section 2, VGX shall retain all payments made prior to the date of termination. All Contract Materials not shipped to the CUSTOMER prior to the date of termination shall be destroyed. In any event all price modifications will be mutually agreed in writing.

7.4. Time For Payment. CUSTOMER shall pay VGX the full amount specified in each appropriately rendered invoice within thirty (30) days of date of receipt of the invoice.

7.5. Method of Payment. All amounts due and payable shall be paid in United States Dollars. Payment shall be wired via electronic funds transfer to the account specified by VGX in respect of which payment is made.

7.6. Late Payment. If CUSTOMER fails to pay any amount when due, or VGX fails to refund any amount when due, it shall pay as a late charge to the other party an amount equal to one per cent (1%) per month on the amount unpaid, or if less, the maximum amount permitted by law, such amount to accrue from the date when payment was due until the date when paid in full. In all cases failure of Customer to provide payment according to the agreed schedule listed in any Project Plan Exhibit A will cause VGX to delay the Scheduled Start date of the particular Project Plan line item by a minimum of thirty days after outstanding payments are received, or move the project task to the next available production slot, at the sole discretion of VGX. Such notification will be provided to the Customer in writing.

8. **Warranties**.

8.1. Representations and Warranties of Both Parties. Each party hereby represents and warrants to the other party as follows:

(a) Such party is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction in which it is incorporated.

(b) Such party (i) has the corporate power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder, and (ii) has taken all necessary corporate action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This Agreement has been duly executed and delivered on behalf of such party, and constitutes a legal, valid, binding obligation, enforceable against such party in accordance with its terms.

(c) All necessary consents, approvals and authorizations of all governmental authorities and other Persons required to be obtained by such party in connection with this Agreement have been obtained.

8.2. Product Warranties. VGX hereby covenants, represents and warrants to CUSTOMER that:

(a) All Product will, on the date of delivery by VGX to CUSTOMER, comply with the applicable laws, regulations and regulatory guidelines, the Specifications therefore set forth in this Agreement and in the Purchase Order pursuant to which such Product was ordered.

(b) Title to all Product sold hereunder shall pass to CUSTOMER as provided herein free and clear of any security interest, lien or other encumbrance.

8.3 Disclaimer of Warranties. EXCEPT AS EXPRESSLY PROVIDED IN SECTION 8.2, VGXMAKES NO REPRESENTATION OR WARRANTY AS TO ANY CUSTOMER MATERIALS, EXPRESS OR IMPLIED, AND VGXSPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, WARRANTY OF SYSTEM INTEGRATION, WARRANTY OF EFFECTIVENESS.

9. **Liability, Indemnification and Insurance**.

9.1. Limitation on Liability. VGX shall not be liable for any special, consequential, incidental, exemplary or punitive damages. VGX' maximum liability with respect to any and all damages arising from its failure to deliver, late delivery of, delivery of defective Product or failure to correct or replace any Product shall be the total price payable by CUSTOMER under that Purchase Order pursuant to which such Product were ordered by CUSTOMER.

9.2. Responsibility and Control. VGX and CUSTOMER shall each be solely responsible for the safety of its own employees, agents, licensees or sublicensees with respect to Product, and each shall hold the other harmless with regard to any liability for damages or personal injuries resulting from acts of its respective employees, agents or servants to the extend that such damages are not due to gross negligence or willful misconduct of the other party.

9.3. Indemnification by CUSTOMER. CUSTOMER shall indemnify, defend and hold harmless VGX from all losses, liabilities, damages and expenses (including reasonable attorneys' fees and costs) that VGX may suffer or incur as a result of any claims, demands, actions or other proceedings made or instituted by any Third Party arising out of (a) any alleged or actual infringement or other violation of any patents, patent rights, trademarks, trade mark rights, copyrights, trade secrets, proprietary rights and processes or other such rights related to the Product except as related to the materials or the process utilized by VGX in the manufacture of the Product as set forth in Section 9.4 hereof and (b) any alleged or actual loss, damage or injury including death, which arises from the use of any Product which conforms to the specifications and warranties set in section 8.2.

9.4. Indemnification by VGX. Notwithstanding Section 9.1 hereof, VGX shall indemnify, defend and hold harmless CUSTOMER from all losses, liabilities, damages and expenses (including reasonable attorneys' fees and costs) that CUSTOMER may suffer or incur as a result of any claims, demands, actions or other proceedings made or instituted by any Third Party arising out of any alleged or actual infringement or other violations of any patents, patent rights, trade secrets, proprietary rights or other such rights related to the process utilized by VGX in the manufacture of the Product.

9.5. Notice and Assistance. An indemnifying party will not be obligated to indemnify and hold harmless any Indemnified Person unless the Indemnified Person gives the indemnifying Party prompt notice of any claim, suit or action brought against the Indemnified Person, after it becomes aware of it, allows the indemnifying Party to defend the same (without prejudice to the right of the Indemnified Person to participate at through counsel of its own choosing), renders the indemnifying Party all assistance reasonably necessary in defending against such claim, suit or action at the indemnifying Party's expense, and does not compromise or settle such claim or action without the indemnifying Party's prior written consent.

9.6. Insurance. VGX and CUSTOMER shall maintain comprehensive general liability insurance, in such amounts as it customarily maintains for similar products and activities.

10. **Confidentiality**.

10.1. Confidential Information. During the term of this Agreement, and for a period of five (5) years following the expiration or earlier termination hereof, each party shall maintain in confidence all information (including samples) disclosed by the other party and identified as, or acknowledged to be, confidential (the "Confidential

Information"), and shall not use, disclose or grant the use of the Confidential Information except on a need-to-know basis to those directors, officers, employees, consultants, contractors, governmental regulatory agencies, (sub)licensees or permitted assignees, to the extent that such disclosure is reasonably necessary in connection with such party's activities as expressly authorized by this Agreement. To the extent that disclosure is authorized by this Agreement, prior to disclosure, each party hereto shall obtain agreement of any such Person to hold in confidence and not make use of the Confidential Information for any purpose other than those permitted by this Agreement.

10.2. Terms of this Agreement. Neither party shall disclose any terms or conditions of this Agreement to any Third Party without the prior consent of the other party.

10.3. Permitted Disclosures. The confidentiality obligations contained in this Article 10 shall not apply to the extent that (a) the receiving party (the "Recipient") is required (i) to disclose information by applicable law, regulation or order of a governmental agency or a court of competent jurisdiction, or (ii) to disclose information to any governmental authority for purposes of obtaining approval to test or market a Product, provided in either case that the Recipient shall provide written notice thereof to the other party and sufficient opportunity to object to any such disclosure or to request confidential treatment thereof; or (b) the Recipient can demonstrate that (i) the disclosed information was public knowledge at the time of such disclosure by the other party hereunder, or thereafter became public knowledge, other than as a result of actions of the Recipient in violation hereof; (ii) the disclosed information was rightfully known by the Recipient (as shown by its written records) prior to the date of disclosure to the Recipient by the other party hereunder; or (iii) the disclosed information was disclosed to the Recipient on an unrestricted basis from a source unrelated to any party to this Agreement and not under a duty of confidentiality to the other party. CUSTOMER agrees that VGX may use CUSTOMER's corporate name in certain marketing and other publications and presentations, as example of, but not limited to, a client list.

11. **Term of Agreement, Renewal, Termination**.

11.1. Term. This Agreement shall commence on the date first written above and upon execution of the first Purchase Order, and unless earlier terminated in accordance with the provisions of this Article 11, shall continue in full force and effect for a period of five (5) years from date of signature, and in any case as long as any Purchase Order is in force. Thereafter, the term of this Agreement shall be renewed for successive one (1) year periods upon mutual agreement.

11.2. Termination After Research or Pilot Work. Either Party may terminate this Agreement as provided in Section 2.

11.3. Termination for Cause. If either party breaches any provision of this Agreement, the other party may give written notice to the breaching party that if the default is not cured within thirty (30) days of the date of such notice, the Agreement will be terminated. If the non-breaching party gives such notice and the breach is not cured

during such thirty (30) day period, then this Agreement shall terminate automatically at the end of such thirty (30) day period**.**

Should CUSTOMER terminate this Agreement pursuant to this Section 11.3, VGX shall reimburse to CUSTOMER all monies paid by CUSTOMER in respect of outstanding uncompleted Purchase Order(s) less the cost of those Production Services performed by VGX, under such Purchase Order(s), which are compliant with this Agreement and can be exploited by CUSTOMER. Such repayment and VGX liabilities toward CUSTOMER shall be within the limits stated in section 9.1 in the event of such a breach.

Should VGX terminate this Agreement pursuant to this Section 11.3 for breach, then upon termination CUSTOMER shall pay VGX an amount equal to (i) all amounts due for completed Purchase Orders, plus (ii) all amounts listed on any signed and uncompleted Purchase Order. The terms of this Section will also apply if CUSTOMER reduces the quantities or the number of batches of products for any Purchase Order

11.4. Termination by Mutual Agreement This Agreement may be terminated at any time by written agreement of the Parties.

11.5. Termination for Violation of Ethical Principles. If CUSTOMER (including its employees, subcontractors, agents, servants, licensees) uses the Contract Materials in a manner inconsistent with ethical principles as defined in the Helsinki Declaration by the World Medical Association, VGX shall be allowed to terminate this Agreement and any Purchase Order at any time without prior notice to CUSTOMER and shall have no liability to CUSTOMER as a result of such termination. All Payments made to VGX prior to the date of such termination shall be retained by VGX.

