UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

x **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended December 31, 2006

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 No. 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)	(IRS Employer Identification No.)

303 George Street, Suite 420
New Brunswick, New Jersey 08901
(Address of principal executive offices)

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

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 past 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 whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer (as defined in Rule 12b-2 of the Exchange Act).

Large accelerated filer o Accelerated filer o Non-accelerated filer 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 January 31, 2007, 17,473,694 shares of the issuer's common stock, par value $0.01 per share, were outstanding.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION.

Item 1. Financial Statements.

Certain information and footnote disclosures required under generally accepted accounting principles have been condensed or omitted from the following consolidated financial statements pursuant to the rules and regulations of the Securities and Exchange Commission. However, Senesco Technologies, Inc., a Delaware corporation, and its wholly owned subsidiary, Senesco, Inc., a New Jersey corporation (collectively, "Senesco" or the "Company"), believe that the disclosures are adequate to assure that the information presented is not misleading in any material respect.

The results of operations for the interim periods presented herein are not necessarily indicative of the results to be expected for the entire fiscal year.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED BALANCE SHEETS

	December 31, 2006 (unaudited)	June 30, 2006
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 379,588	$ 318,473
Short-term investments	1,600,000	850,000
Accounts receivable	75,000	—
Prepaid expenses and other current assets	64,819	139,584
Total Current Assets	2,119,407	1,308,057
Property and equipment, net	9,352	10,318
Intangibles, net	2,478,586	2,209,796
Security deposit	7,187	7,187
TOTAL ASSETS	$ 4,614,532	$ 3,535,358
LIABILITIES AND STOCKHOLDERS' EQUITY		

CURRENT LIABILITIES:		
Accounts payable	$ 130,577	$ 77,695
Accrued expenses	241,281	329,884
Deferred revenue	29,167	41,667
Total Current Liabilities	401,025	449,246
Grant payable	99,728	99,728
Other liability	31,807	34,418
TOTAL LIABILITIES	532,560	583,392
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value; authorized 5,000,000 shares, no shares issued	—	—
Common stock, $0.01 par value; authorized 60,000,000 shares, issued and outstanding 17,473,694 and 15,477,388	174,737	154,774
Capital in excess of par	28,013,180	25,167,035
Deficit accumulated during the development stage	(24,105,945)	(22,369,843)
TOTAL STOCKHOLDERS' EQUITY	4,081,972	2,951,966
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 4,614,532	$ 3,535,358

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	For the Three Months Ended December 31, 2006	For the Three Months Ended December 31, 2005	For the Six Months Ended December 31, 2006	For the Six Months Ended December 31, 2005	From Inception on July 1, 1998 through December 31, 2006
Revenue	$ 181,250	$ 12,500	$ 262,500	$ 25,000	$ 680,833
Operating Expenses:					
General and administrative	1,103,594	548,742	1,486,879	1,071,191	18,508,393
Research and development	239,395	405,439	548,743	824,980	7,533,591
Total Operating Expenses	1,342,989	954,181	2,035,622	1,896,171	26,041,984
Loss From Operations	(1,161,739)	(941,681)	(1,773,122)	(1,871,171)	(25,361,151)
Sale of state income tax loss, net	—	—	—	—	586,442
Other noncash income	—	—	—	—	321,259
Interest income, net	26,102	27,672	37,020	60,040	347,505
Net Loss	$ (1,135,637)	$ (914,009)	$ (1,736,102)	$ (1,811,131)	$ (24,105,945)
Basic and Diluted Net Loss Per Common Share	$ (0.07)	$ (0.06)	$ (0.11)	$ (0.12)	
Basic and Diluted Weighted Average Number of Common Shares Outstanding	17,257,791	15,467,388	16,369,220	15,467,388	

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2006
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	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 at $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)	—	—
Issuance of common stock for cash on January 26, 2000 at $2.867647 per share	17,436	174	49,826	—	50,000
Issuance of common stock for cash on January 31, 2000 at $2.87875 per share	34,737	347	99,653	—	100,000
Issuance of common stock for cash on February 4, 2000 at $2.934582 per share	85,191	852	249,148	—	250,000
Issuance of common stock for cash on March 15, 2000 at $2.527875 per share	51,428	514	129,486	—	130,000
Issuance of common stock for cash on June 22, 2000 at $1.50 per share	1,471,700	14,718	2,192,833	—	2,207,551

(continued)

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2006
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2000	—	—	$ (260,595)	—	$ (260,595)
Stock based compensation for the year ended June 30, 2000	—	—	1,475,927	—	1,475,927
Stock based compensation for the year ended June 30, 2001	—	—	308,619	—	308,619
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)
Stock based compensation for the year ended June 30, 2002	—	—	1,848,726	—	1,848,726
Stock based compensation for the year ended June 30, 2003	—	—	848,842	—	848,842

(continued)

See Notes to Condensed Consolidated Financial Statements.

CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2006
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
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 for the year ended June 30, 2004	—	—	(378,624)	—	(378,624)
Stock based compensation for the year ended June 30, 2004	—	—	1,826,469	—	1,826,469
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
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)

(continued)

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FROM INCEPTION ON JULY 1, 1998 THROUGH DECEMBER 31, 2006
(unaudited)

	Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Options and warrants exercised during the year ended June 30, 2005 at exercise prices ranging from $1.50 to $3.25	84,487	$ 844	$ 60,281	—	$ 61,125
Stock based compensation the year ended June 30, 2005	—	—	974,235	—	974,235
Fair market value of options and warrants granted and 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
Issuance of common stock and warrants for cash on October 11, 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 11,2006	—	—	(230,483)	—	(230,483)
Stock based compensation for the six months ended December 31, 2006	—	—	847,000	—	847,000
Warrants exercised during the six months ended December 31, 2006 at an exercise price of $0.01	10,000	100	—	—	100
Net loss	—	—	—	$ (24,105,945)	(24,105,945)

Balance at December 31, 2006	17,473,694	$ 174,737	$ 28,013,180	$ (24,105,945)	$ 4,081,972

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	For the Six Months Ended December 31,		From Inception on July 1, 1998 through December 31,
	2006	2005	2006
Cash flows from operating activities:			
Net loss	$ (1,736,102)	$ (1,811,131)	$ (24,105,945)
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	—	—	9,316
Stock based compensation	847,000	484,000	8,675,614
Depreciation and amortization	15,595	19,722	213,264
(Increase) decrease in operating assets:			
Accounts receivable	(75,000)	—	(75,000)
Prepaid expense and other current assets	74,765	81,352	(64,819)
Security deposit	—	—	(7,187)
Increase (decrease) in operating liabilities:			
Accounts payable	52,882	(117,235)	130,577
Accrued expenses	(88,603)	216,522	241,281
Deferred revenue	(12,500)	(25,000)	29,167
Other liability	(2,611)	16,041	31,807
Net cash used in operating activities	(924,574)	(1,135,729)	(15,026,755)
Cash flows from investing activities:			
Patent costs	(281,937)	(325,620)	(2,531,792)
Redemption (purchase) of investments, net	(750,000)	1,249,302	(1,600,000)
Purchase of property and equipment	(1,482)	—	(169,410)
Net cash provided by (used in) investing activities	(1,033,419)	923,682	(4,301,202)
Cash flows from financing activities:			
Proceeds from grant	—	—	99,728
Proceeds from issuance of bridge notes	—	—	525,000
Proceeds from issuance and exercises of common stock and warrants	2,019,108	—	19,082,817
Net cash provided by financing activities	2,019,108	—	19,707,545
Net increase (decrease) in cash and cash equivalents	61,115	(212,047)	379,588
Cash and cash equivalents at beginning of period	318,473	291,858	—
Cash and cash equivalents at end of period	$ 379,588	$ 79,811	$ 379,588
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 stock	$ —	$ —	$ 534,316

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

Note 1 - Basis of Presentation:

The financial statements included herein have been prepared by the Company, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. These unaudited condensed consolidated financial statements

should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2006.

In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting solely of those which are of a normal recurring nature, necessary to present fairly its financial position as of December 31, 2006, the results of its operations for the three-month and six-month periods ended December 31, 2006 and 2005, cash flows for six-month periods ended December 31, 2006 and 2005, and the results of its operations and cash flows for the period from inception on July 1, 1998 through December 31, 2006.

Interim results are not necessarily indicative of results for the full fiscal year.

Note 2 - Loss Per Share:

Net loss per common share is computed by dividing the net loss by the weighted average number of common shares outstanding during the period. As of December 31, 2006, shares to be issued upon the exercise of options and warrants aggregating 9,100,877 at an average exercise price of $2.62 and as of December 31, 2005, shares to be issued upon the exercise of options and warrants aggregating 8,306,591 at an average price of $2.88 are not included in the computation of diluted loss per share as the effect is anti-dilutive.

Note 3 – Share-Based Transactions:

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:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2006	2005	2006	2005
Estimated life in years	6-10	6-10	6-10	6-10
Risk-free interest rate (1)	4.2%-4.7%	4.2%-4.5%	4.2%-4.7%	4.2%-4.5%
Volatility	70%-148%	70%-148%	70%-148%	70%-148%
Dividend paid	None	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 ultimate values of the options will depend on the future price of the Company's Common Stock, which cannot be forecast with reasonable accuracy.

A summary of changes in the stock option plan for the six month period ended December 31, 2006 is as follows:

	Number of Options .	Weighted-Average Exercise Price .
Outstanding at July 1, 2006	2,426,500	$ 2.56
Granted	328,000	1.08
Exercised	—	—
Canceled	(90,000)	3.78
Outstanding at December 31, 2006	2,664,500	$ 2.34
Exercisable at December 31, 2006	2,414,834	$ 2.45

A summary of changes to the non-vested stock options for the six month period ended December 31, 2006 is as follows:

	Number of Options .	Weighted-Average Grant-Date Fair Value .
Non-vested stock options at July 1, 2006	245,163	$ 1.47
Granted	193,667	.85
Vested	(189,164)	1.63
Forfeited	—	—
Non-vested stock options at December 31, 2006	249,666	$ .87

As of December 31, 2006, the aggregate intrinsic value of stock options outstanding was $6,560, with a weighted-average remaining term of 6.2 years. The aggregate intrinsic value of stock options exercisable at that same date was $2,687, with a weighted-average remaining term of 5.8 years. As of December 31, 2006, the Company has 3,245,500 shares available for future stock option grants.

As of December 31, 2006, total compensation expense not yet recognized related to stock option grants amounted to approximately $305,000**,** which will be recognized over the next 24 months.

Note 4 – 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.

Note 5 – Stockholders Equity:

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 1,986,306shares of common stock, $0.01 par value (the "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 requires 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 fails to file a registration statement on or before the Filing Date, it is 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 has not been filed. If the registration statement is not declared effective on or before the Effective Date, the Company is 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 such registration statement for the shares and such registration statement was declared effective on November 27, 2006.

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.

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 of the 1,500,000 shares of

Common Stock underlying the 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 period ended December 31, 2006. The agreement may be terminated by either party upon sixty days written notice. Stanford was also granted piggyback registration rights in connection with the shares underlying the warrants.

Note 6 – Significant Events:

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 license agreement, we received an upfront payment, will receive milestone payments upon the achievement of certain development milestones, and will receivecommercialization fees based upon specified benchmarks.

On December 21, 2006, we converted our development agreement with ArborGen, LLC into a commercial license agreement for the development and commercialization of certain species of trees. Under the terms of the license agreement, we will receive certain annual payments over the next two years and, additionally, upon commercialization, a royalty on incremental net sales.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the related notes thereto included in the Quarterly Report on Form 10-Q. The discussion and analysis may contain forward-looking statements that are based upon current expectations and entail various risks and uncertainties. Our actual results and the timing of events could differ materially from those anticipated in the forward-looking statements as a result of various factors, including those set forth under "Factors That May Affect Our Business, Future Operating Results and Financial Condition" and elsewhere in this report.

Overview

Our Business

We are a development stage biotechnology company whose mission is to utilize our patented and patent-pending genes, primarily eucartyotic translation initiation Factor 5A, or Factor 5A, and deoxyhypusine synthase, or DHS, in human health applications, to:

- develop novel approaches to treat inflammatory and / or programmed cell death, referred to as apoptosis, related diseases in humans;
- develop novel approaches to treat cancer, a group of diseases in which apoptosis does not occur normally; and

Factor 5A, DHS and Lipase in agricultural applications to enhance the quality and productivity of fruits, flowers, vegetables and agronomic crops through the control of cell death, referred to 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 accelerating apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis. Accelerating apoptosis may be useful in treating certain forms of cancer.

Certain human health results to date include:

- increasing the median survival by approximately 250% in a tumor model of mice injected with melanoma cancer cells;
- inducing apoptosis in both human cancer cell lines derived from tumors and in lung tumors in mice;
- reducing the amounts of p24 and IL-8 by approximately 50 percent in a HIV-1 infected human cell line;
- increasing the survival of mouse pancreatic islet cells isolated for transplantation;
- inducing apoptosis of cancer cells in a human multiple myeloma cell line;
- demonstrating that the efficacy of our technology is comparable to that of existing approved anti-inflammatory prescription drugs in reducing certain inflammatory cytokines in mice;
- measuring VEGF reduction in mouse lung tumors as a result of treatment with our genes;

- increasing the survival rate of mice in a sepsis model. Additionally, a broad spectrum of pro-inflammatory cytokines were down-regulated;
- determining the expression of our genes in both ischemic and non-ischemic heart tissue, and correlating this expression to certain cytokines known to be involved in apoptosis; and
- reducing cytokine induced apoptosis in human optic nerve cell lines and in human epithelial cell lines of the intestine.

Inhibiting Apoptosis

Our research conducted to date reveals that the DHS and Factor 5A genes may regulate apoptosis in human cells. We believe that our Factor 5A technology may have potential application as a means for controlling a broad range of apoptotic diseases, both inflammatory / ischemic diseases and cancers. We have commenced preclinical *in-vivo* and *in-vitro* research to determine the ability of Factor 5A to regulate key execution genes, inflammatory cytokines, receptors, and transcription factors, which are implicated in numerous apoptotic diseases.

We believe that down-regulation of our proprietary Factor 5A gene may have potential application as a means for controlling a broad range of diseases that are attributable to premature apoptosis, ischemia, or inflammation. Apoptotic diseases include glaucoma, heart disease, and certain inflammatory diseases such as Crohn's disease, sepsis and rheumatoid arthritis, among others. We are engaged in preclinical research on a variety of these diseases. Using small inhibitory RNA's, or siRNA's, against the apoptosis isoform of Factor 5A to inhibit its expression, we have reduced pro-inflammatory cytokine formation and formation of receptors for liposolysaccharide, or LPS, interferon-gamma and TNF-alpha. *In-vitro* experiments have shown that siRNA's against Factor 5A protected human lamina cribrosa (optic nerve) and colon epithelial cells from TNF alpha induced apoptosis. We have also determined that inhibiting the apoptosis isoform of Factor 5A down-regulates MAPK, NFkB and JAK1 and decreases the inflammatory cytokines formed through these pathways. Additionally, we have shown in a mouse study that our siRNA is comparable to a steroid and to a prescription anti-TNF drug in its ability to reduce cytokine response to LPS. *In-vivo* mouse studies have shown that the siRNA against Factor 5A (i) protects thymocyte cells from apoptosis and decreases formation of myeloperoxidase, or MPO, TNF, 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, TNFa, IFNg and MIP-1a. The siRNA's against Factor 5A are currently being tested in several preclinical *in-vivo* inflammatory disease models. Other experiments utilizing siRNA to Factor 5A include inhibition of cell death, or apoptosis, during the processing of mouse pancreatic beta islet cells for transplantation, and the inhibition of viral replication in a human cell line infected with HIV-1.

Proteins required for cell death include p53, interleukins and other cytokines, caspases, and TNF-a. Expression of these cell death proteins is required for the execution of apoptosis. We have found 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, down-regulation of Factor 5A up-regulates Bcl-2, a major suppressor of apoptosis.

Accelerating Apoptosis

In pre-clinical studies, we have also established that 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 cells that have been targeted by the immune system to undergo apoptosis are unable to do so because of an inability to activate the 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. Through in-vitro studies, we have found that up-regulating Factor 5A results in: the up-regulation of p53, an important tumor suppressor gene that promotes apoptosis in cells with damaged DNA; inflammatory cytokine production; increased cell death receptor formation; and caspase activity. These features, coupled with a simultaneous down-regulation Bcl-2, a suppressor of apoptosis, and telomerase, result in apoptosis of cancer cells. In addition, in-vitro studies have shown that 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.

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 performed by third party researchers at our direction.

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

- Pancreatic Islets isolated for transplantation. Future studies will be focused on methods of improving the transfection efficiency on pancreatic islet cells treated with the siRNA to Factor 5A prior to harvesting for processing. Improving transfection efficiency may further increase the number of islet cells surviving the processing procedure and may allow for a greater yield of islet cells per donor.

- HIV-1. We will continue in-vitro studies utilizing different siRNA delivery systems in order to increase the transfection efficiency of the siRNA to Factor 5A to determine further decreases in HIV replication and may seek animal models to test.

- Lung Cancer. Lung cancer experiments will continue to focus on the reduction of tumor load and longevity of the treated mice. Delivery systems that might target the tumor cell and deliver Factor 5A directly to the cancer cells may by explored. Other lung cancers may also be explored to determine Factor 5A's efficacy in different forms of lung cancer.

- Multiple Myeloma. The next set of multiple myeloma experiments will involve a mouse model system and may include optimizing the delivery of Factor 5A.

- Inflammatory Bowel Disease. Routes of administration of the siRNA to Factor 5A will be explored to optimize cell protection against pro-inflammatory cytokines.

- Lung Inflammation. Optimization of the delivery and dose of the siRNA to Factor 5A to the lungs is the direction of our planned future experiments. Mouse model systems may be used to illustrate the siRNA to Factor 5A's ability to reduce morbidity and mortality in lung inflammation, caused by the up-regulation of pro-inflammatory cytokines induced by pathogens and other stresses to the lungs.

- Other. We will 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, including toxicity studies and clinical trials, it will be necessary for us to raise a significant amount of working capital. If we are unable to raise the necessary funds, we may be required to significantly curtail the above research initiative and we will be unable to pursue other possible research initiatives.

Agricultural Applications

Our 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. 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 gene suppression techniques.

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, trees, and bedding plants.

Together with our commercial partners, we are currently working with lettuce, turfgrass, tomato, canola, *Arabidopsis* (a model plant that is similar to canola), banana, alfalfa, and certain species of trees and bedding plants, and we have obtained proof of concept for enhanced shelf life, seed yield, biomass, and resistance to disease in several of these plants. We have ongoing field trials of certain trees, lettuce and bananas with our respective partners. The first round of lettuce field trials showed that our technology reduced browning in cut lettuce. The first and second round of banana field trials have shown that our technology extends the shelf life of banana fruit by 100%. In addition to the shelf life benefits, field trials conducted during the winter of 2004-2005 generated encouraging disease tolerance data, specific to Black Sigatoka (Black Leaf Streak Disease), for banana plants. Additional field trials for banana plants are planned for Black Sigatoka. Commercialization by our partners may require a combination of traits in a crop, such as both 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 propagation and phenotype testing of such plants.

Our ongoing research and development initiatives for agriculture include:

- further developing and implementing the DHS and Factor 5A gene technology in lettuce, banana, oil seed crops, turfgrass, bedding plants, tomato, alfalfa, corn, soybean and trees; and

- testing the resultant crops for new beneficial traits such as increased yield, increased tolerance to environmental stress, disease resistance and more efficient use of fertilizer.

Commercialization Strategy

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 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 and royalties from our partners, usage fees in the case of the agreement with the Broin Company, or sharing gross profits in the case of the joint venture with Rahan Meristem. In addition, we anticipate payments from our partners 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.

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 license 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.

On December 21, 2006, we converted our development agreement with ArborGen, LLC into a commercial license agreement for the development and commercialization of certain species of trees. Under the terms of the license agreement, we will receive certain annual payments over the next two years and, additionally, upon commercialization, a royalty on incremental net sales.

Through December 31, 2006, we have entered into six license agreements and one joint venture with established agricultural biotechnology companies or, in the case of Broin, an established ethanol company.

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.

Generally, projects with our license and joint venture partners begin by our partners transforming seed or germplasm to incorporate our technology. Those seeds or germplasm are then grown in our partners' greenhouse. 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 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 The Broin Company 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 Broin's production process and if successful, implementing such inputs in Broin'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		Field Trials
Lettuce	Harris Moran	
– Browning		Field Trials
– Disease		Field Trials
Trees	ArborGen	
– Growth		Field Trials
Alfalfa	Cal / West	Greenhouse
Turfgrass	The Scotts Company	Greenhouse
Bedding Plants	The Scotts Company	Greenhouse
Canola	Bayer CropScience	Just Initiated
Ethanol	The Broin Company	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.

We plan to employ the same partnering strategy in both the human health and agricultural target markets. 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. 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. Additionally, we may select some human health indications to bring into clinical trials on our own. Successful future operations will depend on our ability to transform our research and development activities into commercially feasible technology.

Patent and Patent Applications

To date, we have been granted twelve patents by the United States Patent and Trademark Office, or PTO, and nine patents from foreign countries, twenty of which are for use of our technology in agricultural applications and one of which relates to human health applications.

In addition to our twenty-one 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.

Liquidity and Capital Resources

Overview

As of December 31, 2006, our cash balance and investments totaled $1,979,588**,** and we had working capital of $1,718,382. As of December 31, 2006, we had a federal tax loss carryforward of approximately $15,217,000 and a state tax loss carry-forward of approximately $7,747,000 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 December 31, 2006:

	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)	$ 356,000	$ 356,000	$ —	$ —	$ —
Facility, Rent and Operating Leases (2)	$ 347,472	$ 77,140	$ 157,016	$ 113,316	$ —
Employment, Consulting and Scientific Advisory Board Agreements (3)	$ 477,646	$ 472,580	$ 5,067	$ —	$ —
Total Contractual Cash Obligations	$ 1,181,118	$ 905,720	$ 162,083	$ 113,316	$ —

(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, 2006, we extended our research and development agreement with the University of Waterloo for an additional one-year period through August 31, 2007, in the amount of CDN $631,050 or approximately U.S. $566,000. Research and development expenses under this agreement for the three months ended December 31, 2006 aggregated U.S. $129,439 and research and development expenses for the three months ended December 31, 2005 aggregated U.S. $162,000. Research and development expenses under this agreement for the six months ended December 31, 2006 aggregated U.S. $295,939 and research and development expenses under this agreement for the six months ended December 31, 2005 aggregated U.S. $324,896 and U.S. $3,623,774 for the cumulative period through December 31, 2006.

Capital Resources

Since inception, we have generated revenues of $680,833 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 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.

On October 11, 2006, we completed a private placement to certain members of our board of directors, institutional and accredited investors 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 net cash consideration of $2,019,008. 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 warrant was offered with an exercise price equal to $1.18 per share, with such warrant becoming exercisable six months from the date of closing. The costs associated with the private placement totaled $230,483**.**

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 license

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.

On December 21, 2006, we converted our development agreement with ArborGen, LLC into a commercial license agreement for the development and commercialization of certain species of trees. Under the terms of the license agreement, we will receive certain annual payments over the next two years and, additionally, upon commercialization, a royalty on incremental net sales.

We anticipate that, based upon our current cash and investments, we will be able to fund our operations for the next seven months. Over the next twelve months, we plan to fund our research and development and commercialization activities by (i) utilizing our current cash balance and investments, (ii) achieving some of the milestones set forth in our current licensing agreements, (iii) through the execution of additional licensing agreements for our technology, and (iv) through a sale of our securities. We cannot assure that we will be able to raise money through any of the foregoing transactions, or on favorable terms, if at all.

Changes to Critical Accounting Policies and Estimates

Our critical accounting policies and estimates are set forth in our Annual Report on Form 10-K for the fiscal year ended June 30, 2006. There have been no changes to such critical accounting policies and estimates.

Results of Operations

Three Months Ended December 31, 2006 andThree Months Ended December 31, 2005

The net loss for the three-month periods ended December 31, 2006 was $1,135,637 and the net loss for the three-month period ended December 31, 2005 was $914,009, an increase of $221,628**,** or 24.2%. This increase was primarily the result of an increase in general and administrative expenses, which was partially offset by a decrease in research and development expenses and an increase in revenue.

Revenue

Total revenues consisted of initial payments and the amortized portion of previous milestone payments on our agricultural development and license agreements. During the three-month period ended December 31, 2006, revenue of $181,250 consisted of initial payments and the amortized portion of previous milestone payments received in connection with certain development and license agreements. During the three-month period ended December 31, 2005, revenue of $12,500 consisted of the amortized portion of previous milestone payments received in connection with a certain development and license agreement..

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 if 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

	Three Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
General and administrative	$ 1,104	$ 549	$ 555	101.1%
Research and development	239	405	(166)	(41.0)%
Total operating expenses	$ 1,343	$ 954	$ 389	40.8%

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

General and Administrative Expenses

	Three Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 744	$ 146	$ 598	409.6%
Payroll and benefits	150	146	4	2.7%
Investor relations	110	130	(20)	(15.4)%
Professional fees	40	59	(19)	(32.2)%
Other general and administrative	60	68	(8)	(11.8)%
Total general and administrative	$ 1,104	$ 549	$ 555	101.1%

- Stock-based compensation consists primarily of the Black-Scholes value of warrants extended and repriced in connection with a financial advisory agreement entered into on October 11, 2006 and the amortized portion of Black-Scholes value of options and warrants granted to directors, employees and consultants. During the three-month periods ended December 31, 2006 and 2005 there were 240,000 and 235,000 options granted to such directors, employees and consultants and 2,500 and 5,000 warrants granted to a consultant.