11.6. Termination without Cause. Either Party may terminate this Agreement by written notice during any period when no Purchase Order is currently active, meaning (i) no activities are planned or being performed by VGX for the CUSTOMER, (ii) no Contract Materials are due to be delivered to the CUSTOMER, (iii) neither party owes the other any payment or refund.

11.7. Returned Materials. On the termination of this Agreement, VGX and CUSTOMER each shall return to the other all information (including the materials) which it possesses or controls that belongs to the other, or which contains the other parties confidential information, except that each may retain a copy solely for record keeping purposes.

11.8. During the term of this Agreement and as long as it is in force and a Purchase Order has never been terminated for breach or default of VGX before completion, CUSTOMER agrees to offer the first right of refusal to VGX t o manufacture all DNA plasmids required by CUSTOMER and to supply for CUSTOMER, such DNA plasmids as shall be agreed upon from time to time by the Parties, for CUSTOMER's pre-clinical and clinical use and for commercial sale, according to the terms and

conditions set forth herein. If the CUSTOMER manufactures, or has manufactured for it by a third party, DNA plasmids utilized in studies for regulatory filings, without first obtaining from VGX a refusal to manufacture the DNA plasmid, VGX may terminate this Agreement under the terms of Section 11.3, by written notice to CUSTOMER.

11.9. Survival. Articles 8, 9, 10, 11 and 12 shall survive any termination or expiration of this Agreement.

12. **Miscellaneous Provisions**.

12.1. Successors and Assigns. Neither this Agreement nor any interest hereunder shall be assignable by either party without the written consent of the other (which approval shall not be unreasonably withheld), and any attempted assignment without such consent shall be null and void; provided, however, that either party may, without consent, assign this Agreement to its successors in the event of the merger or consolidation of it or the business with which the Product are associated with another company. This Agreement shall be binding upon the successors and permitted assignees of the parties. Any such successor or permitted assignee shall be subject to the same rights and obligations as the original party hereunder.

12.2. Notices. All notices or other communications required or permitted to be given hereunder shall be in writing and shall be delivered by hand, courier or facsimile and confirmed in writing, as follows:

If to VGX, as follows:

VGXI Inc.
2700 Research Forest Drive, Suite 180
The Woodlands, TX 77381

If to CUSTOMER, as follows:

Senesco Technologies Inc
303 George Street, Suite 420
New Brunswick, NJ 08901

or in any case to such other address or addresses as hereafter shall be furnished as provided in this Section 12.2 by any party hereto to the other party. Any notice delivered pursuant to this Section 12.2 shall be deemed delivered on the date received by the recipient unless such notice is received on a day on which the recipient is not open for business or on a day when the recipient is generally open for business but after the time when it is generally open for business, in which case such notice shall be deemed to have been received on the next day on which the recipient is generally open for business.

12.3. Public Disclosure. Neither party will announce or publicly refer to this Agreement without the prior consent of the other, except as may be required by law and except that in marketing its services VGX may disclose the existence of this Agreement

but none of its terms. For the avoidance of any doubt, each party shall be permitted to use the name of the other party in any regulatory submission associated with this Agreement without the prior written consent of the named party. In the case of public disclosure of this Agreement, no reference will be made to the financial terms of this Agreement or the Product.

12.4. Entire Agreement. This Agreement and its appendices constitute the entire agreement between the parties with respect to the subject matter hereof and supersede all prior agreements or understandings of the parties relating thereto.

12.5. Amendment. This Agreement may be modified or amended only by written agreement of the parties hereto.

12.6. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute a single instrument.

12.7. Governing Law / Arbitration. This Agreement shall be governed by the laws of the Pennsylvania, as those laws are applied to contracts entered into and to be performed entirely in Pennsylvania without regard to principles of conflicts of law. Any dispute arising out of or in connection with this agreement which could not be solved by an amicable settlement shall be finally settled by binding arbitration. Both parties agree that any arbitration decision may be enforced in any court of law with proper jurisdiction over the party against which the arbitration decision is to be enforced.

12.8. Captions. All section titles or captions contained in this Agreement and in any appendix referred to herein or annexed to this Agreement are for convenience only, shall not be deemed a part of this Agreement and shall not affect the meaning or interpretation of this Agreement.

12.9. Construction. This Agreement shall be deemed to have been drafted by both VGX and CUSTOMER and shall not be construed against either party as the draftsperson hereof.

12.10. Expenses. In the event a dispute between the parties hereunder is resolved through litigation or other proceeding or a party must engage an attorney (including internal counsel) to enforce its right hereunder, the prevailing party shall be entitled to reimbursement of all reasonable fees and disbursements incurred in connection with such litigation.

12.11. Independent Contractors. Nothing contained herein shall be deemed to create any joint venture or partnership between the parties hereto, and, except as is expressly set forth herein, neither party shall have any right by virtue of this Agreement to bind the other party in any manner whatsoever.

12.12. Severability. If any provision of this Agreement is held to be illegal, invalid or unenforceable under present or future laws effective while this Agreement remains in effect, the legality, validity and enforceability of the remaining provisions

shall not be affected thereby, and in lieu of each such illegal, invalid or unenforceable provision there shall be added automatically, as a part of the document, a provision that is legal, valid and enforceable, and as similar in terms to such illegal, invalid or unenforceable provision as may be possible while giving effect to the benefits and burdens for which the parties have bargained hereunder.

12.13. Force Majeure. Neither Party shall be liable to the other for its failure to perform any of its obligations under this Agreement, during any period in which such performance is delayed because rendered impracticable or impossible due to circumstances beyond the Party's reasonable control, including without limitation, earthquakes, governmental regulation, fire, flood, labor difficulties, interruption of supply of key raw materials, civil disorders, and acts of God, provided that the Party experiencing the delay promptly notifies the other Party of delay.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

VGXI, INC.

By: /s/ Henry Hebel

Name: Henry Hebel

Title: VP Operations

CUSTOMER

By: /s/ Richard S. Dondero

Name: Richard S. Dondero

Title: Vice President R & D

SUPPLY AGREEMENT

BETWEEN

POLYPLUS-TRANSFECTION SA, a company organized under the laws of France ("Polyplus"), having its place of business at Bioparc, Boulevard Sébastien Brant, 67401 Illkirch (France) hereinafter referred to as "SELLER" or "Seller"

AND

SENESCO TECHNOLOGIES, Inc. a Delaware corporation, having its registered office at 303 George Street, Suite 420, New Brunswick, NJ 08901, USA, hereinafter referred to as "BUYER" or "Buyer" (each being referred to individually as a Party and collectively as the Parties)

WHEREAS

Polyplus is a biotechnology company dedicated to the development, manufacturing and marketing of transfection reagents. These chemical agents make it possible for DNA, interfering ribonucleic acids (siRNA) or proteins to enter into cells.

In particular, the firm is owner and licensed of intellectual property rights related to transfection reagents including Polyethylenimine (PEI).

Polyplus has also developed methods for manufacturing PEI and derivatives. The process is derived from know-how arising out of POLYPLUS' research.

in vivo-jetPEI™, which is a Polyplus product, is manufactured by a Polyplus subcontractor in its capacity as a GMP maker (hereinafter: "Product Maker") acting under Polyplus's instructions and is marketed by Polyplus. *in vivo*-jetPEI™ can be used for research or preclinical phases, as well as for clinical trials.

BUYER is interested in using *in vivo*-jetPEI™ for human clinical trials and is desirous to be regularly supplied with *in vivo*-jetPEI™.

Given the very high distinctiveness of this product, the Parties agree on the establishing of a long-lasting contractual relationship to make easier the regularity and the quality of the supply of this product.

NOW, THEREFORE, IT HAS BEEN AGREED AS FOLLOWS

ARTICLE 1: DEFINITIONS

For the purposes of this Agreement, the following terms used herein with an initial capital letter shall have the following respecting meanings, and shall be applicable both to the singular and plural forms:

1.1 "Affiliate" shall mean, as applied to a Party, any corporation or other business entity, which controls, is controlled by or is under common control with such Party. For the purposes of this definition, the term "control" shall mean direct or indirect ownership of fifty percent (50%) or more of the securities or other ownership interests representing the equity, voting stock, general partnership or membership interest of such entity, or the power to direct or cause the direction of the management and policies of an entity (other than a natural person), whether through the majority ownership of voting capital stock, by contract or otherwise

1.2 "Business days" the part of a day from 9 am to 5 pm Monday through Friday, except for French or US state holidays

1.3 "Clinical Trials" shall mean any investigation in human subjects intended to discover or verify the clinical, pharmacokinetic (study of the processes of bodily absorption, distribution, metabolism, and excretion of compounds and medicines), and/or other pharmacodynamic (study of interactions between drugs and living structures) effects of (an) investigational drug(s), and/or to identify any adverse reactions to (an) investigational drug(s), with the object of ascertaining its(their) safety and/or efficacy.

For the sake of clarity, it is hereby stated that, according to international standards, clinical trials are usually broken down into the following three steps:

· Phase I studies, corresponding to the first time the drug is tested in (a limited number of) humans, and which are primarily concerned with the drug's safety, with the purpose of determining how the experimental drug is absorbed, metabolized, and excreted in humans. Additionally, these studies seek to determine what types of side effects occur as the dosage of the drug is increased. Any beneficial effects of the drug are also noted.

· Phase II studies, generally conducted on a random and blinded basis on several hundred patients, and whose aim is (i) to test the experimental drug in the patients that have the disease or condition that the drug is expected to improve/cure, (ii) to evaluate the effectiveness of the drug, and (iii) to determine the correct dosage, that is, the most effective dosage with the least number of side effects (dose-ranging studies). In general, the purpose of Phase II studies is to provide the sponsor

and the competent regulatory agency with comparative information about the relative safety of the experimental drug, the proper dosage needed to treat the condition, and the drug's effectiveness.