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

- Investor relations decreased primarily as a result of a decrease in the amount of consulting fees in connection with a consultant.

- Professional fees decreased primarily as a result of a decrease in legal fees which was partially offset by an increase in accounting fees.

We expect general and administrative expenses to modestly increase over the next twelve months primarily due to an increase in legal and accounting fees related to the increased regulatory environment.

Research and Development Expenses

	Three Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 16	$ 98	$ (82)	(83.7)%
Other research and development	223	307	(84)	(27.4)%
Total research and development	$ 239	$ 405	$ (166)	(41.0)%

- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options and warrants granted to research and development consultants and employees. During the three-month periods ended December 31, 2006 and 2005 there were 88,000 and 83,000 options granted to such consultants and

employees. The decrease is due to a decrease in the Black-Scholes value related to the options granted on December 14, 2006 and December 14, 2005, which, due to market conditions, were at a lower market price than the options granted on December 16, 2004.

- Other research and development costs decreased primarily as a result of a decrease in the costs related to our human health and agricultural research programs.

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

	Three Months Ended December 31,			
	2006	%	2005	%
	(in thousands, except % values)			
Agricultural	$ 158	66%	$ 217	54%
Human health	81	34%	188	46%
Total research and development	$ 239	100%	$ 405	100%

Our agricultural research expenses decreased during the three-month period ended December 31, 2006 primarily as a result of a decrease in the budget with respect to our research agreement at the University of Waterloo and a decrease in stock-based compensation.

Our human health expenses decreased during the three-month period ended December 31, 2006 as we have (i) concluded certain phases of our research projects but have not yet begun the next phase of those projects; and (ii) as a result of a decrease in stock-based compensation. We expect the percentage of human health research programs to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human health initiatives.

Interest Income

Interest income slightly decreased during the three-month period ended December 31, 2006 primarily as a result of a lower cash balance and short-term investments, which was mostly offset by higher interest rates.

Six Months Ended December 31, 2006 andSix Months Ended December 31, 2005

The net loss for the six-month period ended December 31, 2006 was $1,736,102. The net loss for the six-month period ended December 31, 2005 was $1,811,131. This is a decrease of $75,029**,** or 4.1%. This decrease was primarily the result of an increase in revenue and a decrease in research and development expenses, which was partially offset by an increase in general and administrative expenses.

Revenue

Total revenues consisted of initial payments and the amortized portion of previous milestone payments on our agricultural development and license agreements. During the six-month period ended December 31, 2006, revenue of $262,500 consisted of initial and milestone payments and the amortized portion of previous milestone payments received in connection with

certain development and license agreements. During the six-month period ended December 31, 2005, revenue of $25,000 consisted of the amortized portion of previous milestone payments received in connection with a certain development and license agreement.

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 if 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

	Six Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
General and administrative	$1,487	$1,071	$ 416	38.8%
Research and development	549	825	(276)	(33.5)%
Total operating expenses	$2,036	$1,896	$ 140	7.4%

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

General and Administrative Expenses

	Six Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 813	$ 326	$ 487	149.4%
Payroll and benefits	304	295	9	3.1%
Investor relations	161	198	(37)	(18.7)%
Professional fees	90	120	(30)	(25.0)%
Other general and administrative	119	132	(13)	(9.8)%
Total general and administrative	$1,487	$1,071	$ 416	38.8%

- Stock-based compensation consists primarily of the Black-Scholes value of warrants extended and repriced in connection with a financial advisory agreement entered into on October 11, 2006 and the amortized portion of Black-Scholes value of options and warrants granted to directors, employees and consultants. During the six-month periods ended December 31, 2006 and 2005 there were 240,000 and 235,000 options granted to such directors, employees and consultants and 2,500 and 5,000 warrants granted to a consultant.

- Payroll and benefits increased primarily as a result of salary and health insurance rate increases.
- Investor relations decreased primarily as a result of a decrease in the amount of consulting fees in connection with a consultant.
- Professional fees decreased primarily as a result of a decrease in legal fees which was partially offset by an increase in accounting fees.

We expect general and administrative expenses to modestly increase over the next twelve months primarily due to an increase in legal and accounting fees related to the increased regulatory environment.

Research and Development Expenses

	Six Months Ended December 31,			
	2006	2005	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 34	$ 158	$ (124)	(78.5)%
Other research and development	515	667	(152)	(22.8)%
Total research and development	$ 549	$ 825	$ (276)	(33.5)%

- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options and warrants granted to research and development consultants and employees. During the six-month period ended December 31, 2006, there were 88,000 options granted to such consultants and employees and during the six-month period ended December 31, 2005, there were 83,000 options granted to such consultants and employees. The decrease is due to a decrease in the Black-Scholes value related to the options granted on December 14, 2006 and December 14, 2005, which, due to market conditions, were at a lower market price than the options granted on December 16, 2004.
- Other research and development costs decreased primarily as a result of a decrease in the costs related to our human health and agricultural research programs.

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

	Six Months Ended December 31,			
	2006	%	2005	%
	(in thousands, except % values)			
Agricultural	$ 341	62%	$ 418	51%
Human health	208	38%	407	49%
Total research and development	$ 549	100%	$ 825	100%

Our agricultural research expenses decreased during the six-month period ended December 31, 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.

Our human health expenses decreased during the six-month period ended December 31, 2006 as we have concluded certain phases of our research projects but have not yet begun the next phase of those projects as well as a decrease in stock-based compensation. We expect the percentage of human health research programs to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human health initiatives.

Interest Income

Interest income slightly decreased during the six-month period ended December 31, 2006 primarily as a result of a lower cash balance and short-term invesments.

Period From Inception on July 1, 1998 through September 30, 2006

From inception of operations on July 1, 1998 through December 31, 2006, we had revenues of $680,833, 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 approximately the next one to three years, during which time we will continue to engage in significant research and development efforts.

We have incurred losses each year since inception and have an accumulated deficit of $24,105,945 at December 31, 2006. We expect to continue to incur losses as a result of expenditures on research and development and administrative activities.

Item 3. 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 4. 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 December 31, 2006. Based on this evaluation, our chief executive officer and chief financial officer concluded that as of December 31, 2006, our disclosure controls and procedures were (1) designed to ensure that material information relating to us, including our consolidated subsidiaries, is made known to our chief executive officer and chief financial officer by others within those entities, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

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 six-month ended December 31, 2006 that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION.

Item 1A. Risk Factors.

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.

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 have an accumulated deficit of $24,105,945 at December 31, 2006. We have generated minimal revenues by licensing our technology for

certain crops to companies willing to share in our development costs. However, our technology may not be ready for widespread 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, commercialization and administrative activities will significantly exceed our revenues during that period. We cannot predict when, if ever, we will become profitable.

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 commercial exploitation of technology to identify, isolate, characterize and 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 to successfully commercialize such technology or develop a commercially viable product 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 primary 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, such as the University of Waterloo, 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 December 31, 2006, we had cash and highly-liquid investments valued at $1,979,588 and working capital of $1,718,382. Using our available reserves as of December 31, 2006, we believe that we can operate according to our current business plan for the next seven months. 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, or attempt to sell our company; or
- cease operations.

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, as of December 31, 2006, we had 33,425,429 shares of common stock authorized but unissued, which may be issued from time to time by our board of directors without stockholder approval. 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 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.

We have been issued twelve patents by the U.S. Patent and Trademark Office, or PTO, and nine 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 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 to 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 will 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 will 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 also 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 we fail to successfully establish distribution channels, or if our marketing partners fail to provide adequate levels of sales, our commercialization efforts will be delayed or limited and we will 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 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 senescence and apoptosis. 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); Bayer CropScience; 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.; Idun Pharmaceuticals; 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 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, 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.

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 consumer products. The adverse consequences from heightened consumer concern in this regard could affect the markets for 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, including the conflict in Iraq and the current crisis in the Middle East, 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. Specifically, if the current situation in Israel continues to escalate, our joint venture with Rahan Meristem Ltd. could be adversely affected.

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 December 31, 2006, our executive officers, directors and affiliated entities together beneficially own approximately 38.8% 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 December 31, 2006, 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.

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

As of December 31, 2006, we have granted options outside of our stock option plan to purchase 10,000 shares of our common stock and outstanding warrants to purchase 6,426,377 shares of our common stock. In addition, as of December 31, 2006, 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, 2,754,500 of which have been granted, 90,000 of which have been exercised since inception, 2,664,500 of which are outstanding, and 3,245,500 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.

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 December 31, 2006, we had 17,473,694 shares of our common stock issued and outstanding, of which approximately 1,595,651 shares and 1,986,306 shares are registered pursuant to registration statements on Form S-3, which were declared effective on June 17, 2005 and November 27, 2006, respectively, 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 965,380 shares and 2,701,715 shares of our Common Stock underlying warrants previously issued on the Form S-3 registration statements that was declared effective on June 17, 2005 and November 27, 2006, respectively, 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. Currently, we believe that we meet the continued listing requirements of the American Stock Exchange. 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.

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.

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. Currently, we believe we meet the continued listing requirements of the American Stock Exchange. If we do not continue to meet the continued listing requirements, we could 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 common stock were subject to the rules on penny stocks, the market liquidity for our common stock could be severely and adversely affected. Accordingly, the ability of holders of our common stock to sell their shares in the secondary market may also be adversely affected.

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.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

On October 11, 2006, we completed a private placement to certain members of our board of directors, institutional and accredited investors 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 net cash consideration of $2,019,008. 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 warrant was offered with an exercise price equal to $1.18 per share, with such warrant becoming exercisable six months from the date of closing. The costs associated with the private placement totaled $230,483**.**

On December 14, 2006, our Board of Directors unanimously approved and we subsequently granted a warrant to purchase 2,500 shares of common stock to Forbes, Inc. at an exercise price equal to $1.08 per share, with one-third of such warrant exercisable on the date of grant and one-third of such warrant becoming exercisable on each of the first and second anniversaries from the date of grant.

We believe that the issuance of the foregoing securities was exempt from registration under Section 4(2) of the Securities Act of 1933, as amended, as transactions not involving a public offering. Each of the recipients was an accredited investor, acquired the securities for investment purposes only and not with the view to distribution and had adequate information about us.

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

(a) Our annual meeting of stockholders was held on December 14, 2006.

(b) The following is a complete list of our directors as of December 14, 2006, each of whom was elected to a one-year term at the meeting, and whose term of office continued after the meeting.

Ruedi Stalder
Bruce C. Galton
John E. Thompson, Ph.D.
Christopher Forbes
Thomas C. Quick
David Rector
John Braca

(c) There were 13,630,744 shares of common stock present at the meeting in person or by proxy, out of a total number of 17,473,694 shares of common stock issued and outstanding and entitled to vote at the meeting.

The proposals and results of the vote of the stockholders taken at the meeting by ballot and by proxy as solicited by us on behalf of our Board of Directors were as follows:

(A) For the election of the nominees for our Board of Directors:

Nominee	For	Withheld
Ruedi Stalder	11,856,631	1,774,113
Bruce C. Galton	11,913,531	1,717,213
John E. Thompson, Ph.D.	12,168,031	1,462,713
Christopher Forbes	11,960,031	1,670,713
Thomas C. Quick	11,878,131	1,752,613
David Rector	11,947,531	1,683,213
John Braca	11,947,531	1,683,213

(B) For the amendment to our Certificate of Incorporation, as amended, to increase the maximum number of authorized shares of our capital stock, all classes, from thirty five million shares, consisting of (i) thirty million shares of Common Stock, and (ii) five million shares of Preferred Stock, to sixty five million shares, consisting of (i) sixty million shares of Common Stock, and (ii) five million shares of Preferred Stock:

For	Against	Abstain
11,810,661	1,719,868	100,215

(C) For the amendment to our 1998 Stock Incentive Plan, as amended, to increase the maximum number of shares of Common Stock available for issuance under our 1998 Stock Plan from three million shares to six million shares, and thereby reserve an additional three million shares of Common Stock for issuance under our 1998 Stock Plan:

For	Against	Abstain	Broker Non-Votes
6,906,253	1,789,386	88,272	4,846,833

(B) For the proposal to ratify the appointment of Goldstein Golub and Kessler, LLP as our independent auditors for the fiscal year ending June 30, 2007:

For	Against	Abstain
13,362,344	185,007	83,393

Item 5. Other Information.

Effective January 1, 2007, a consulting agreement with Dr. John Thompson, a director, executive vice-president and chief scientific officer of our company, was amended to increase his monthly consulting fee from $5,200 to $5,416.

Item 6. Exhibits.

Exhibits.

3.1	Amended and Restated Certificate of Incorporation. (filed herewith)
10.1 +	Commercial License Agreement by and between the Company and ArborGen, LLC dated as of December 21, 2006. (filed herewith)
10.2 +	License Agreement by and between the Company and Bayer CropScience GmbH dated as of November 8, 2006. (filed herewith)
10.3	Amended and Restated 1998 Stock Incentive Plan, filed as exhibit 99.1 to the Company's Registration Statement on Form S-8 (File No. 333-140238)
31.1	Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
31.2	Certification of principal financial and accounting officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed herewith)
32.1	Certification of principal executive officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350. (furnished herewith)
32.2	Certification of principal financial and accounting officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350. (furnished herewith)

+ Confidential Treatment has been requested for portions of this exhibit.

SIGNATURES

In accordance with the requirements of the Securities Exchange Act of 1934, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SENESCO TECHNOLOGIES, INC.

DATE: February 14, 2007

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

DATE: February 14, 2007

By: /s/ Joel Brooks
Joel Brooks, Chief Financial Officer
and Treasurer
(Principal Financial and Accounting Officer)

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

SENESCO TECHNOLOGIES, INC.

Senesco Technologies, Inc., a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as the "Corporation"), hereby certifies as follows:

1. The name of the Corporation is Senesco Technologies, Inc. The Corporation filed its original Certificate of Incorporation with the Secretary of State of the State of Delaware on September 30, 1999.

2. This Amended and Restated Certificate of Incorporation amends the Corporation's Certificate of Incorporation to increase the number of shares of common stock, $0.01 par value, authorized for issuance from thirty million (30,000,000) shares to sixty million (60,000,000) shares.

3. This Amended and Restated Certificate of Incorporation was duly adopted in accordance with the provisions of Sections 242 and 245 of the Delaware General Corporation Law (the "DGCL"). The requisite approval was obtained at the Corporation's 2006 Annual Meeting of Stockholders, called and held upon notice in accordance with Section 222 of the DGCL. This Amended and Restated Certificate of Incorporation restates, integrates and amends the provisions of the Corporation's Certificate of Incorporation as follows:

FIRST: The name of the Corporation is Senesco Technologies, Inc.

SECOND: The Corporation's registered officein the State of Delaware is locatedatCorporation Service Company, 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, Delaware 19808. The name of its registered agent at such address is Corporation Service Company.

THIRD: The purpose for which the Corporation is organized is to engage in any lawful act or activity for which corporations may be organized under the DGCL and to possess and exercise all of the powers and privileges granted by such law and any other law of Delaware.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is Sixty Five Million (65,000,000) shares. The Corporation is authorized to issue two classes of stock designated "Common Stock" and "Preferred Stock," respectively. The total number of shares of Common Stock authorized to be issued by the Corporation is Sixty Million (60,000,000), each such share of Common Stock having a $0.01 par value. The total number of shares of Preferred Stock authorized to be issued by the Corporation is Five Million (5,000,000), each such share of Preferred Stock having a $0.01 par value.

The Board of Directors is expressly authorized to provide for the issuance of all or any shares of the Preferred Stock in one or more classes or series,and to fix for each such class or series

---

such voting powers, full or limited, or no voting powers, and such distinctive designations, preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions thereof, as shall be stated and expressed in the resolution or resolutions adopted by the Board of Directors providing for the issuance of such class or series and as may be permitted by the DGCL, including, without limitation, the authority to provide that any such class or series may be: (i) subject to redemption at such time or times and at such price or prices; (ii) entitled to receive dividends (which may be cumulative or non-cumulative) at such rates, on such conditions, and at such times, and payable in preference to, or in such relation to, the dividends payable on any other class or classes or any other series; (iii) entitled to such rights upon the dissolution of, or upon any distribution of the assets of, the Corporation; or (iv) convertible into, or exchangeable for, shares of any other class or classes of stock, or of any other series of the same or any other class or classes of stock, of the Corporation at such price or prices or at such rates of exchange and with such adjustments; all as may be stated in such resolution or resolutions.

FIFTH: The Corporation is to have perpetual existence.

SIXTH: In furtherance and not limitation of the powers conferred by law, subject to any limitations contained elsewhere in this Amended and Restated Certificate of Incorporation, the Bylaws of the Corporation may be adopted, amended or repealed by a majority of the board of directors of the Corporation, and any Bylaws adopted by the board of directors of the Corporation may be amended or repealed by the stockholders entitled to vote thereon. Election of directors need not be by written ballot.

SEVENTH: A director of the Corporation shall not be personally liable either to the Corporation or to any stockholder for monetary damages for breach of fiduciary duty as a director, except for: (i) any breach of the director's duty of loyalty to the Corporation or its stockholders; or (ii) acts or omissions which are not in good faith or which involve intentional misconduct or knowing violation of the law; or (iii) any matter in respect of which such director shall be liable under Section 174 of the DGCL or any amendment thereto or successor provision thereto; or (iv) any transaction from which the director shall have derived an improper personal benefit. Neither amendment nor repeal of this paragraph nor the adoption of any provision of this Amended and Restated Certificate of Incorporation inconsistent with this paragraph shall eliminate or reduce the effect of this paragraph in respect of any matter occurring, or any cause of action, suit or claim that, but for this paragraph of this Article SEVENTH, would accrue or arise, prior to such amendment, repeal or adoption of an inconsistent provision.

EIGHTH: The Corporation shall indemnify its directors and officers to the fullest extent authorized or permitted by law, as now or hereafter in effect, and such right to indemnification shall continue as to a person who has ceased to be a director or officer of the Corporation and shall inure to the benefit of his or her heirs, executors and personal and legal representative; provided, however, that, except for proceedings to enforce rights to indemnification, the Corporation shall not be obligated to indemnify any director or officer or his or her heirs, executors or personal or legal representatives) in connection with a proceeding (or part thereof) initiated by such person unless such proceeding (or part thereof) was authorized or consented to by the Board of Directors. The right to indemnification conferred by this Article EIGHTH shall include the right to be paid by the Corporation the expenses incurred in defending or otherwise participating in any proceeding in advance of its final disposition.

The Corporation may, to the extent authorized from time to time by the Board of Directors, provide rights to indemnification and to the advancement of expenses to employees and agents of the Corporation similar to those conferred in this Article EIGHTH to directors and officers of the Corporation.

The rights to indemnification and to the advance of expenses conferred in this Article EIGHTH shall not be exclusive of any other right which any person may have or hereafter acquire under this Amended and Restated Certificate of Incorporation, the Bylaws of the Corporation, any statute, agreement, vote of stockholders or disinterested directors or otherwise.

Any repeal or modification of this Article EIGHTH by the stockholders of the Corporation shall not adversely affect any rights to indemnification and to the advancement of expenses of a director or officer of the Corporation existing at the time of such repeal or modification with respect to any acts or omissions occurring prior to such repeal or modification.

NINTH: Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof, or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of the DGCL or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of Section 279 of the DGCL order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

TENTH: The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Amended and Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute and this Amended and Restated Certificate of Incorporation, and all rights conferred upon stockholders herein are granted subject to this reservation.

* * * * * * *

IN WITNESS WHEREOF, the undersigned, being the President and Chief Executive Officer of the Corporation, does hereby execute this Amended and Restated Certificate of Incorporation this 22 day of January, 2007.

/s/ Bruce C. Galton
Bruce C. Galton
President and Chief Executive Officer

Confidential Treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as "***". A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

COMMERCIAL LICENSE AGREEMENT

THIS AGREEMENT ("Agreement") dated as of December 21, 2006 ("Effective Date") is entered into by and between SENESCO TECHNOLOGIES, INC, a Delaware corporation with principal offices at 303 George Street, Suite 420, New Brunswick, NJ 08901 ("STI") and ARBORGEN, LLC, a Delaware limited liability company with principle offices at 180 Westvaco Rd., Summerville, SC 29484 ("AG").

RECITALS

WHEREAS, STI owns and controls technology, know-how and United States and foreign patents and patent applications concerning methods for controlling plant senescence involving altering the expression of plant genes and their cognate expressed proteins that are induced during or coincident with the onset of senescence;

WHEREAS, AG is a forestry biotech company in the business of research, development, and commercialization of genetically improved trees;

WHEREAS, STI desires to grant to AG, and AG desires to obtain from STI, a commercial license under the STI Technology (as defined herein) on the terms and conditions set forth in this Agreement.

NOW THEREFORE, in consideration of the premises and the faithful performance of the mutual covenants hereinafter set forth, the parties hereto hereby agree as follows:

1. DEFINITIONS

As used in this Agreement, the following defined terms shall have the respective meanings set forth below:

1.1 "Affiliate" means any entity which controls, is controlled by, or is under common control with another entity. An entity is deemed to be in control of another entity (controlled entity) if such company directly or indirectly owns 50% or more in nominal value of the issued equity share capital of such other company, or 50% or more of the shares entitled to vote upon the election of: (i) the directors; (ii) persons performing functions similar to those performed by directors; or (iii) persons otherwise having the right to elect or appoint (a) directors having the majority vote of the Board of Directors, or (b) other persons having the majority vote of the highest and most authoritative directive body of such other company. Notwithstanding the foregoing, Affiliates of AG include, without limitation, International Paper Company, MeadWestvaco Corporation, and Rubicon Limited.

1.2 "Confidential Information" means any information received by either Party, including all business, technical and other information, whether disclosed in writing, orally or in any other form, tangible or intangible, including but not limited to: information concerning inventions (including patent applications and related documents), discoveries, techniques, processes, designs, biological materials, specifications, algorithms, data, finances and plans, customer lists, business plans, contracts, marketing plans, production plans, distribution plans, system implementations plans, business concepts, supplier information, business procedures, business operations; all know-how and trade secrets; and all other unpublished copyrightable material. Confidential Information does not include information which:

(i) is in the public domain prior to disclosure by the disclosing Party or later enters the public domain through no act or omission of the receiving Party in breach of this Agreement;

(ii) the receiving Party possessed or controlled prior to disclosure by the disclosing Party;

(iii) a Third Party discloses or makes available, without an obligation of confidentiality, to the receiving Party;

(iv) the receiving Party develops or discovers independently of any Confidential Information of the disclosing Party; or

(v) the receiving Party is required to disclose or make available in order to comply with a Federal, state, local, or foreign law, but only to the extent reasonably necessary to so comply and only upon, to the extent permitted, providing the disclosing Party with prior notice and an opportunity to restrict or prevent the disclosure.

1.3 "Field" means ***.

1.4 "Incremental Net Sales" means Net Sales in the Territory of a Licensed Product determined as follows:

(i) The ***.

(ii) If a ***.

1.5 "Licensed Product" means any product containing STI Technology within the Field.

1.6 "Net Sales" of a Licensed Product means the gross sales revenues and the fair market value of any other consideration actually received by AG or its Affiliates and sublicensees from Third Parties arising from the sale in the Territory of such Licensed Product to such Third Parties, less (i) normal and customary trade, quantity and cash discounts; rebates; sales, use, and other similar taxes; and transportation, shipping

insurance, handling, and packing charges; and (ii) credits and allowances on account of returns or retroactive price reductions in lieu of returns, whether or not during the applicable royalty reporting period.

1.7 "Party" means each of STI and AG.

1.8 "STI Development" means any improvement or development, whether or not patentable or protectable as a trade secret, relating to or deriving from the STI Technology, made by or on behalf of STI or acquired from a Third Party, prior to and/or during the term of this Agreement, including all patents and patent applications to be filed relating to any such improvements or developments.

1.9 "STI Patents" means (i) all U.S. and foreign patent applications owned or controlled by or licensed to STI or its Affiliates, pending as of the Effective Date or at any time thereafter during the term hereof, pertaining to controlling senescence, including original applications, provisionals, divisions, continuations, continuations in part, extensions, PCT applications, renewals, reissues, or reexamination applications or supplemental prosecution certificates, including, but not limited to, all applications listed in Appendix A; (ii) all U.S. and foreign patents that have issued or will issue from any application identified in clause 1.11(i) hereof; and (iii) all U.S. and foreign applications that claim priority in any way from any application or patent identified in clause 1.11 (i) or (ii).

1.10 "STI Technology" means STI Patents, STI Confidential Information, STI Developments, and STI know-how, materials, information and methods (whether developed by or on behalf of STI or acquired from a Third Party), including, but not limited to methods for controlling plant senescence involving altering the expression of plant genes and their cognate expressed proteins that are induced during or coincident with the onset of senescence.

1.11 "Territory" means worldwide.

1.12 "Third Party" means all persons and entities other than STI and AG and their respective Affiliates.