· Phase III studies, where the experimental drug is tested in several hundred to several thousand patients with the disease/condition of interest, with this large-scale testing seeking to provide the sponsor as well as the competent regulatory agency with a more thorough understanding of the drug's effectiveness, benefits/risks, and range/severity of possible adverse side effects.

1.4 "Confidential Information" shall mean any technical or business information furnished by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") in connection with this Agreement, regardless of whether such information is specifically designated as confidential and regardless of whether such information is in written, oral, electronic or other form. Such Confidential Information may include, without limitation, the trade secrets, know-how, inventions, formulations, compositions, synthesis operating procedures, protocols, technical data or specifications, testing methods, business or financial information, research and development activities, product and marketing plans, and customer and supplier information. The Confidential Information shall not include applicable information which the Receiving Party can demonstrate:

· was in the public domain prior to the time of its disclosure under this Agreement;

· entered the public domain after the time of its disclosure under this Agreement through means other than an unauthorized disclosure resulting from an act or omission by the Receiving Party;

· was independently developed or discovered by the Receiving Party prior to the time of its disclosure under this Agreement, as demonstrated by contemporaneous written evidence;

· is or was disclosed to the Receiving Party at any time, whether prior to or after the time of its disclosure under this Agreement, by a third party having no fiduciary relationship with the Disclosing Party and having no obligation of confidentiality with respect to such Confidential Information or;

· is required to be disclosed so as to comply with applicable laws or regulations, or with a court or administrative order, provided that the Disclosing Party receives, to the extent practicable, prior written notice of such disclosure and the opportunity to assess the need to disclose and/or limit the scope of disclosure, and that the Receiving Party takes all reasonable and lawful actions to obtain confidential treatment for such disclosure and, if possible, to minimize the extent of such disclosure.

Confidential Information shall not be deemed to be in the public domain merely because it is embraced by more general information in the public domain, or merely because individual items of Confidential Information are in the public domain, without a notice or suggestion associated with such individual items to be combined in the manner suggested by the Disclosing Party.

1.5 "Field" shall mean research applications, in particular, the *in-vivo* use in clinical trials, for phases I, II and III of those Clinical Trials.

1.6 "Product" shall mean the in vivo-jetPEI™ GMP, manufactured by or on behalf of Seller, according to the applicable Specifications, or any product whose function is accurately equivalent, provided such product received the prior written approval of the Buyer.

1.7 "Specifications" shall mean the applicable specifications as defined in quotations made by Seller in view of orders from the Buyer.

ARTICLE 2: SUBJECT MATTER OF THE CONTRACT

2.1 Subject to the terms and conditions of this agreement, Buyer agrees to purchase from Seller exclusively the Products needed for use in the Field and Seller agrees to supply Buyer with its requirements of the Product as detailed in quotations which will be made between the Parties from time to time.

Seller agrees to supply Buyer with the Product in compliance with the Specifications and amounts as detailed in the quotations which will be made between the Parties from time to time.

2.2 The Product will be supplied as Drug Substance under lyophilised form. The filling step is not included in the present agreement.

2.3 During the initial term of this agreement according to subparagraph 9.1 below, and after successful supply by Seller of a first batch of Products meeting Specifications, Buyer shall purchase all its requirements for such Product within the Field from Seller and undertakes not to purchase any product whose structure and formula will be identical to the one of the Product with any third parties.

ARTICLE 3: FORECASTS AND ORDERS

3.1 General: The Product will be produced by Seller or on behalf of Seller, on order from the Buyer and will be delivered for each batch of Product within the time required for correct production.

3.2 Forecasts: In order to ensure proper application of § 3.1 hereinabove, Buyer shall provide Seller with written forecasts of its requirements of Product for use in the Field regarding Phase I of Clinical Trials, broken down by quarter for the ensuing 12 (twelve) months. Such forecasts shall be updated every quarter. Buyer shall provide Seller with written forecasts of its Product requirements for use in the Field under Phase II and Phase III of the Clinical Trials 8 months before the beginning

of each of that new phases, including in case of overlapping or coupling of one phase with another ("Fast Track").

3.3 Orders: Buyer shall place its firm orders at least 6 (six) months before the requested delivery date. Buyer shall place firm orders for the quantity most recently estimated for the Clinical Trial, it being specified that such estimate must be based on a document prepared using objective criteria for the purpose of

conducting said Clinical Trials. The Parties shall agree from time to time on the information to be included in the order form.

3.4 Acceptance of orders: Subject to the producing capacity of the Product Maker, Seller shall fill Buyer's orders for Product for use in the Field to the extent they do not exceed Buyer's forecast for such Clinical Trial. Seller shall use its reasonable efforts to fill any portion of the orders exceeding the forecast to the extent they do not exceed one hundred twenty percent (120%) of this forecast . Notwithstanding the reservations expressed in the foregoing, Seller shall have a period of ten Business days in which to confirm its acceptance of each order.

ARTICLE 4: QUALITY

4.1 Seller warrants that all Product sold to Buyer hereunder shall be produced in accordance with the latest revision of the EC Guide to Good Manufacturing Practices, shall be of good and merchantable quality and comply with the applicable Specifications. It is understood that, even if a batch of Product meets all Specifications at the time of delivery, its stability will be affected by the passing of time. The expiration date will be determined after the complete stability study performed on the first batch of Product. Moreover, the stability of the Product is much shorter when the Product is mixed to constitute a compound. Buyer shall be completely responsible for storage and preserving conditions of the Product after delivery. Likewise, (i) Buyer shall remain responsible for storage conditions of the Product employed by investigators, inspectors, clinical research coordinators and other persons involved in clinical studies, and undertakes to inform them about Product features and requirements as to storage and preservation, and (ii) Seller does not warrant the stability of the Product after delivery.

4.2 Promptly after receipt of any shipment of Product, Buyer shall verify the quantity and visually inspect the quality of the Product. No claim for visible defective quality or shortage in quantity of any individual shipment of Product shall be valid unless made in writing within ten (10) Business days from the date of delivery of Product, together with certificates of analysis, except in the event of latent defects, in which case such claims shall be made within ten (10) Business days from discovery of such defect. Such written notice shall substantiate the non-conformity to Specifications.

4.3 Seller shall promptly make up any shortfall and/or replace all Product non-conforming to the Specifications, at no additional cost to Buyer, as stated below.

4.4 If a dispute arises concerning conformity of the Product to Specifications or requirements as agreed to by the Parties, in whole or in part, such dispute shall be referred to a reputable independent testing organization recognized by the pharmaceutical industry, mutually agreed by the Parties. The fees and expenses of such organization shall be borne by the losing Party. The settlement of such dispute shall be limited to the loss or damage arising directly from the non-conformity of the Product without prejudice to any additional remedies that may be perused by the Parties.

ARTICLE 5: DELIVERY

5.1 Seller shall deliver or have delivered by Product Marker the Product to filling facilities as indicated by Buyer. The Product shall be packaged in keeping with the nature of the Product in order to maintain its qualities. Risk for the Product shall pass to Buyer at the time of delivery.

5.2 Seller shall provide certificates of analysis for the Product for each delivery at the time of such delivery.

ARTICLE 6: PRICE AND PAYMENT CONDITIONS

6.1 Prices: The prices for the Product delivered in batches depend on the quantities ordered by Buyer and shall be set forth in each quotation. The prices are exclusive of any taxes and duties, such as sales, export, import, value-added tax, excise duty, which shall be added as applicable. Seller may require changes in the prices to reflect changes in Specifications, batch size, packaging and process alterations where such changes are made at the Buyer's request or pursuant to an agreement entered into by the Parties providing for the modification of the Specifications.

6.2 Invoices: Seller shall issue an invoice for thirty percent (30 %) of the nominal amount of each order upon acceptance. The balance, plus or minus adjustments for the quantity actually delivered shall be invoiced according to milestones payments to be defined between the Parties at the time of the order, it being specified that in case the Parties fail to reach agreement the balance shall be fully paid in the following condition: 30% within 4 months from the date of the order, 40% upon delivery. Buyer shall pay invoices in Dollars within thirty (30) days from the date of the invoice by bank transfer to the account indicated in the invoice. Any payments not made on or before the due date shall accrue interest, from the tenth day following a written payment reminder sent by Seller to Buyer until paid, at a rate equal to the EURIBOR in effect on the date such payment first became due and payable.

6.3 Retention of title: to the extent permitted by law, title to the Product shall remain with Seller until the price is paid in full.

6.4 Cancellation for non–payment: Should any payment not be received within 60 days from the invoice date, this Agreement may be cancelled *eo ipso* upon Seller's request.

ARTICLE 7: PRODUCT LIABILITY

7.1 Warranties: Seller warrants that: (i) Product(s) sold to Buyer pursuant to this Agreement shall, at the date of delivery, be free from defective material and workmanship, conform to the Specifications, contain no hidden defects, satisfy current FDA requirements and be in compliance with applicable EU legal and regulatory requirements as may be amended from time to time; and (ii) Seller has requisite know-how, required expertise, and experience regarding the Product.

For the sake of clarity it is again stated that Seller makes no warranty regarding the stability of the Product after delivery. However, Seller undertakes to provide its expertise after delivery and carry out the stability study according to the Specifications upon Buyer's request, as long as the Product is in the same condition as it was at the time of delivery. It being specified that should the stability study show that the Product has not kept the stability it had at the time of the delivery, Seller shall not be obliged to replace the Product and shall not incurred any liability.

SELLER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT, and, in particular, makes no warranty regarding the effectiveness of the Product once it has been mixed to constitute a compound.