1.13 "Valid Claim" means an issued claim of any unexpired patent included among the STI Patents, which claim has not been held unenforceable, unpatentable or invalid by a decision of a court or governmental body of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, which has not been rendered unenforceable through disclaimer or otherwise or which has not been lost through an interference or opposition proceeding.

2. LICENSE GRANT

2.1 STI grants to AG an exclusive license in the Field and in the Territory to practice and use the STI Technology and to develop, make, have made, use, sell, offer to sell, and import

Licensed Products.

2.2 AG has the right to grant sublicenses hereunder, provided, however, that STI receives a copy of all sublicenses (subject to redaction for any confidential and proprietary information), and (b) that the rights of any sublicensee are no greater than those granted to AG under this Agreement. AG shall not receive from sublicensees anything in lieu of cash payments in consideration for any sublicense under this Agreement without the prior written consent of STI, which consent shall not be withheld, delayed, or conditioned unreasonably.

2.3 The Parties acknowledge and agree (a) that the property licensed hereunder to AG constitutes "intellectual property" as defined in Section 101(56) of the U.S. Bankruptcy Code, and (b) that this Agreement is governed by Section 365(n) of the U.S. Bankruptcy Code in the event that STI commences as a case under same.

2.4 Effective with the Effective Date of this Agreement, AG covenants to STI that AG will not sell any product in the Field developed or produced using a process that controls cell death excluding cell death directed to cell differentiation by modifying membrane integrity, provided, however, (I) that the foregoing covenant shall not apply in any country to the extent that no Valid Claim covers any Licensed Product that materially competes with such product in the Field, and (II) that AG may continue to conduct research and development on, and may commercialize, any product under development by or on behalf of AG as of such effective date..

3. TERM

The term of this Agreement shall commence as of the Effective Date, and shall expire upon the expiration of the last to expire of the STI Patents, unless earlier terminated pursuant to Section 9 hereof or unless extended by mutual written agreement of the Parties. Upon the expiration of the term hereof, the license granted to AG by Section 2.1 hereof shall be irrevocable and fully paid up.

4. PATENTS, PATENT APPLICATIONS AND PATENT ENFORCEMENT

4.1 AG acknowledges that all the STI Technology is and shall remain the property of STI, and except as provided herein, all right, title and interest in the STI Technology is and shall remain with STI.

4.2 STI shall retain the sole right to prosecute and maintain any and all patents and patent applications relating to STI Technology in its sole and absolute discretion. If STI decides not to file or to continue to prosecute any patent application or to continue to maintain any patent on any STI Technology in any of the United States, Canada, Australia, New Zealand, Argentina, Brazil, Chile, China, Japan, and European Union, then STI must notify AG of the decision at least sixty (60) days prior to any applicable patent application or patent deadline, and AG thereafter shall have the right to file or to continue to prosecute and maintain, at AG's expense, and in AG's name, any such patent

application or patent and to practice, worldwide, without any compensation to STI, any such patent application or patent.

4.3 If either Party learns at any time of any infringement or misappropriation or threatened infringement or misappropriation in the Field of the STI Technology, that Party will give written notice of that infringement or misappropriation to the other Party. Within sixty (60) days from the other Party's receipt of that notice, either Party will be at liberty to decline, by written notice to the other Party, to institute or join in instituting any proceedings in respect of that infringement or misappropriation. If either Party so declines, the other Party can institute such proceedings in its name or in the name of the Party so declining and will be entitled to retain the whole of any damages recovered as a result of the proceedings, but only upon previously and properly indemnifying the Party so declining against all costs, damages, and expenses in respect of the proceedings. If neither Party so declines within such sixty (60) days, then the Parties, if either Party so requires, forthwith will join in instituting and will prosecute in good faith and diligently the proceedings, and all costs and expenses thereby incurred and all damages thereby recovered will be shared equally by the Parties. For any infringement or misappropriation or threatened infringement or misappropriation outside the Field, STI shall have the sole and absolute discretion to institute and pursue any proceeding in respect of such infringement or misappropriation outside the Field, shall have complete control of any such proceeding, and shall retain 100% of any monies received in such proceeding, including all damage awards and settlement payments. Should STI and AG agree to jointly institute proceedings, they will determine at that time the sharing of expense and sharing of any award or judgment.

4.4 STI will defend, at STI's cost, any action or proceeding instituted for the revocation of any STI Patent otherwise than by way of counterclaim in an action for infringement of the STI Patent.

5. CONSIDERATION

5.1 AG shall make the following payments to STI:

(a) $*** by ***;

(b) $*** by ***; and

(c) $*** by ***.

5.2 (a) AG shall pay, and shall cause *** to pay, to STI *** equal to *** of *** of ***. In the event that AG *** a *** to *** and *** does not *** the product to ***, AG will pay *** on ***.

(b) For each ***, AG shall pay to STI *** on the *** in *** so long as a *** such *** such ***. For each ***, AG shall pay to STI, for *** from the date of this Agreement, the *** on the *** in each *** in which *** such ***.

(c) No multiple running royalties shall be payable hereunder because any Licensed Product, the making, having made, using, offering for sale, importation, or sale of which is covered by more than one (1) Valid Claim. Only one multiple running royalty shall be payable hereunder on the sale of an individual unit of Licensed Product.

5.3 Commencing with *** of AG *** during which AG ***, and continuing thereafter for the next ***, AG shall pay to STI pursuant to Section 5.2 hereof a ***.

5.4 AG shall be entitled to credit any amount paid to STI pursuant to Section 5.1 hereof against any royalties or other amounts otherwise due and payable to STI pursuant to Section 5.3 hereof. AG shall be entitled to credit any amount paid or deemed to be paid to STI pursuant to Section 5.3 hereof against any royalties otherwise due and payable to STI pursuant to Section 5.2 hereof.

5.5 Any tax required to be withheld by AG under the laws of any country for the account of STI shall be paid by AG for and on behalf of STI to the appropriate tax authority in such country, and AG shall furnish STI with reasonable proof of payment of such tax. Any such tax required to be withheld for the account of STI shall be an expense of and shall be borne solely by STI.

5.6 AG shall pay, and shall cause its Affiliates and sublicensees to pay, to STI all amounts due and payable under Section 5 hereof in U.S. Dollars. Notwithstanding anything else to the contrary, if, at any time, legal restrictions prevent the prompt remittance of part of or all of the royalties due and payable with respect to a country where the sale of Licensed Products gives rise to the obligation of AG and its Affiliates and sublicensees to pay royalties thereon in accordance with Section 5 hereof, AG and its Affiliates and sublicensees shall have the right to pay the royalties by depositing the amount thereof in local currency to an account in STI's name in a bank or depository in such country.

6. REPORTING & RECORDKEEPING.

6.1 AG shall, and shall cause its Affiliates and sublicensees to, keep and maintain accurate records in sufficient detail to enable the royalty due and payable under Section 5 hereof to be determined. Commencing with the first fiscal quarter of AG during which the sale of a Licensed Product gives rise to the obligation of AG and its Affiliates and sublicensees to pay royalties thereon in accordance with Section 5, AG shall furnish, or shall cause its Affiliates and sublicensees to furnish, to STI a quarterly royalty report for such fiscal quarter. Each such report shall be deemed to be Confidential Information of AG, and the covenants in Section 7 hereof shall apply to such reports. Each such report shall show: (i) the calculation of Net Sales and Incremental Net Sales for the applicable fiscal quarter; and (ii) the royalties in U.S. Dollars which is due and payable for such quarter.

6.2 With respect to sales of Licensed Products invoiced in U.S. Dollars, the gross sales revenues, Net Sales, Incremental Net Sales, and royalties due and payable shall be expressed in U.S. Dollars. With respect to sales of Licensed Products invoiced in a

currency other than U.S. Dollars, the gross sales revenues, Net Sales, Incremental Net Sales, and royalties due and payable shall be expressed in the domestic currency of the party making the sale together with the equivalent in U.S. Dollars of the royalty payable, calculated using the simply average of the exchange rates published in The Wall Street Journal on the last day of each month during the reporting period. If any of ArborGen or its Affiliates or licensees makes any sales invoiced in a currency other than its domestic currency, the gross sales revenues, Net Sales, and Incremental Net Sales shall be converted to its domestic currency in accordance with the normal accounting practices of ArborGen or its Affiliates or licensees.

6.3 STI shall have the right, upon prior written notice of thirty (30) days to AG, to appoint an independent certified public accounting firm, to inspect, during normal business hours, and at STI's expense, those accounting records of AG as may be necessary solely to verify the accuracy of the quarterly reports required to be furnished by AG under Section 6.1 hereof. Such accounting firm shall be subject to the prior written consent of AG, such consent not to be withheld, delayed, or conditioned unreasonably. STI may exercise such right not more than once in each AG fiscal year and not more than once in respect of any AG fiscal year. With respect to each AG fiscal year, such right shall expire forty-eight (48) months following the end of such fiscal year, and the quarterly reports for such year then shall be binding and conclusive upon STI and AG, unless STI has exercised its right of inspection before the expiration. Before commencing the inspection, the accounting firm shall execute and deliver, for the benefit of AG, a nondisclosure agreement reasonably acceptable to AG, by which such firm agrees to keep and maintain, at all times, in strictest confidence all Confidential Information disclosed or otherwise made available to such firm as a result of the inspection. Upon completion of the inspection, such firm shall prepare and provide simultaneously to STI and AG a written report summarizing the results of the inspection. Such firm shall not provide STI with copies of any documents or other information made available to such firm as a result of the inspection. If the report shows an underpayment of royalties by AG or its Affiliates or sublicensees, AG, within thirty (30) days of AG's receipt of the report, shall remit to STI the amount of the underpayment. If the report shows that the underpayment exceeds ten (10%) of the total royalties owed for the fiscal year then being reviewed, AG, within thirty (30) days of AG's receipt of reasonable substantiation, shall reimburse STI for STI's out-of-pocket costs for the fees and expenses of such accounting firm. If the report shows an overpayment of royalties by AG, AG may credit the amount of the overpayment against royalties due and payable in subsequent fiscal quarters.

7. CONFIDENTIALITY

7.1 Each Party shall respect Confidential Information disclosed or made available to it by the other Party and shall treat such Confidential Information in the same manner as if the receiving Party would treat its own Confidential Information. The receiving Party shall not disclose such Confidential Information to any Third Party or to the public except as provided herein.

7.2 Each disclosing Party shall designate its Confidential Information, when disclosed in writing, by stating that such information is confidential. When disclosed orally or visually, each disclosing Party shall state orally that such information is considered confidential at the time of the disclosure, and shall provide the receiving Party a written notice summarizing such Confidential Information within thirty (30) days of the oral or visual disclosure.

7.3 Each Party shall treat and hold as confidential and shall not disclose to or provide access to a Third Party or to the public any Confidential Information disclosed or made available to it by the other Party and will cause its respective agents, representatives, and employees to do likewise.

7.4 Each Party shall use Confidential Information disclosed or made available to it by the other Party only for the uses permitted by this Agreement and for any other purpose mutually agreeable to the Parties or as required by law.

7.5 Each Party may disclose Confidential Information disclosed or made available to it by the other Party, only to the extent the receiving Party is required to do so pursuant to a final court order; provided, however, that the receiving Party (i) promptly notifies the disclosing Party upon its receipt of any pleading, discovery request, interrogatory, motion or other paper that requests or demands disclosure of such Confidential Information, and (ii) provides the disclosing Party a reasonable opportunity, at its expense, to contest any requirement of disclosure, to seek judicial protection against the disclosure and to have such disclosure as is required made under a protective secrecy order.

7.6 Each Party will return or destroy any materials containing Confidential Information disclosed or made available by the other Party, upon the written request of the disclosing Party. If destroyed, the receiving Party shall provide the disclosing Party with written certification of destruction of the materials containing such Confidential Information, said certification to be signed by an officer of the receiving Party.

7.7 Each Party agrees that only those of its employees, contractors and consultants who need to know the Confidential Information disclosed or made available to it by the other Party will have access to same, and then only to the extent necessary to carry out their respective tasks. Each employee, contractor, and consultant to which such Confidential Information will be disclosed must be bound by confidentiality provisions substantially similar to those in Section 8 hereof. Each receiving Party agrees to be responsible for any use by its employees, contractors, and consultants of such Confidential Information.

7.8 Each Party agrees not to disclose the terms of this Agreement other than as required by law to any regulatory or judicial body, or as necessary to potential investors or financiers (provided such potential investors or financiers are subject to confidentiality undertakings) without the express prior written consent of the other party, which consent shall not be unreasonably withheld, delayed or conditioned. The Parties, however, shall be permitted to prepare press releases disclosing the existence of the Agreement in accordance with Section 7.9 hereof.

7.9 Prior to issuing any reports, statements, press releases, publications, or other disclosures to Third Parties, including the SEC, regarding this Agreement or the transactions contemplated herein, the Parties shall exchange copies of said disclosure at least ten (10) days in advance in the case of press releases and at least sixty (60) days in advance in the case of any other disclosures, and the Parties shall consult with each other regarding the content of said disclosure. Except as otherwise required by law, neither Party shall issue any such disclosure without the prior written approval of the other Party, not unreasonably withheld.

8. REPRESENTATIONS AND WARRANTIES

8.1 STI represents that, to the best of its knowledge, STI is legally entitled to disclose the STI Confidential Information disclosed by it, and that, to the best of its knowledge, the disclosure of the STI Confidential Information under this Agreement does not violate, infringe or misappropriate any right of a Third Party. Except for the warranties provided in Section 8 hereof, no other warranties are made, whether express or implied, and STI expressly disclaims all other warranties, including without limitation, merchantability, fitness for a particular purpose, and non-infringement.

8.2 AG represents that, to the best of its knowledge, AG is legally entitled to disclose the AG Confidential Information disclosed by it, and that, to the best of its knowledge, the disclosure of the AG Confidential Information under this Agreement does not violate, infringe, or misappropriate any right of a Third Party. Except for the warranties provided in Section 8, no other warranties are made, whether express or implied, and AG expressly disclaims all other warranties, including, without limitation, merchantability, fitness for a particular purpose, and non-infringement.

8.3 STI represents (a) that STI is the sole and exclusive assignee and owner of the STI Patents and the STI Technology, (b) that STI has not previously assigned, transferred, conveyed, or otherwise encumbered any right, title, and interest in or to the rights licensed hereunder, (c) that no issued STI Patent has been held invalid or unenforceable, in whole or in part, and (d) that there are no claims, judgments, or settlements to be paid by STI or pending or threatened claims or litigation to the STI Patents and the STI Technology.

9. DEFAULT AND TERMINATION

9.1 Either Party may terminate this Agreement upon ninety (90) days notice if the other Party fails to fulfill or perform any one or more of its material duties, obligations, or responsibilities pursuant to this Agreement and does not cure said failure within sixty (60) days after receiving notice of said failure.

9.2 STI may terminate this agreement if AG declares or petitions for bankruptcy, is the subject of a bankruptcy petition filed against it, makes an assignment for the benefit of creditors or seeks similar relief under state law, or becomes insolvent.

9.3 Upon termination of this Agreement by STI pursuant to Section 9.1 hereof, (i) AG shall cease to be licensed under the STI Patents; (ii) all moneys owed by AG to STI shall become immediately due and payable; (iii) all STI Confidential Information exchanged pursuant to this Agreement shall be returned immediately to STI; and (iv) all AG Confidential Information exchanged pursuant to this Agreement shall be returned immediately to AG.

9.4 Notwithstanding anything else to the contrary in this Agreement, AG may terminate this Agreement at any time on or after February 1, 2007, by prior written notice to STI of at least sixty (60) days. In the event that AG terminates this Agreement pursuant to the foregoing sentence, (i) AG shall cease to be licensed under the STI Patents; (ii) all moneys owed by AG to STI as of the date of such notice shall be paid promptly; (iii) all STI Confidential Information exchanged pursuant to this Agreement shall be returned immediately to STI; and (iv) all AG Confidential Information exchanged pursuant to this Agreement shall be returned immediately to AG.

10. PATENT MARKING

AG shall insure that it and its sublicensee(s) apply patent markings that meet all requirements of U.S. law, 35 U.S.C. 287, with respect to all Licensed Products subject to this Agreement.

11. PRODUCT LIABILITY

AG shall, at all times during the term of this Agreement and thereafter, indemnify, defend and hold STI and the inventors of the STI Patents harmless against all claims and expenses, including reasonable legal expenses and attorneys fees, arising out of the death of or injury to any person or persons or out of any damage to property and against any other claim, proceeding, demand, expense and liability of any kind (other than patent infringement claims and claims resulting from STI's own negligence or the negligence of the inventors of the Licensed patents) resulting from the production, manufacture, sale, use, lease, consumption or advertisement of Licensed Products arising from any right or obligation of AG or any sublicensee hereunder. STI at all times reserves the right to select and retain, at its expense, counsel of its own to defend STI's interests.

IN NO EVENT WILL A PARTY TO THIS AGREEMENT BE LIABLE TO THE OTHER PARTY HERETO OR TO ANY THIRD PARTY FOR LOST PROFITS OR LOST SAVINGS OR PUNITIVE, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES.

12. USE OF NAMES

AG and its sublicensee(s) shall not use STI's name, the name of any inventor of inventions governed by this Agreement in sales promotion, advertising, or any other form of publicity without the prior written approval of the entity or person whose name is

being used. STI shall not use the name of AG or any of its sublicensee(s) in any press release, advertising, or any other form of publicity without the prior written approval of AG or any its sublicensee(s), as applicable.

13. DISPUTE RESOLUTION

13.1 STI and AG shall attempt in good faith and diligently to resolve any dispute arising out of or relating to this Agreement that otherwise is not resolved in the normal course of business. Either Party ("Notifying Party") may provide, pursuant to this Section 14, the other Party ("Receiving Party") with: (i) a written notice of the dispute and a summary thereof, (ii) the name and contact information of an executive who has authority to settle the dispute and who has been designated to meet with an executive of Receiving Party to resolve the dispute, and (iii) copies of any material documents in its possession or control. Within twenty (20) calendar days of its receipt of such notice and documents, Receiving Party shall provide Notifying Party with: (i) a written summary of its position on such dispute, (ii) the name and contact information of an executive who has authority to settle the dispute and who has been designated to meet with Notifying Party's executive to resolve the dispute, and (iii) copies of any other material documents in its possession or control.

13.2 Within twenty (20) days of Notifying Party's receipt of Receiving Party's information required by Section 13.1 hereof, the designated executives shall meet, in person, at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt in good faith and diligently to resolve the dispute. If an executive intends to be accompanied at any meeting or on any telephone call by counsel, the executive shall provide the other designated executive with the name and contact information for such counsel at least seven (7) calendar days in advance of the meeting or call; the other designated executive thereafter shall have an opportunity to be accompanied by counsel. All negotiations pursuant to Section 13 hereof shall be treated as compromise and settlement negotiations for purposes of the Federal Rules of Evidence and state rules of evidence. If the Parties fail to resolve the dispute within sixty (60) days of Notifying Party's receipt of such information, or if the designated executives fail to meet within the twenty (20) days, either Party may initiate arbitration of the dispute pursuant to Section 13.3 hereof.

13.3 Any dispute arising out of or relating to this Agreement that otherwise is not resolved pursuant to Sections 13.1 and 13.2 hereof, shall be settled by binding arbitration held in New York, New York, at a location to be agreed upon, in accordance with the then Commercial Arbitration Rules of the American Arbitration Association, except as otherwise specifically provided in Section 13 hereof. If the dispute (exclusive of attorney fees and expenses) shall appear, at the time of the demand for arbitration, to exceed U.S. $1 Million, then the panel to be appointed shall consist of three (3) neutral arbitrators; otherwise, the panel shall consist of one (1) neutral arbitrator. The panel shall allow such discovery as the panel considers reasonably appropriate under the circumstances and shall resolve the dispute as expeditiously as practicable, and, if reasonably practicable, within 120 days after the selection of the panel. The panel shall give the Parties written

notice of the decision, with reasons therefore set out, and shall, upon the request of a Party within ten (10) calendar days of receiving the decision, have thirty (30) days to reconsider and modify the decision. Thereafter, the decision of the panel shall be final, binding, and nonappealable with respect to the Parties and their Affiliates. The panel shall have authority to award relief under legal or equitable principles, including interim or preliminary relief, and to allocate responsibility for the costs of the arbitration. The fact that the dispute resolution procedures specified in this Section 14 shall have been or may be invoked shall not excuse either Party from performing its obligations under this Agreement.

13.4 All negotiations pursuant to Section 13 hereof, all information disclosed or made available by a Party to the other Party pursuant such Section, all proceedings under Section 13.3 hereof, and all evidence given or discovered pursuant to such proceedings shall be maintained in strictest confidence.

14. CHOICE OF LAW; CHOICE OF FORUM

This Agreement shall be construed and interpreted in accordance with the laws of the State of New York without reference to its choice of law principles. Subject to Section 14 hereof, the state and federal courts in Southern District of New York shall have exclusive jurisdiction of any dispute arising out of or relating to this Agreement.

15. ENTIRE AGREEMENT

This Agreement contains the entire understanding and agreement between STI and AG with respect to the subject matter hereof, and supersedes all prior oral or written understandings and agreements relating thereto, including the Development and Option Agreement, dated as of June 28, 2002, by and between STI and AG. Neither Party shall be bound by any conditions, definitions, warranties, understandings, or representations concerning the subject matter hereof except as are (i) provided in this Agreement, (ii) contained in any prior existing written agreement between the Parties, or (iii) duly set forth on or after the Effective Date in a written instrument subscribed by an authorized representative of the Party to be bound thereby.

16. NO WAIVER

No waiver by either Party, whether express or implied, of any provision of this Agreement, or of any breach or default thereof, shall constitute a continuing waiver of such provision or of any other provision of this Agreement. Either Party's acceptance of payments by the other under this Agreement shall not be deemed a waiver of any violation of or default under any of the provisions of this Agreement.

17. RELATIONSHIP OF THE PARTIES

Nothing in this Agreement contained shall be construed to constitute the Parties as partners or as joint venturers, or either as agent or employee of the other Party. No Party shall take any action that purports to bind the other Party.

18. SEVERABILITY

If any provision or any portion of any provision of this Agreement shall be held to be void or unenforceable, the remaining provisions of this Agreement and the remaining portion of any provision held void or unenforceable in part shall continue in full force and effect.

19. CONSTRUCTION

This Agreement shall be construed without regard to any presumption or other rule requiring construction against the Party causing this Agreement to be drafted. If any words or phrases in this Agreement shall have been stricken out or otherwise eliminated, whether or not any other words or phrases have been added, this Agreement shall be construed as if those words or phrases were never included in this Agreement, and no implication or inference shall be drawn from the fact that the words or phrases were so stricken out or otherwise eliminated.

20. HEADINGS

The captions and paragraph headings appearing in this Agreement are inserted for convenience and reference only and in no way define, limit or describe the scope or intent of this Agreement or any of the provisions thereof.

21. ASSIGNMENT

21.1 No Party may assign any of its rights under this Agreement, except with the prior written consent of the other Party, such consent not to be withheld, delayed or conditioned unreasonably. Without such consent, all assignments of rights are prohibited under Section 21 hereof, whether they are voluntary or involuntary, by merger, consolidation, change of control, dissolution, operation of law or any other manner. No Party may delegate any performance under this Agreement. Notwithstanding anything else to the contrary in this Section, by written notice by the assigning Party to the nonassigning Party, each Party may assign any of its rights and delegate performance under this Agreement to an assignee (including an Affiliate) of all or substantially all of its assets related to this Agreement. Any purported assignment of rights or delegation of performance in violation of this Section is void. Despite any delegation, the delegating Party remains liable for any performance it delegated.

21.2 This Agreement shall inure to the benefit of and be binding upon the Parties and their successors and permitted assigns.

22. NOTICES

All reports, approvals, requests, demands and notices required or permitted by this Agreement to be given to a Party (hereafter "Notices") shall be in writing. Notices shall be hand delivered, sent by certified or registered mail, return receipt requested, or sent via a reputable private express service which requires the addressee to acknowledge receipt thereof. Except as otherwise provided in this Agreement, Notices shall be effective upon dispatch. Notices shall be sent to the Party concerned as follows (or at such other address as a Party may specify by notice to the other Party):

As to STI:
Senesco Technologies, Inc.
303 George Street, Suite 420
New Brunswick, NJ 08901
Facsimile: (732) 296-9292
Attn: Sascha Fedyszyn, Vice President Corporate Development

As to AG:
ArborGen, LLC
180 Westvaco Road
P. O. Box 840001
Summerville, SC 29484
Facsimile: 843.851.5071
Attn: Chief Executive Officer

23. SURVIVAL OF TERMS

The obligations set forth in Section 7 shall survive the termination of this Agreement.

24. APPENDICES

All Appendices referenced herein are hereby made a part of this Agreement.

IN WITNESS WHEREOF, each Party has caused this Agreement to be executed by its duly authorized representative as of the day and year first above written.

SENESCO TECHNOLOGIES, INC.

By: /s/ Bruce Galton
Name: Bruce Galton
Title: Chief Executive Officer

ARBORGEN, LLC

By: /s/ James E. Mann
Name: James E. Mann
Title: Vice President

APPENDIX A

STI Patents

***

Confidential Treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as "***". A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

LICENSE AGREEMENT

between

BAYER CROPSCIENCE GmbH

and

SENESCO TECHNOLOGIES, INC.