7.2 Seller's indemnification and hold harmless agreement for the benefit of Buyer: Seller shall defend, indemnify and hold Buyer, its Affiliates and the officers, directors and employees of each harmless from and against any and all claims, demands, loss, damage, liabilities, settlement amounts, costs or expenses whatsoever (including reasonable attorneys' fees and costs) arising from any claim, action or proceeding made or brought against such party by a third party as a result of (a) nonconformity of the Product to the Specifications; or (b) Seller's intentional act or grave misconduct in performing its obligations herein; or (c) Seller's breach of its obligations as detailed herein. SELLER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, CONCERNING THIS PROTECTION.

7.3 Buyer's indemnification and hold harmless agreement for the benefit of Seller: Buyer shall defend, indemnify and hold Seller, it's Affiliates and the officers, directors and employees of each harmless from and against any and all claims, demands, loss, damage, liabilities, settlement amounts, costs or expenses whatsoever (including reasonable attorneys' fees and costs) arising from any claim, action or proceeding made or brought against such party by a third party as a result of (a) any damage caused by the use of the Product except a damage due to a defect in the product caused, in

whole or in part, from the manufacture of the Product, a default in the storage of the Product prior to delivery in accordance with Article 5, or the nonconformity of the Product to the Specifications, but including a defect of the product with which or into which the Product will be incorporated, mixed or associated or (b) Buyer's failure to perform its obligations hereunder or (c) the use of the Product outside the Field. BUYER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, CONCERNING THIS PROTECTION.

7.4 Limitations: The foregoing indemnification and hold harmless undertakings shall be contingent on the observance of the following additional terms and conditions:

(i) The party claiming indemnification shall have given the indemnifying party prompt and timely notice of the facts and circumstances having given rise to such claim and shall reasonably co-operate with, inform and assist the latter party in this regard;

(ii) The indemnifying party shall have sole control and authority with respect to the defence, settlement or compromise of the claim against the indemnified party; provided, however, that the indemnifying party shall not agree to any settlement which would materially and adversely affect the business of the other party without the prior written consent of that party, which consent shall not be unreasonably withheld.

7.5 Insurance obligation: The Buyer, as sponsor of the Clinical Trials, shall maintain in effect a policy or policies of insurance providing protection against the risk of liability associated with any loss, injury or damage arising from the performance of Clinical Trials, and it shall provide the Seller with the relevant insurance policy upon Seller's request.

ARTICLE 8: CONFIDENTIALITY

8.1 Confidentiality and non-use covenants: Each Party shall and shall cause its employees, agents or servants engaged in the performance of this Agreement to: (i) maintain all Confidential Information received from the other Party in strict confidence; (ii) use all such information solely for purposes of performing this Agreement; and (iii) reproduce such information only to the extent necessary to perform this Agreement, with all such reproductions being considered Confidential Information. The terms and conditions hereof shall be considered Confidential Information, unless both Parties agree in writing to disclose certain terms in reply to a legitimate request by a third party.

8.2 Return of documents: Upon the termination of this Agreement by either Party, the Receiving Party shall return to the Disclosing Party all originals, copies, and summaries of documents, materials, and other tangible manifestations of Confidential Information in the possession or control of the Receiving Party, except for one copy, which may be kept in the

Receiving Party's legal archives and stored under secure conditions. The obligations set forth hereunder shall remain in effect for a period of ten (10) years after receipt of the Confidential Information by the Receiving Party.

ARTICLE 9: TERM AND TERMINATION

9.1 Term: This Agreement shall enter into force on the date of last signature hereof and shall have an initial term ending on the eighth anniversary of the first Commercial Sale of the Product by Seller to Buyer. It shall remain in force thereafter for consecutive one (1) year periods except if terminated by either party, upon giving six (6) months written notice prior to the initial or any renewal term.

9.2 Survival: Termination, expiration, cancellation or abandonment of this Agreement through any means or for any reason, shall be without prejudice to the rights and remedies of either party with respect to any antecedent breach of any of the provisions of this Agreement. The provisions of Sections 7, 8, 9, 10 and 12 hereof shall survive expiration or termination of this Agreement.

9.3 Termination for breach: Either Party may terminate this Agreement on written notice to the other Party, with immediate effect, if the other Party commits a material breach of any of its obligations essentially but non limitatively stipulated in Article 2.3; Article 6.4; Article 7.3 and Article 8.1 hereunder which is not cured within thirty (30) days of the other Party's written notice of the breach. Such right of termination shall be without prejudice to any other remedy the non-defaulting party may have at law due to the other party's breach of its obligations hereunder.

9.4 Termination for liquidation: This Agreement may be immediately terminated by a Party if the other Party is dissolved or liquidated, files or has filed against it a petition under any bankruptcy or insolvency law, makes an assignment for the benefit of its creditors or has a receiver appointed for all or substantially all of its property.

9.5 Consequences of termination: Expiration or termination of this Agreement in whole or in part shall not relieve the Parties of any amounts of moneys or Product duly owing between them according to the terms of this Agreement.

ARTICLE 10: INTELLECTUAL PROPERTY RIGHTS

10.1 Intangible Property : Buyer acknowledges that any and all of Seller's intellectual property rights including its know-how used or embodied in or in connection with the Product and any parts thereof (hereafter: Seller's Background IP Rights) are and shall remain the sole property of Seller. Seller acknowledges that any and all of Buyer's intellectual property rights not in connection with the product and any parts therof existing prior to the present Agreement or developed later on are and shall remain the sole property of Buyer.

10.2 Improvements : In case Improvements (defined as "any ameliorations that cannot be exploited without infringing Seller's Background IP Rights) to the Product or to its method of manufacture or use are generated in the performance of the Agreement or of the Clinical Trials by either or both parties, all rights on these Improvements shall belong to Seller which shall have the sole right, and at its own discretion, to file patent applications in its own name and at its costs. Buyer undertakes to keep Seller regularly informed, once a year, of the Improvements it shall make and to sign any documents that could be necessary in order for Seller to file patent applications and to secure its ownership.

Any other improvements or inventions generated by Buyer in the performance of the Clinical Trials will belong to Buyer.

10.3 No warranty : Seller hereby declares that to the best of its knowledge the Products do not infringe patents, trademarks or other proprietary rights owned or controlled by any third party, and warrants that no litigation or threatened litigation exist in connection with the use of such third party proprietary rights as of the coming into force of this Agreement.

However, no representation is made by Seller, expressly or by implication, that any Products sold to and used by Buyer will not infringe such third party proprietary rights. Accordingly, Seller shall not be responsible, either directly or as an indemnitor, to Buyer, for any consequence of any alleged, purported or established infringement of said third party's rights in connection with or resulting from said use of Products, and Buyer shall indemnify and hold harmless Seller with respect to any claims or actions of third parties related thereto.

10.4 If Buyer becomes aware of any infringement by third parties of any of Seller's Background IP Rights. Buyer shall give written notice to Seller of such fact, it being understood and agreed that Seller alone shall decide, at its sole discretion, whether, and if so, what measures shall be taken as a result of any such infringement.

ARTICLE 11: GENERAL PROVISIONS

11.1 Force Majeure: The failure of either Party to perform any of its obligations hereunder solely by reason of, acts of government - particularly if at any time Seller or its Product Maker cease to be entitled for any reason whatsoever to sell or manufacture the Product-, riots, wars, strikes, natural disaster such as fire, storm and flood or other outside causes beyond its control, shall not be deemed to be a breach of this Agreement; provided, however, that the Party so prevented from complying herewith shall continue to take all actions within its power to comply as fully as possible herewith. If such prevention continues for a period of more than sixty (60) days, then either Party may terminate this Agreement, effective upon written notice to the other Party.

11.2 Assignment: This Agreement and each and every covenant, term and condition herein is binding upon and inures to the benefit of the Parties hereto and their respective successors, and may not be assigned or transferred by either Party to a third party.

11.3 Headings: Headings are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement.

11.4 Waiver: No waiver of any default hereunder by either Party or any failure to enforce any rights hereunder shall be deemed to constitute a waiver of any subsequent default with respect to the same or any other provision hereof.

11.5 Severability: Should any part of this Agreement be held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provision shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in a valid and enforceable manner, and the remainder of this agreement shall remain binding upon the Parties hereto.

11.6 Notices: All notices given by one Party to the other shall he sent by registered air mail or fax to the other party's address as first set out hereinabove or to the latest address of such Party as shall have been communicated to the other Party.

11.7 Entire agreement: This Agreement constitutes the entire Agreement between the parties and shall prevail over any other prior understanding or terms (including Buyer's general purchase conditions). Any amendment or modification to this Agreement shall be valid only if made in writing and signed by authorized representatives of the Parties.

ARTICLE 12: GOVERNING LAW – JURISDICTION

12.1. Governing Law: Without regard to choice of law provisions and regardless of the place or places where the terms hereof are actually performed, this Agreement shall be governed by,

construed and enforced in accordance with the laws of France, excluding the Vienna Convention on the International Sale of Goods dated 11 April 1980.

12.2. Jurisdiction: ANY DISPUTE ARISING IN CONNECTION WITH THE VALIDITY, INTERPRETATION OR THE PERFORMANCE OF THIS AGREEMENT SHALL BE REFERRED TO THE COURTS OF STRASBOURG, FRANCE.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives on the day and date written below.

Made and executed in two (2) counterparts, which taken together constitute one and the same instrument, with one copy of each counterpart having been submitted to each party.

BUYER	SELLER
Senesco technologies, Inc.	**Polyplus transfection**
/s/ Richard Dondero	/s/ Joelle Bloch
Name: Richard Dondero	Name: Joelle Bloch
Title: Vice President	Title: President
Place:	Place: Illkiorch
Date:	Date: 06/27/2008

SECURITY AGREEMENT

THIS SECURITY AGREEMENT (the "Agreement"), is entered into and made effective as of December , 2007, by and between **SENESCO TECHNOLOGIES, INC.,** a Delaware corporation with its principal place of business located at 303 George Street, Suite 420, New Brunswick, NJ 08901 (the "Parent"), and the each subsidiary of the Parent listed on Schedule I attached hereto (each a "Subsidiary," and collectively and together with the Parent, the "Company"), in favor of the **BUYER(S)** (the "Secured Party") listed on Schedule I attached to the Securities Purchase Agreement (the "Securities Purchase Agreement") dated August 29, 2007 between the Company and the Secured Party.

WHEREAS, the Parent shall issue and sell to the Secured Party, as provided in the Securities Purchase Agreement, and the Secured Party shall purchase secured convertible debentures (the "Convertible Debentures"), which shall be convertible into shares of the Parent's common stock;

WHEREAS, to induce the Secured Party to enter into the transaction contemplated by the Securities Purchase Agreement, the Convertible Debentures, the Registration Rights Agreement of even date herewith between the Parent and the Secured Party (the "Registration Rights Agreement"), and the Irrevocable Transfer Agent Instructions among the Parent, the Secured Party, the Parent's transfer agent, and James M. Davis (the "Transfer Agent Instructions") (collectively referred to as the "Transaction Documents"), each Company hereby grants to the Secured Party a security interest in and to the pledged property of each Company identified on Exhibit A hereto (collectively referred to as the "Pledged Property") to secure all of the Obligations (as defined below);

WHEREAS, the Company is entering into a Security Agreement with YA Global Investments, L.P. ("YA Global") (the "YA Global Security Agreement"), which grants YA Global a first position security interest in and to the Pledged Property ahead of the grant of the security interest in and to the Pledged Property to the Secured Party hereunder; and

WHEREAS, the Secured Party and YA Global are entering into a subordination agreement (the "Subordination Agreement") describing the nature of the junior security interests granted by the Company to the Secured Party hereunder and the senior security interest granted to YA Global under the YA Global Security Agreement.

NOW, THEREFORE, in consideration of the promises and the mutual covenants herein contained, and for other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, the parties hereto hereby agree as follows:

ARTICLE 1.

DEFINITIONS AND INTERPRETATIONS

Section 1.1. Recitals.

The above recitals are true and correct and are incorporated herein, in their entirety, by this reference.

Section 1.2. Interpretations.

Nothing herein expressed or implied is intended or shall be construed to confer upon any person other than the Secured Party any right, remedy or claim under or by reason hereof.

Section 1.3. Obligations Secured.

The security interest created hereby in the Pledged Property constitutes continuing collateral security for all of the obligations of the Parent now existing or hereinafter incurred to the Buyers under the Transaction Documents and whether arising before, on or after the date hereof including, without limitation following obligations (collectively, the "Obligations"):

(a) for so long as the Convertible Debentures are outstanding, the payment by the Parent, as and when due and payable (by scheduled maturity, acceleration, demand or otherwise), of all amounts from time to time owing by it in respect of the Securities Purchase Agreement, the Convertible Debentures and the other Transaction Documents; and

(b) for so long as the Convertible Debentures are outstanding, the due performance and observance by the Parent of all of its other obligations from time to time existing in respect of any of the Transaction Documents, including without limitation, the Parent's obligations with respect to any conversion or redemption rights of the Secured Party under the Convertible Debentures.

ARTICLE 2.

PLEDGED PROPERTY; EVENT OF DEFAULT

Section 2.1. Pledged Property.

(a) As collateral security for all of the Obligations, the Company hereby pledges to the Secured Party, and creates in the Secured Party for its benefit, a continuing security interest in and to all of the Pledged Property whether now owned or hereafter acquired.

(b) Without limiting the generality of the foregoing, as additional security for the payment and performance of the Obligations, each Company hereby grants to the Secured Party a continuing security interest in, and hereby collaterally assigns to the Secured Party, all of such Company's right, title and interest in and to each

Deposit Account (as defined below) and in and to any deposits or other sums at any time credited to each such Deposit Account. In connection with the foregoing, each Company hereby authorizes and directs each bank or other depository institution which maintains any Deposit Account to pay or deliver to the Secured Party upon the Secured Party's written demand thereof made at any time after the occurrence of an Event of Default has occurred all balances in each Deposit Account with such depository for application to the Obligations then outstanding.

(c) Simultaneously with the execution and delivery of this Agreement, the Company shall make, execute, acknowledge, file, record and deliver to the Secured Party any documents reasonably requested by the Secured Party to perfect its security interest in the Pledged Property. Simultaneously with the execution and delivery of this Agreement, the Company shall make, execute, acknowledge and deliver to the Secured Party such documents and instruments, including, without limitation, financing statements, certificates, affidavits and forms as may, in the Secured Party's reasonable judgment, be necessary to effectuate, complete or perfect, or to continue and preserve, the security interest of the Secured Party in the Pledged Property, and the Secured Party shall hold such documents and instruments as secured party, subject to the terms and conditions contained herein.

Section 2.2. Event of Default.

An "Event of Default" shall be deemed to have occurred under this Agreement upon an Event of Default under and as defined in the Convertible Debentures.

Section 2.3 Grant of Security Interest to YA Global.

The Company is granting a security interest in and to the Pledged Property to YA Global under the YA Global Security Agreement. The security interests granted by the Company to the Secured Party hereunder shall be junior to the security interest granted by the Company to YA Global under the YA Global Security Agreement irrespective of priority, regardless of the date, manner, or order of perfection of the respective security interests, liens and encumbrances granted or to be granted by the Company to or for the benefit of the Secured Party hereunder or YA Global under the YA Global Security Agreement. So long as this Agreement shall remain in effect, the security interests, liens, and encumbrances granted to the Secured Party shall be junior to the security interests, liens and encumbrances of granted to YA Global. The Secured Party and YA Global are entering into the Subordination Agreement further describing the ranking of the security interests granted by the Company to the Secured Party hereunder and to YA Global under the YA Global Security Agreement.

ARTICLE 3.

ATTORNEY-IN-FACT; PERFORMANCE

Section 3.1. Secured Party Appointed Attorney-In-Fact.

Upon the occurrence and during the continuance of an Event of Default: (a) the Company hereby appoints the Secured Party as its attorney-in-fact, with full authority in the place and stead of the Company and in the name of the Company or otherwise, from time to time in the Secured Party's discretion to take any action and to execute any instrument which the Secured Party may reasonably deem necessary to accomplish the purposes of this Agreement, including, without limitation, to receive and collect all instruments made payable to the Company representing any payments in respect of the Pledged Property or any part thereof and to give full discharge for the same; (b) the Secured Party may demand, collect, receipt for, settle, compromise, adjust, sue for, foreclose, or realize on the Pledged Property as and when the Secured Party may determine, and (c) to facilitate collection, the Secured Party may notify account debtors and obligors on any Pledged Property to make payments directly to the Secured Party.

Section 3.2. Secured Party May Perform.

If the Company fails to perform any agreement contained herein, the Secured Party, at its option, may itself perform, or cause performance of, such agreement, and the expenses of the Secured Party incurred in connection therewith shall be included in the Obligations secured hereby and payable by the Company under Section 8.3.

ARTICLE 4.

REPRESENTATIONS AND WARRANTIES

Section 4.1. Authorization; Enforceability.

Each of the parties hereto represents and warrants that it has taken all action necessary to authorize the execution, delivery and performance of this Agreement and the transactions contemplated hereby; and upon execution and delivery, this Agreement shall constitute a valid and binding obligation of the respective party, subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting creditors' rights or by the principles governing the availability of equitable remedies.

Section 4.2. Ownership of Pledged Property.

The Company represents and warrants that it is the legal and beneficial owner of the Pledged Property free and clear of any lien, security interest, option or other charge or encumbrance (each, a "Lien") except for the security interest created by this Agreement and other Permitted Liens. For purposes of this Agreement, "Permitted Liens" means: (1) the security interest created by this Agreement and the YA Global Security Agreement, (2) existing Liens disclosed by the Company to the Secured Party; (3) inchoate Liens for taxes, assessments or governmental charges or levies not yet due, as to which the grace period, if any, related thereto has not yet expired, or being contested in

good faith and by appropriate proceedings for which adequate reserves have been established in accordance with GAAP; (4) Liens of carriers, materialmen, warehousemen, mechanics and landlords and other similar Liens which secure amounts which are not yet overdue by more than 60 days or which are being contested in good faith by appropriate proceedings; (5) licenses, sublicenses, leases or subleases granted to other Persons not materially interfering with the conduct of the business of the Company; (6) Liens securing capitalized lease obligations and purchase money indebtedness incurred solely for the purpose of financing an acquisition or lease; (7) easements, rights-of-way, restrictions, encroachments, municipal zoning ordinances and other similar charges or encumbrances, and minor title deficiencies, in each case not securing debt and not materially interfering with the conduct of the business of the Company and not materially detracting from the value of the property subject thereto; (8) Liens arising out of the existence of judgments or awards which judgments or awards do not constitute an Event of Default; (9) Liens incurred in the ordinary course of business in connection with workers compensation claims, unemployment insurance, pension liabilities and social security benefits and Liens securing the performance of bids, tenders, leases and contracts in the ordinary course of business, statutory obligations, surety bonds, performance bonds and other obligations of a like nature (other than appeal bonds) incurred in the ordinary course of business (exclusive of obligations in respect of the payment for borrowed money); (10) Liens in favor of a banking institution arising by operation of law encumbering deposits (including the right of set-off) and contractual set-off rights held by such banking institution and which are within the general parameters customary in the banking industry and only burdening deposit accounts or other funds maintained with a creditor depository institution; (11) usual and customary set-off rights in leases and other contracts; and (12) escrows in connection with acquisitions and dispositions.