TABLE OF CONTENTS

LICENSE AGREEMENT

1. INTRODUCTION OF THE PARTIES

This Agreement is made effective the day of November 2006, (the "Effective Date"), by and between:

Bayer CropScience GmbH,
having its registered office at
Industriepark Hoechst, K607,
Bruningstrasse 50,
65926 Frankfurt am Main,
Germany
(hereinafter referred to as "LICENSEE")

and

Senesco Technologies, Inc.,
having its registered office at
303 George Street, Suite 420

New Brunswick, NJ 08901
(hereinafter referred to as "SENESCO")

2. PREAMBLE

WHEREAS SENESCO has developed certain technology related to conferring useful traits, particularly increased seed yield, in plants based on modulating the gene expression of eukaryotic translation initiation factor 5A ("eIF-5A") and/or deoxyhypusine synthase ("DHS");

WHEREAS LICENSEE desires to obtain an exclusive license under the Patents and Know-How as hereinafter defined for research and development and for commercialization of certain Products as hereinafter defined;

NOW THEREFORE, in consideration of the mutual covenants and agreements set forth below, the Parties HEREBY AGREE as follows:

3. DEFINITIONS

In this Agreement the following words and expressions shall have the following meaning:

3.1 "Advanced Development Completion": ***.

3.2 "Agreement": this agreement, which includes the preamble and the ANNEXES.

3.3 "ANNEX": the documents marked "ANNEX" and which form part of this Agreement.

3.4 "Affiliate": any company controlled by, or under common control with, or controlling LICENSEE, "control" meaning in this context the direct or indirect ownership of at least fifty per cent (50 %) of the voting stock/shares of a company, or the power to nominate at least half of the directors, or the power otherwise to determine the policy of a company.

3.5 "BRASSICA": cells, plants, seeds, part of plants of any species of the genus Brassica cultivated for oilseed production, including but not limited to Brassica napus, Brassica juncea, Brassica rapa, Brassica carinata.

3.6 "Early Development Completion": ***.

3.7 "Effective Date": the date first written above.

3.8 "Gene Component": a single locus in the genome of a BRASSICA, comprising a DNA sequence introduced by BAYER which modulates the native expression ofeIF-5A and/or DHS.

3.9 "Gene Component Confirmation": ***.

3.10 "Licensed Patents": all Patents a) owned by SENESCO and b) licensed-in, with the right to grant sublicenses, by SENESCO, which relate to the Licensed Technology, including, without limitation, those Patents listed in ANNEX I.

3.11 "Licensed Know-How": all information, sequences, data, results, knowledge, biological material, processes, protocols and/or algorithms in the possession of SENESCO existing on or before the Effective Date which a) is not generally available, b) that relates to the use of Licensed Technology in Arabidopsis and BRASSICA and c) is transferred to Licensee identified as "Know How". Licensed Know How will be listed in ANNEX II and will be subject to the confidentiality obligations as set out in Article 13.

3.12 "Licensed Technology": methods and means to modulate expression of eIF-5A and/or DHS (including all of their isoforms).

3.13 "License Income": the amounts of royalties and/or lump sum fees effectively received by BAYER from a third party other than an Affiliate as a remuneration for the grant of a sublicense, without transfer of biological materials, under the Licensed Patents and/or the Licensed Know-How.

3.14 "Parties": the parties to this Agreement and "Party" means one of them.

3.15 "Patent": any pending patent application(s) and unexpired patent(s) in any country, and any unexpired patent that subsequently issues upon any patent application and including all patents that issue on all divisions, continuations, continuations-in-part, reissues, reexaminations, extensions, Supplementary Protection Certificates, which have not been adjudicated to be invalid or unenforceable in an unappealable or

---

unappealed decision of the applicable patent office or court of competent jurisdiction.

3.16 "Product": any and all BRASSICA which contains at least one Gene Component, and which would infringe at least one Valid Claim of the Licensed Patents in the absence of a license under this Agreement.

3.17 "Product Launch": first commercial sale to a third party of the first Product to be commercialized.

3.18 "Proof of Phenotype": ***.

3.19 "Regulatory Clearance": ***.

3.20 "Territory": worldwide.

3.21 "Valid Claim": any claim of an issued and unexpired Patent that has not been finally rejected or declared invalid by a patent office or court of competent jurisdiction by a decision which is unappealable or unappealed, or which has not been revoked by an agency of competent jurisdiction.

4. LICENSE GRANT

4.1 SENESCO hereby grants to LICENSEE, solely in BRASSICA, an exclusive license under the Licensed Patents and the Licensed Know-How to use the Licensed Technology to make, have made, sell, have sold, offer for sale, have offered for sale, import, and use Products in the Territory and, solely for BRASSICA, to otherwise practice and use Licensed Technology.

4.2 For the avoidance of doubt, it is stated expressly that the license granted in Article 4.1 includes the right for LICENSEE and its Affiliates to subcontract the implementation of activities covered by the license under responsibility of LICENSEE or its Affiliates, provided that the subcontractor shall implement such activities for the sole benefit and under the supervision of LICENSEE or its Affiliates.

5. IMPROVEMENT

5.1 LICENSEE shall be the owner of the proprietary rights in all results obtained and inventions made by LICENSEE or any of its AFFILIATES by using the Licensed Technology, Licensed Know How, Licensed Patents under the terms and during the course of this Agreement (hereinafter "Licensee Improvement"), and has the right to protect these Licensee Improvements by any means LICENSEE deems appropriate including filing patent applications in relation thereto.

5.2 LICENSEE grants SENESCO a fully paid up royalty free non-exclusive license on any Licensee Improvement to the Licensed Technology developed by Licensee and/or its Affiliates through use in whole or in part of the Licensed Patents,

Licensed Know-How and/or Licensed Technology for use outside BRASSICA and outside the following crops: ***.

5.3 For purposes of this articles, a Licensee Improvement which is subject to this Article 5 shall mean an invention, whether protected by Patents or not, that is only directed to the improved or optimized expression of eIF-5A and/or DHS in plants (such as novel eIF-5A genes and DHS genes, novel chimeric genes involving eIF-5A and/or DHS genes) and shall specifically not include an invention made by Licensee that is applicable to the expression of a broader class of genes. In addition, any invention made by Licensee to the extent that it is directed or is applied in relation to BRASSICA shall always be a Licensee Improvement.

6. SUBLICENSE GRANT

From the Effective Date, LICENSEE is entitled to grant written sublicenses under the Licensed Patents and Licensed Know-How as licensed under this Agreement, solely in BRASSICA, to its Affiliates and any third party.

7. REPORTS

Upon the first (1st) anniversary date of this Agreement and every year thereafter LICENSEE shall provide to SENESCO an annual written report with an overview of the annual License Income for that respective year.

8. TRANSFER OF TANGIBLES AND INFORMATION

Within eight (8) days from the Effective Date, SENESCO shall provide at no cost materials and data pertaining to the Licensed Patents and Licensed Know-How available to SENESCO for LICENSEE's use in development of Products. With respect to Licensed Patents SENESCO shall promptly inform LICENSEE of any new patent applications that are filed related to Licensed Technology and shall provide status updates on the Licensed Patents on an annual basis.

9. MAINTENANCE AND ENFORCEMENT OF PATENTS

9.1 SENESCO shall have the right to file, prosecute, maintain and defend, at its own discretion and at its own cost, any and all Licensed Patents. However, SENESCO shall use its best efforts to have patents granted with a scope covering the Licensed Technology and its use in BRASSICA at least in ***, to the extent that securing patent protection for any part of the Licensed Patents in these countries is still possible at the Effective Date. If at any time and for whatever reason SENESCO decides to abandon or withdraw any of the Licensed Patents pertaining to any of the above mentioned countries without the remainder of the Licensed Patents in that country providing such scope, SENESCO shall provide LICENSEE notice of its intent hereof. If LICENSEE agrees that the Licensed Patents that would remain in such country after such abandonment or withdrawal would not or could not sufficiently cover the Licensed Technology and its use in BRASSICA in such country, LICENSEE may object to such abandonment or withdrawal in which case

SENESCO shall continue to prosecute, maintain and/or defend such Licensed Patent that it intended to abandon or withdraw. In case such Licensed Patent is a pending patent application or an issued patent that is challenged by a third party, SENESCO may request LICENSEE to assist in the prosecution and/or defense of such Licensed Patent after which, in the absence of a joint decision by the Parties otherwise, LICENSEE will use its best efforts to provide such assistance at its own cost. At least once a year SENESCO will provide to LICENSEE a status update of the Licensed Patents in the abovementioned countries with a copy of all the claims that are pending or issued in all Licensed Patents in such country.

9.2 As soon as SENESCO has filed, or has obtained rights on, a new Licensed Patent which contains information or data not contained in a Licensed Patent which is already published or previously communicated by SENESCO to LICENSEE, SENESCO shall provide LICENSEE with a copy

of such Licensed Patent (for instance a patent application on a new invention related to the Licensed Technology). Such Licensed Patent and all information and data contained therein shall be subject to the confidentiality obligations of Article 13.

9.3 SENESCO shall not have the right to voluntarily terminate any license to a Patent of the Licensed Patent which it has licensed from a third party and which is sublicensed to Licensee pursuant to this Agreement. However, nothing in this paragraph shall interfere with SENESCO's rights to terminate such license under circumstances where this Agreement is terminated under the provisions of Article 15.

9.4 Either Party shall notify the other Party promptly in writing of any act of infringement of the Licensed Patents.

With regard to any acts of infringement of the Licensed Patents involving the use of Licensed Technology in BRASSICA, LICENSEE will have the exclusive right and will be solely responsible for taking any action or suit for patent infringement of the Licensed Patents against such acts and to conduct such action or suit in accordance with its best judgment and at its own cost. Such right shall include the right to enter into settlements involving the Licensed Patents but only in so far as the terms and conditions of such settlement have effect solely with regard to the use of Licensed Technology in BRASSICA. Upon LICENSEE's request, SENESCO shall provide reasonable assistance to LICENSEE in connection with such action or suit and SENESCO shall sign such documents as may be required by applicable law in order to allow LICENSEE to exercise its right to bring and/or conduct an action or suit pursuant to this Article 9.4. LICENSEE will reimburse SENESCO for any reasonable out of pocket expenses, which are documented in writing, incurred by SENESCO for rendering such assistance. LICENSEE will keep SENESCO continuously informed of any actions or suits pursuant to this subparagraph of this Article 9.4. SENESCO shall have the right to participate in all decisions and actions concerning the validity of any Licensed Patent claim, including the right to join as a party any such action for infringement brought by or against LICENSEE where a defense or claim of patent invalidity or

unenforceability has been or will be raised. SENESCO shall have the right to retain to its own counsel for the purpose of defending the validity or enforceability of any Licensed Patent claim. Any costs incurred by SENESCO in relation to this involvement will be born by SENESCO.
With regard to any acts of infringement of the Licensed Patents involving the use of the Licensed Technology in plants other than BRASSICA, SENESCO shall have the exclusive right and will be solely responsible for initiating and conducting any action or suit for patent infringement of the Licensed Patents against such acts and to conduct such action or suit in accordance with its best judgment and at its own cost and LICENSEE will have no obligations with regard to such action or suit.

10. BEST EFFORTS

LICENSEE shall use its best efforts to develop and commercialise products incorporating the Licensed Technology.

11. CONSIDERATION

11.1 Milestone payments

LICENSEE agrees to pay to SENESCO milestone fees in the amount of:

a. at signature: $***;
b. at Gene Component Confirmation, or ***;
c. at Proof of Phenotype, or ***;
d. at Early Development Completion, or ***;
e. at Advanced Development Completion, or ***; and
f. at Regulatory Clearance: $***.

11.2 Product Launch fee

11.2.1 With respect to the first Product to be commercialized in one of the following countries or regions of the world : ***, LICENSEE will pay to SENESCO a Product Launch fee based on yield performance attributable to Licensed Technology and Licensee Improvement in that Product in registration trials imposed by the respective government in that country (or one of the countries in that region) in the framework of authorizing such product for being cultivated in that country or region (e.g. ***), or in the absence of such registration trials, in trials organized by Licensee in that country (or one of the countries of that region) which would be in setup and execution similar to the ***), as agreed by the Parties or by lack of agreement by an independent technical expert.

Such performance based payment will be as follows:

a. yield increase less than *** over the best BRASSICA (other than controls), including Bayer BRASSICA, of the same species in the relevant trials, ***;

b. yield increase equal to or greater than *** over the best BRASSICA, including Bayer BRASSICA (other than controls), of the same species in the relevant trials,
$***;
c. yield increase equal to or greater than *** over the best BRASSICA (other than controls), including Bayer BRASSICA, of the same species in the relevant trials, $***;
d. yield increase equal to or greater than *** over the best BRASSICA, including Bayer BRASSICA (other than controls), of the same species in the relevant trials, $***.