ARTICLE 5.

DEFAULT; REMEDIES; SUBSTITUTE COLLATERAL

Section 5.1 Method of Realizing Upon the Pledged Property: Other Remedies.

If any Event of Default shall have occurred and be continuing:

(a) The Secured Party may exercise in respect of the Pledged Property, in addition to any other rights and remedies provided for herein or otherwise available to it, all of the rights and remedies of a secured party upon default under the Uniform Commercial Code (whether or not the Uniform Commercial Code applies to the affected Pledged Property), and also may (i) take absolute control of the Pledged Property, including, without limitation, transfer into the Secured Party's name or into the name of its nominee or nominees (to the extent the Secured Party has not theretofore done so) and thereafter receive, for the benefit of the Secured Party, all payments made thereon, give all consents, waivers and ratifications in respect thereof and otherwise act with respect thereto as though it were the outright owner thereof, (ii) require the Company to assemble all or part of the Pledged Property as directed by the Secured Party and make it available to the Secured Party at a place or places to be designated by the Secured Party that is reasonably convenient to both parties, and the Secured Party may enter into and occupy any premises owned or leased by the Company where the Pledged Property or any part

thereof is located or assembled for a reasonable period in order to effectuate the Secured Party's rights and remedies hereunder or under law, without obligation to the Company in respect of such occupation, and (iii) without notice except as specified below and without any obligation to prepare or process the Pledged Property for sale, (A) sell the Pledged Property or any part thereof in one or more parcels at public or private sale, at any of the Secured Party's offices or elsewhere, for cash, on credit or for future delivery, and at such price or prices and upon such other terms as the Secured Party may deem commercially reasonable and/or (B) lease, license or dispose of the Pledged Property or any part thereof upon such terms as the Secured Party may deem commercially reasonable. The Company agrees that, to the extent notice of sale or any other disposition of the Pledged Property shall be required by law, at least ten (10) days' notice to the Company of the time and place of any public sale or the time after which any private sale or other disposition of the Pledged Property is to be made shall constitute reasonable notification. The Secured Party shall not be obligated to make any sale or other disposition of any Pledged Property regardless of notice of sale having been given. The Secured Party may adjourn any public or private sale from time to time by announcement at the time and place fixed therefor, and such sale may, without further notice, be made at the time and place to which it was so adjourned. The Company hereby waives any claims against the Secured Party arising by reason of the fact that the price at which the Pledged Property may have been sold at a private sale was less than the price which might have been obtained at a public sale or was less than the aggregate amount of the Obligations, even if the Secured Party accepts the first offer received and does not offer such Pledged Property to more than one offeree, and waives all rights that the Company may have to require that all or any part of such Pledged Property be marshaled upon any sale (public or private) thereof. The Company hereby acknowledges that (i) any such sale of the Pledged Property by the Secured Party may be made without warranty, (ii) the Secured Party may specifically disclaim any warranties of title, possession, quiet enjoyment or the like, and (iii) such actions set forth in clauses (i) and (ii) above shall not adversely affect the commercial reasonableness of any such sale of Pledged Property.

(b) Any cash held by the Secured Party as Pledged Property and all cash proceeds received by the Secured Party in respect of any sale of or collection from, or other realization upon, all or any part of the Pledged Property shall be applied (after payment of any amounts payable to the Secured Party pursuant to Section 8.3 hereof) by the Secured Party against, all or any part of the Obligations in such order as the Secured Party shall elect, consistent with the provisions of the Securities Purchase Agreement. Any surplus of such cash or cash proceeds held by the Secured Party and remaining after the indefeasible payment in full in cash of all of the Obligations shall be paid over to whomsoever shall be lawfully entitled to receive the same or as a court of competent jurisdiction shall direct.

(c) In the event that the proceeds of any such sale, collection or realization are insufficient to pay all amounts to which the Secured Party is legally entitled, the Company shall be liable for the deficiency, together with interest thereon at the rate specified in the Convertible Debentures for interest on overdue principal thereof or such other rate as shall be fixed by applicable law, together with the costs of collection and the

reasonable fees, costs, expenses and other client charges of any attorneys employed by the Secured Party to collect such deficiency.

(d) The Company hereby acknowledges that if the Secured Party complies with any applicable state, provincial, or federal law requirements in connection with a disposition of the Pledged Property, such compliance will not adversely affect the commercial reasonableness of any sale or other disposition of the Pledged Property.

(e) The Secured Party shall not be required to marshal any present or future collateral security (including, but not limited to, this Agreement and the Pledged Property) for, or other assurances of payment of, the Obligations or any of them or to resort to such collateral security or other assurances of payment in any particular order, and all of the Secured Party's rights hereunder and in respect of such collateral security and other assurances of payment shall

be cumulative and in addition to all other rights, however existing or arising. To the extent that the Company lawfully may, the Company hereby agrees that it will not invoke any law relating to the marshaling of collateral which might cause delay in or impede the enforcement of the Secured Party's rights under this Agreement or under any other instrument creating or evidencing any of the Obligations or under which any of the Obligations is outstanding or by which any of the Obligations is secured or payment thereof is otherwise assured, and, to the extent that it lawfully may, the Company hereby irrevocably waives the benefits of all such laws.

Section 5.2 Duties Regarding Pledged Property.

The Secured Party shall have no duty as to the collection or protection of the Pledged Property or any income thereon or as to the preservation of any rights pertaining thereto, beyond the safe custody and reasonable care of any of the Pledged Property actually in the Secured Party's possession.

ARTICLE 6.

AFFIRMATIVE COVENANTS

The Company covenants and agrees that, from the date hereof and until the Obligations have been fully paid and satisfied or the Convertible Debentures have been fully converted, unless the Secured Party shall consent otherwise in writing (as provided in Section 8.4 hereof):

Section 6.1. Existence, Properties, Etc.

(a) The Company shall do, or cause to be done, all things, or proceed with due diligence with any actions or courses of action, that may be reasonably necessary (i) to maintain Company's due organization, valid existence and good standing under the laws of its state of incorporation, and (ii) to preserve and keep in full force and effect all qualifications, licenses and registrations in those jurisdictions in which the failure to do so could have a Material Adverse Effect (as defined below); and (b) the Company shall not do, or cause to be done, any act impairing the Company's corporate power or authority (i) to carry on the Company's business as now conducted, and (ii) to

execute or deliver this Agreement or any other document delivered in connection herewith, including, without limitation, any UCC-1 Financing Statements required by the Secured Party (which other loan instruments collectively shall be referred to as the "Loan Instruments") to which it is or will be a party, or perform any of its obligations hereunder or thereunder. For purpose of this Agreement, the term "Material Adverse Effect" shall mean any material and adverse affect as determined by Secured Party in its reasonable discretion, whether individually or in the aggregate, upon (a) the Company's assets, business, operations, properties or condition, financial or otherwise; (b) the Company's ability to make payment as and when due of all or any part of the Obligations; or (c) the Pledged Property.

Section 6.2. Financial Statements and Reports.

The Company shall furnish to the Secured Party within a reasonable time such financial data as the Secured Party may reasonably request.

Section 6.3. Accounts and Reports.

The Company shall maintain a standard system of accounting in accordance with generally accepted accounting principles consistently applied ("GAAP") and provide, at its sole expense, to the Secured Party the following:

(a) as soon as available, a copy of any notice or other communication alleging any nonpayment or other material breach or default, or any foreclosure or other action respecting any material portion of its assets and properties, received respecting any of the indebtedness of the Company in excess of $500,000 (other than the Obligations), or any demand or other request for payment under any guaranty, assumption, purchase agreement or similar agreement or arrangement respecting the indebtedness or obligations of others in excess of $500,000; and

(b) within fifteen (15) days after the making of each submission or filing, a copy of any report, financial statement, notice or other document, whether periodic or otherwise, submitted to the shareholders of the Company, or submitted to or filed by the Company with any governmental authority involving or affecting (i) the Company that could reasonably be expected to have a Material Adverse Effect; (ii) the Obligations; (iii) any part of the Pledged Property; or (iv) any of the transactions contemplated in this Agreement or the Loan Instruments (except, in each case, to the extent any such submission, filing, report, financial statement, notice or other document is posted on EDGAR Online).

Section 6.4. Maintenance of Books and Records; Inspection.

The Company shall maintain its books, accounts and records in accordance with GAAP, and permit the Secured Party, its officers and employees and any professionals designated by the Secured Party in writing, at any time during normal business hours and upon reasonable notice to visit and inspect any of its properties (including but not limited to the collateral security described in the Transaction Documents and/or the Loan Instruments), corporate books and financial records, and to discuss its accounts, affairs

and finances with any employee, officer or director thereof (it being agreed that, unless an Event of Default shall have occurred and be continuing, there shall be no more than two (2) such visits and inspections in any Fiscal Year).

Section 6.5. Maintenance and Insurance.

(a) The Company shall maintain or cause to be maintained, at its own expense, all of its material assets and properties in good working order and condition, ordinary wear and tear excepted, making all necessary repairs thereto and renewals and replacements thereof.

(b) The Company shall maintain or cause to be maintained, at its own expense, insurance in form, substance and amounts (including deductibles), which the Company deems reasonably necessary to the Company's business, (i) adequate to insure all assets and properties of the Company of a character usually insured by persons engaged in the same or similar business against loss or damage resulting from fire or other risks included in an extended coverage policy; (ii) against public liability and other tort claims that may be incurred by the Company; (iii) as may be required by the Transaction Documents and/or applicable law and (iv) as may be reasonably requested by Secured Party, all with financially sound and reputable insurers.

Section 6.6. Contracts and Other Collateral.

The Company shall perform all of its obligations under or with respect to each instrument, receivable, contract and other intangible included in the Pledged Property to which the Company is now or hereafter will be party on a timely basis and in the manner therein required, including, without limitation, this Agreement, except to the extent the failure to so perform such obligations would not reasonably be expected to have a Material Adverse Effect.

Section 6.7. Defense of Collateral, Etc.

The Company shall defend and enforce its right, title and interest in and to any part of: (a) the Pledged Property; and (b) if not included within the Pledged Property, those assets and properties whose loss would reasonably be expected to have a Material Adverse Effect, each against all manner of claims and demands on a timely basis to the full extent permitted by applicable law (other than any such claims and demands by holders of Permitted Liens).

Section 6.8. Taxes and Assessments.

The Company shall (a) file all material tax returns and appropriate schedules thereto that are required to be filed under applicable law, prior to the date of delinquency (taking into account any extensions of the original due date), (b) pay and discharge all material taxes, assessments and governmental charges or levies imposed upon the Company, upon its income and profits or upon any properties belonging to it, prior to the date on which penalties attach thereto, and (c) pay all material taxes, assessments and governmental charges or levies that, if unpaid, might become a lien or charge upon any of

its properties; *provided*, *however*, that the Company in good faith may contest any such tax, assessment, governmental charge or levy described in the foregoing clauses (b) and (c) so long as appropriate reserves are maintained with respect thereto if and to the extent required by GAAP.

Section 6.9. Compliance with Law and Other Agreements.

The Company shall maintain its business operations and property owned or used in connection therewith in compliance with (a) all applicable federal, state and local laws, regulations and ordinances governing such business operations and the use and ownership of such property, and (b) all agreements, licenses, franchises, indentures and mortgages to which the Company is a party or by which the Company or any of its properties is bound, except where the failure to so comply would not reasonably be expected to have a Material Adverse Effect.

Section 6.10. Notice of Default.

The Company shall give written notice to the Secured Party of the occurrence of any Event of Default.

Section 6.11. Notice of Litigation.

The Company shall give notice, in writing, to the Secured Party of (a) any actions, suits or proceedings wherein the amount at issue is in excess of $250,000, instituted by any persons against the Company, or affecting any of the assets of the Company, and (b) any dispute, not resolved within fifteen (15) days of the commencement thereof, between the Company on the one hand and any governmental or regulatory body on the other hand, which might reasonably be expected to have a Material Adverse Effect on the business operations or financial condition of the Company.

Section 6.13. Future Subsidiaries.

If the Company shall hereafter create or acquire any subsidiary, simultaneously with the creation or acquisition of such subsidiary, the Company shall cause such subsidiary to grant to the Secured Party a security interest of the same tenor as created under this Agreement.

Section 6.14. Establishment of Deposit Account, Dominion Account Agreements.

Within ten (10) days of the date hereof, each Company, the Secured Party, and each applicable bank or other depository institution shall enter into a deposit account agreement ("Deposit Account Agreement") in the form of Exhibit B with respect to each of the Company's savings, passbook, money market or other depository accounts, and all certificates of deposit, maintained by each Company with any bank, savings and loan association, credit union or other depository institution (each, a "Deposit Account") maintained or used by each Company providing dominion and control over such accounts to the Secured Party such that upon notice by the Secured Party to such bank or other

depository institution of the occurrence of an Event of Default all actions under such account shall be taken solely at the Secured Party's direction. Each Company's current Deposit Accounts are set forth on Schedule 6.14 attached hereto.

Each Company shall cause all cash, all collections and proceeds from accounts receivable, all receipts from credit card payments, and all proceeds from the sale of any Pledged Property to be deposited into a Deposit Account in the ordinary course of business and consistent with past practices.

While any Convertible Debentures remain outstanding, the Company shall have valid and effective Deposit Account Agreements in place at all times with respect to all of its Deposit Accounts. No Deposit Account shall be established, used or maintained by the Company unless it first enters into a Deposit Account Agreement.

With respect to each Deposit Account, from an after the occurrence of an Event of Default, the Secured Party shall have the right, at any time and from time to time, to exercise its rights under such Deposit Account Agreement, including, for the avoidance of any doubt, the exclusive right to give instructions to the financial institution at which such Deposit Account is maintained as to the disposition of funds or other property on deposit therein or credited thereto. The Secured Party hereby covenants and agrees that it will not send any such notice to a financial institution at which any such Deposit Account is maintained directing the disposition of funds or other property therein unless and until the occurrence of an Event of Default.

ARTICLE 7.

NEGATIVE COVENANTS

The Company covenants and agrees that, from the date hereof until the Obligations have been fully paid and satisfied, the Company shall not, unless the Secured Party shall consent otherwise in writing:

Section 7.1. Liens and Encumbrances.

Directly or indirectly make, create, incur, assume or permit to exist any Lien in, to or against any part of the Pledged Property other than Permitted Liens.

Section 7.2. Restriction on Redemption and Cash Dividends

Directly or indirectly, redeem, repurchase or declare or pay any cash dividend or distribution on its capital stock without the prior express written consent of the Secured Party.

Section 7.3. Incurrence of Indebtedness.

Directly or indirectly, incur or guarantee, assume or suffer to exist any indebtedness, other than the indebtedness evidenced by the Convertible Debentures and

other Permitted Indebtedness. "Permitted Indebtedness" means: (i) indebtedness evidenced by Convertible Debentures and indebtedness to YA Global pursuant to the YA Global Closing (as defined in the Securities Purchase Agreement); (ii) indebtedness described on the Disclosure Schedule to the Securities Purchase Agreement; (iii) indebtedness incurred solely for the purpose of financing the acquisition or lease of any equipment by the Company, including capital lease obligations with no recourse other than to such equipment; (iv) indebtedness (A) the repayment of which has been subordinated to the payment of the Convertible Debentures on terms and conditions acceptable to the Secured Party, including with regard to interest payments and repayment of principal, (B) which does not mature or otherwise require or permit redemption or repayment prior to or on the 91st day after the maturity date of any Convertible Debentures then outstanding; and (C) which is not secured by any assets of the Company; (v) indebtedness solely between the Company and/or one of its domestic subsidiaries, on the one hand, and the Company and/or one of its domestic subsidiaries, on the other which indebtedness is not secured by any assets of the Company or any of its subsidiaries, provided that (x) in each case a majority of the equity of any such domestic subsidiary is directly or indirectly owned by the Company, such domestic subsidiary is controlled by the Company and such domestic subsidiary has executed a security agreement in the form of this Agreement and (y) any such loan shall be evidenced by an intercompany note that is pledged by the Company or its subsidiary, as applicable, as collateral pursuant to this Agreement; (vi) reimbursement obligations in respect of letters of credit issued for the account of the Company or any of its subsidiaries for the purpose of securing performance obligations of the Company or its subsidiaries incurred in the ordinary course of business so long as the aggregate face amount of all such letters of credit does not exceed $500,000 at any one time; and (vii) renewals, extensions and refinancing of any indebtedness described in clauses (i) or (iii) of this subsection.

Section 7.4. Places of Business.

Change the location of its chief place of business, chief executive office or any place of business disclosed to the Secured Party, unless such change in location is to a different location within the United States and the Company provides notice to the Secured Party of new location within 10 days' of such change in location.

ARTICLE 8.

MISCELLANEOUS

Section 8.1. Notices.

All notices or other communications required or permitted to be given pursuant to this Agreement shall be in writing and shall be considered as duly given on: (a) the date of delivery, if delivered in person or by nationally recognized overnight delivery service or (b) five (5) days after mailing if mailed from within the continental United States by certified mail, return receipt requested to the party entitled to receive the same:

If to the Secured Party: Stanford Venture Capital Holdings, Inc.
6075 Poplar Avenue, Suite 300
Memphis, TN 38119
Attention: James M. Davis
President and Director
Telephone: (901) 537-1600
Facsimile: (901) 680-5265

With a copy to: Akerman Senterfitt

One Southeast Third Avenue, 25th Floor
Miami, FL 33131
Attention: Jose Gordo, Esq.
Telephone: (305) 755-5812
Facsimile: (305) 349-4789

And if to the Company:

Senesco Technologies, Inc.
303 George Street, Suite 420
New Brunswick, NJ 08901
Attention: Chief Executive Officer
Telephone:
Facsimile:

With a copy to:

Morgan, Lewis & Bochius
502 Carnegie Center
Princeton, NJ 08540
Attention:
Telephone: (609) 919-6633
Facsimile: (609) 919-6701

Any party may change its address by giving notice to the other party stating its new address. Commencing on the tenth (10th) day after the giving of such notice, such newly designated address shall be such party's address for the purpose of all notices or other communications required or permitted to be given pursuant to this Agreement.

Section 8.2. Severability.

If any provision of this Agreement shall be held invalid or unenforceable, such invalidity or unenforceability shall attach only to such provision and shall not in any manner affect or render invalid or unenforceable any other severable provision of this Agreement, and this Agreement shall be carried out as if any such invalid or unenforceable provision were not contained herein.

Section 8.3. Expenses.