For each of the countries or regions the launch fee as set forth above will be multiplied by a multiplier as follows:
***

and such launch fee for such country or region) will be due as soon as possible either:

- after Product Launch (whether the product launched by LICENSEE, an AFFILIATE, or a sublicensee of LICENSEE) in that country or region, or,

- after the time the first Valid Claim of a Licensed Patent comes into existence which would make a BRASSICA product previously commercialized by LICENSEE, an AFFILIATE, or a sublicensee of LICENSEE, a Product in that country or region, whichever is later.

For the avoidance of doubt, for each country or region, such launch fee will only be due once, irrespective of how many Products are commercialized by LICENSEE, an AFFILIATE, or a sublicensee of LICENSEE in that country or region.

11.2.2 Both Parties acknowledge that in case of early termination by LICENSEE pursuant to Article 15.3, no more further payments are due under this Article 11.

11.3 LICENSEE will pay to SENESCO *** of any License Income.

11.4 Payments shall be made by LICENSEE in US Dollars (US$), to a bank account to be designated by SENESCO. If LICENSEE is required by law to retain withholding taxes, the Parties shall co-operate to complete the documents required by applicable laws or double tax treaties.

12. LIMITED WARRANTY. LIMITATION OF LIABILITY

12.1 SENESCO represents and warrants that:

12.1.1 SENESCO has the power, authority and capacity to enter into this Agreement and the right to grant the license herein granted;

12.1.2 Nothing in this Agreement shall be construed as a warranty or representation as to the validity of any Patent;

12.1.3 Nothing in this Agreement shall be construed as a warranty or representation that anything developed, made, used, imported, or sold under any license under this Agreement is or will be free from infringement of domestic or foreign patents of third parties.

12.2 LICENSEE represents and warrants that LICENSEE has the right to enter into this Agreement and perform its obligations hereunder.

12.3 Nothing in this Agreement shall be deemed to be or construed as conferring by implication or otherwise any license or rights under any patents of SENESCO other than under the Licensed Patents, provided however that SENESCO will not assert any patent rights owned or licensed in by SENESCO 1) against LICENSEE's legitimate use of the Licensed Technology and Licensed Know-How in the framework of its research and development activities under this Agreement and 2) against the commercial use of any product for which remuneration is paid, or is expected to be paid pursuant to Article 11.2 of this Agreement. For the avoidance of doubt, a Product incorporating a Licensee Improvement will be subject to the payment of a Product Launch fee in accordance with Article 11.2.

12.4 Neither Party shall be liable for any indirect, special, incidental or consequential damages in connection with this Agreement and its implementation.

12.5 LICENSEE does not guarantee that its activities pursuant to this Agreement will lead to any specific result.

12.6 LICENSEE shall not be liable for the consequences of its decisions or actions under Article 9 except for gross negligence and willful misconduct.

12.7 SENESCO makes no express or implied warranties of merchantability or fitness for a particular purpose with respect to the invention.

13. CONFIDENTIALITY – PUBLICATIONS

13.1 Confidentiality

13.1.1 Each Party (the "Receiving Party") will keep any information and material or part thereof received from the other Party (the "Disclosing Party") or accrued by the Receiving Party pursuant to this Agreement (including development reports) strictly confidential and will not disclose same to any other party, except to those employees or consultants of the Receiving Party or its Affiliates (with respect to LICENSEE) to whom it

will be strictly necessary to grant access thereto for the purpose referred to in this Agreement, and who have executed undertakings securing their compliance with this Agreement.

However, the foregoing confidentiality obligations shall not apply to information or material which:

- was in the Receiving Party's and/or its Affiliates' (with respect to LICENSEE) possession and at its free disposal prior to disclosure by the Disclosing Party as evidenced by written records then in the possession of the Receiving Party; or
- was in the public domain at the time of disclosure by the Disclosing Party; or
- subsequently comes into the public domain through no fault, action or omission of the Receiving Party; or
- becomes available to Receiving Party without any obligation of confidence from a third party having the right to transmit same;
- is required to be disclosed in order to permit commercialization activities in accordance with the license granted by SENESCO pursuant to Article 4.1.;
- is developed independently by the Receiving Party without reference to the Disclosing Party's information or material.

13.1.2 The foregoing shall not prevent LICENSEE from making available information received from SENESCO to patent attorneys and patent offices when filing, prosecuting, maintaining and defending patent applications pursuant to this Agreement.

13.1.3 The foregoing shall not prevent SENESCO from issuing press releases concerning the existence of this Agreement and progress made under this Agreement. However, a draft of any such press release shall first be made available to LICENSEE at least one (1) week prior to such publication for LICENSEE's approval as to its content, such approval not to be unreasonably withheld. Both Parties acknowledge that no press release will be issued before this Agreement is fully and duly executed by all Parties.

13.1.4 The foregoing shall not prevent either Party to disclose information in order to comply with any applicable law or if required to do so by order of any court or other judicial or administrative body, including the SEC, provided that prior to making such disclosure the receiving Party gives the disclosing Party notice of the requirement of disclosure and the information to be disclosed and the opportunity if available to seek a protective order.

14. GENERAL PROVISIONS

14.1 Notices

14.1.1 Any notice or other communication given under this Agreement must be in writing in the English language and signed by or on behalf of the Party giving it and must be served by one of the following methods:

a. delivering it personally;

b. sending it by pre-paid recorded delivery or registered post or by registered airmail;

c. sending it by fax;

d. to the address and for the attention of the relevant Party specified hereinafter (or as otherwise notified by that Party for the purpose of this Agreement).

14.1.2 A notice will be deemed to have been received:

a. if delivered personally, at the time of delivery;

b. in the case of pre-paid recorded delivery or registered post, 48 hours from the date of posting;

c. in the case of fax at the time of transmission;

provided that if deemed receipt occurs before 9am (local time) on a Business Day the notice will be deemed to have been received at 9am (local time) on that day, and if deemed receipt occurs after 5pm (local time) on a Business day, or on a day which is not a Business Day, the notice will be deemed to have been received at 9am (local time) on the next Business Day. For the purpose of this clause, "Business Day" means any day which is not a Saturday, a Sunday, or a public holiday in the place at or to which the notice is left or sent.

14.1.3 The addresses and fax numbers of the Parties for the purpose of this Article 14.1 are:

for LICENSEE:
Bayer CropScience GmbH
Industriepark Hoechst, K607
Bruningstrasse 50
65926 Frankfurt am Main
Germany

Attention: Managing Director
Fax number: + 49.69.305.30.949

With a copy to:
Bayer BioScience N.V.
Technologiepark 38
9052 Gent
Belgium
Attention: Managing Director
Fax number: +32.9.223.38.55

for SENESCO:
Senesco Technologies, Inc
303 George St., Suite 420
New Brunswick, NJ 08901
Attention: Sascha Fedyszyn, Vice President Corporate Development
Fax number: (732) 296-9292

or such other address or facsimile number as may be notified from time to time by the relevant Party to the other Party.

14.1.4 To prove service it will be sufficient to prove that:

a. the envelop containingthe notice was addressed to the address of the relevant Party set out in Article 14.1.3 or as otherwise notified in writing by that Party for the purpose of this Agreement and delivered either to that address or into the custody of the postal authorities as a pre-paid recorded delivery, registered post or airmail letter; or

b. the notice was transmitted by fax to the fax number of the relevant Party set out in Article 14.1.3 or as otherwise notified in writing by that Party.

14.1.5 For the avoidance of doubt, notice given under this Agreement will not be validly served if sent by e-mail.

14.2 Applicable law and Arbitration

The Agreement shall be governed by and construed in accordance with the laws of the United States and the State of New Jersey. All disputes arising in connection with the present Agreement shall be resolved in the state and/or federal courts in New Jersey.

14.3 Entireness of Covenants

This Agreement including its ANNEXES, when dated and signed by each of the Parties, form an indivisible whole, comprising the entireness of what has been agreed between the Parties in connection with the subject matter of this Agreement and replacing and superseding all prior covenants between the Parties relating to the subject matter of this Agreement.

14.4 Amendments

This Agreement may be amended only by a written document signed by duly authorized representatives of the Parties.

14.5 Number of Copies

This Agreement is being executed in two (2) copies. Each of those copies shall be deemed to be an original and each Party shall retain such a signed original.

14.6 Descriptive Headings

The descriptive headings in this Agreement are for convenience only and shall not be interpreted so as to limit or affect in any way the meaning of the language in the pertaining Article, Section, Paragraph or Sub-paragraph.

14.7 Assignability

14.7.1 Neither Party shall have the right to assign its rights and/or obligations under this Agreement to any third parry without the prior written consent of the other Party, except as expressly stated in this Agreement.

14.7.2 SENESCO shall have the right to assign its rights and obligations under this Agreement to any entity that acquires all or substantially all of its assets.

14.7.3 LICENSEE shall have the right to assign its rights and obligations under this Agreement to its Affiliates or successors, and SENESCO hereby consents to such assignment.

14.8 Severability

Should any provision of this Agreement be illegal, invalid or unenforceable under applicable law, the remaining provisions of this Agreement shall be construed as if such illegal, invalid or unenforceable provision had not been contained herein. The Parties shall attempt to negotiate a provision replacing such provision and providing comparable benefits to each Party, but in the event that such negotiations relating to any such provision that is material do not result in agreement within ninety (90) days, either Party shall have the right to terminate this Agreement by ninety (90) days written notice to theother Party.

14.9 No Strict Construction

The language used in this Agreement shall be deemed to be the language chosen by both Parties hereto to express their mutual intent and no rule of strict construction against either Party shall apply to any term or condition of this Agreement.

14.10 Relationship of Parties

Nothing contained in this Agreement shall be construed as creating a partnership, joint venture, agency, franchise or an association of any kind between the Parties or otherwise.

14.11 Authorities

The persons signing on behalf of SENESCO and LICENSEE hereby warrant and represent that they have authority to execute this Agreement on behalf of the party for whom they have signed.

15. TERMINATION DURATION

15.1 This Agreement shall enter into force on the Effective Date and shall remain in full force and effect until the expiration of the last to expire Licensed Patents or until all Licensed Know-How has become part of the public domain whichever is later, except if terminated prematurely as set forth hereinafter.

15.2 Notwithstanding the foregoing, each Party shall have the right to terminate this Agreement upon giving not less than thirty (30) days written notice to the other if the other Party commits a material breach of this Agreement which in case of a breach capable of remedy shall not have been remedied within sixty (60) days of the receipt by it of such notice.

15.3 LICENSEE has the right to terminate this Agreement at any time giving not less than thirty (30) days written notice to SENESCO. At termination, the license granted to Licensee hereunder shall immediately cease and LICENSEE shall immediately destroy, or at the request of SENESCO return, all Licensed Know-How in its possession.

15.4 Articles 5.2, 12, 13, 14 and 15.4 shall survive the expiration or early termination of this Agreement. Articles 12 and 13 shall survive the expiration or early termination of this Agreement for five (5) years.

IN WITNESS WHEREOF, the parties caused this Agreement to be executed in two (2) copies by their duly authorized and empowered representatives.

Senesco Technologies, Inc.
Date: November 8, 2006
Signature:

/s/ Bruce C. Galton
Name: /s/ BRUCE C. GALTON
Title: /s/ PRESIDENT & CEO

Bayer CropScience GmbH,
Date: November 8, 2006
Signature:

/s/ Dr. Volkert Sjut
Name: DR. VOLKERT SJUT
Title: MANAGING DIRECTOR

Signature:

/s/ Sascha Fedyszyn
Name: /s/ SASCHA FEDYSZYN
Title: /s/ VP, CORP. DEVELOPMENT

Signature:

/s/ Dr. R. Mertens
Name: DR. R. MERTENS
Title: HEAD OF PLANNING, CONTROLLING & ACCOUNTING

Annex I
to the
License Agreement
between
Bayer BioScience GmbH
and
Senesco Technologies, Inc.

Licensed Patents

***

Annex II
to the
License Agreement
between
Bayer BioScience GmbH
and
Senesco Technologies, Inc.

Licensed Know-How

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 Quarterly Report on Form 10-Q 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) [Paragraph omitted in accordance with SEC transition instructions contained in SEC Release 34-47986]

   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 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: February 14, 2007

/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 Quarterly Report on Form 10-Q 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) [Paragraph omitted in accordance with SEC transition instructions contained in SEC Release 34-47986]

   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 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: February 14, 2007

/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 Quarterly Report on Form 10-Q of Senesco Technologies, Inc. for the period ended December 31, 2006 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 Quarterly 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 Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: February 14, 2007

/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 Quarterly Report on Form 10-Q of Senesco Technologies, Inc. for the period ended December 31, 2006 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 Quarterly 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 Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of Senesco Technologies, Inc.

Dated: February 14, 2007

/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.