In the event of an Event of Default, the Company will pay to the Secured Party the amount of any and all reasonable out-of-pocket expenses, including the reasonable fees and expenses of its counsel, which the Secured Party may incur in connection with: (i) the custody or preservation of, or the sale, collection from, or other realization upon, any of the Pledged Property; (ii) the exercise or enforcement of any of the rights of the Secured Party hereunder or (iii) the failure by the Company to perform or observe any of the provisions hereof.

Section 8.4. Waivers, Amendments, Etc.

The Secured Party's delay or failure at any time or times hereafter to require strict performance by Company of any undertakings, agreements or covenants shall not waive, affect, or diminish any right of the Secured Party under this Agreement to demand strict compliance and performance herewith. Any waiver by the Secured Party of any Event of Default shall not waive or affect any other Event of Default, whether such Event of Default is prior or subsequent thereto and whether of the same or a different type. None of the undertakings, agreements and covenants of the Company contained in this Agreement, and no Event of Default, shall be deemed to have been waived by the Secured Party, nor may this Agreement be amended, changed or modified, unless such waiver, amendment, change or modification is evidenced by an instrument in writing specifying such waiver, amendment, change or modification and signed by the Secured Party in the case of any such waiver, and signed by the Secured Party and the Company in the case of any such amendment, change or modification.

Section 8.5. Continuing Security Interest; Partial Release.

(a) This Agreement shall create a continuing security interest in the Pledged Property and shall: (i) remain in full force and effect until payment or conversion in full of the Convertible Debentures; (ii) be binding upon the Company and its successors and assigns; and (iii) inure to the benefit of the Secured Party and its successors and assigns. Upon the payment or satisfaction in full or conversion in full of the Convertible Debentures, this Agreement and the security interest created hereby shall terminate, and, in connection therewith, the Company shall be entitled to the return, at its expense, of such of the Pledged Property as shall not have been sold in accordance with Section 5.2 hereof or otherwise applied pursuant to the terms hereof and the Secured Party shall deliver to the Company such documents as the Company shall reasonably request to evidence such termination.

(b) Effective upon the closing of a disposition of any Pledged Property, provided the Secured Party consents in writing prior to such disposition or such disposition is made in the ordinary course of business, the security interest granted hereunder in the Pledged Property so disposed of shall terminate and the Secured Party shall deliver such documents as the Company shall reasonably request to evidence such termination; provided, however, the security interest granted hereunder in all remaining Pledged Property shall remain in full force and effect.

Section 8.6. Independent Representation.

Each party hereto acknowledges and agrees that it has received or has had the opportunity to receive independent legal counsel of its own choice and that it has been sufficiently apprised of its rights and responsibilities with regard to the substance of this Agreement.

Section 8.7. Applicable Law: Jurisdiction.

This Agreement shall be governed by and interpreted in accordance with the laws of the State of New Jersey without regard to the principles of conflict of laws. The parties further agree that any action between them shall be heard in Hudson County, New Jersey, and expressly consent to the jurisdiction and venue of the Superior Court of New Jersey, sitting in Hudson County and the United States District Court for the District of New Jersey sitting in Newark, New Jersey for the adjudication of any civil action asserted pursuant to this Paragraph.

Section 8.8. Waiver of Jury Trial.

AS A FURTHER INDUCEMENT FOR THE SECURED PARTY TO ENTER INTO THIS AGREEMENT AND TO MAKE THE FINANCIAL ACCOMMODATIONS TO THE COMPANY, THE COMPANY HEREBY WAIVES ANY RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING RELATED IN ANY WAY TO THIS AGREEMENT AND/OR ANY AND ALL OTHER DOCUMENTS RELATED TO THIS TRANSACTION.

Section 8.9. Entire Agreement.

This Agreement constitutes the entire agreement among the parties and supersedes any prior agreement or understanding among them with respect to the subject matter hereof.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Security Agreement as of the date first above written.

COMPANY:
SENESCO TECHNOLOGIES, INC.

By: /s/ Bruce C. Galton
Name: Bruce C. Galton
Title: President & CEO

IN WITNESS WHEREOF, the parties hereto have executed this Security Agreement as of the date first above written.

COMPANY:
SENESCO, INC.

By: /s/ Bruce C. Galton
Name: Bruce C. Galton
Title: President

IN WITNESS WHEREOF, the parties hereto have executed this Security Agreement as of the date first above written.

SECURED PARTY:
STANFORD VENTURE CAPITAL HOLDINGS, INC.

By: /s/ James M. Davis
Name: James M. Davis
Title: President and Director

SCHEDULE I

LEGAL NAMES; ORGANIZATIONAL IDENTIFICATION NUMBERS; STATES OF ORGANIZATION

Company's Name	State of Organization	Employer ID	Organizational ID
SENESCO TECHNOLOGIES, INC.	Delaware		
SENESCO, INC.	New Jersey		

EXHIBIT A
DEFINITION OF PLEDGED PROPERTY

For the purpose of securing prompt and complete payment and performance by the Company of all of the Obligations, the Company unconditionally and irrevocably hereby grants to the Secured Party a continuing security interest in and to, and lien upon, the following Pledged Property of the Company:

(a) all goods of the Company, including, without limitation, machinery, equipment, furniture, furnishings, fixtures, signs, lights, tools, parts, supplies and motor vehicles of every kind and description, now or hereafter owned by the Company or in which the Company may have or may hereafter acquire any interest, and all replacements, additions, accessions, substitutions and proceeds thereof, arising from the sale or disposition thereof, and where applicable, the proceeds of insurance and of any tort claims involving any of the foregoing;

(b) all inventory of the Company, including, but not limited to, all goods, wares, merchandise, parts, supplies, finished products, other tangible personal property, including such inventory as is temporarily out of Company's custody or possession and including any returns upon any accounts or other proceeds, including insurance proceeds, resulting from the sale or disposition of any of the foregoing;

(c) all contract rights and general intangibles of the Company, including, without limitation, goodwill, trademarks, trade styles, trade names, leasehold interests, partnership or joint venture interests, patents and patent applications, copyrights, deposit accounts whether now owned or hereafter created;

(d) all documents, warehouse receipts, instruments and chattel paper of the Company whether now owned or hereafter created;

(e) all accounts and other receivables, instruments or other forms of obligations and rights to payment of the Company (herein collectively referred to as "Accounts"), together with the proceeds thereof, all goods represented by such Accounts and all such goods that may be returned by the Company's customers, and all proceeds of any insurance thereon, and all guarantees, securities and liens which the Company may hold for the payment of any such Accounts including, without limitation, all rights of stoppage in transit, replevin and reclamation and as an unpaid vendor and/or lienor;

(f) to the extent assignable, all of the Company's rights under all present and future authorizations, permits, licenses and franchises issued or granted in connection with the operations of any of its facilities;

(g) all equity interests, securities or other instruments in other companies, including, without limitation, any subsidiaries, investments or other entities (whether or not controlled); and

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(h) all products and proceeds (including, without limitation, insurance proceeds) from the above-described Pledged Property.

EXHIBIT B

FORM OF DEPOSIT ACCOUNT AGREEMENT

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors of
Senesco Technologies, Inc.

We hereby consent to the incorporation by reference in Registration Numbers 333-140238 and 333-104105 on Form S-8 and Registration Numbers 333-146691 and 333-138405 of our report dated September 26, 2007 on the consolidated financial statements of Senesco Technologies, Inc. and Subsidiary as of June 30, 2007 and for each of the two fiscal years for the period then ended, appearing in this Annual Report on Form 10-K for the year ended June 30, 2008. Our report dated September 26, 2007 relating to the consolidated financial statements includes an emphasis paragraph relating to an uncertainty as to the Company's ability to continue as a going concern.

/s/ GOLDSTEIN GOLUB KESSLER LLP
New York, New York

September 26, 2008

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements (No. 333-140238) and (No. 333-104105) on Form S-8 and Registration Statements (No. 333-146691, 333-138405) on Form S-3 of Senesco Technologies, Inc. and Subsidiary of our report dated September 26, 2008 relating to our audit of the consolidated financial statements, which appears in this Annual Report on Form 10-K of Senesco Technologies, Inc. and Subsidiary for the year ended June 30, 2008.

/s/ MCGLADREY & PULLEN, LLP
New York, New York

September 26, 2008

EXHIBIT 31.1

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Bruce C. Galton, President and Chief Executive Officer of Senesco Technologies, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Senesco Technologies, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent

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evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 26, 2008

/s/ Bruce C. Galton
Bruce C. Galton
President and Chief Executive Officer
(principal executive officer)

EXHIBIT 31.2

CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Joel Brooks, Chief Financial Officer and Treasurer of Senesco Technologies, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Senesco Technologies, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent

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evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 26, 2008

/s/ Joel Brooks
Joel Brooks
Chief Financial Officer and Treasurer
(principal financial and accounting officer)

EXHIBIT 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Senesco Technologies, Inc. for the year ended June 30, 2008 as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Bruce C. Galton, President and Chief Executive Officer, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Annual Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: September 26, 2008

/s/ Bruce C. Galton *
Bruce C. Galton
President and Chief Executive Officer
(principal executive officer)

* A signed original of this written statement required by Section 906 has been provided to us and will be retained by us and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Senesco Technologies, Inc. for the year ended June 30, 2008 as filed with the Securities and Exchange Commission on the date hereof, the undersigned, Joel Brooks, Chief Financial Officer and Treasurer, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Annual Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: September 26, 2008

/s/ Joel Brooks *
Joel Brooks
Chief Financial Officer and Treasurer
(principal financial and accounting officer)

* A signed original of this written statement required by Section 906 has been provided to us and will be retained by us and furnished to the Securities and Exchange Commission or its staff upon request.