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 September 30, 2007

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 October 31, 2007, 17,473,694 shares of the issuer's common stock, par value $0.01 per share, were outstanding.

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PART I. FINANCIAL INFORMATION.

Item 1. Financial Statements.

Certain information and footnote disclosures required under United States 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

	September 30, 2007 (unaudited)	June 30, 2007
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 1,641,003	$ 408,061
Short-term investments	—	250,000
Accounts receivable	75,000	—
Prepaid expenses and other current assets	57,076	104,526
Total Current Assets	1,773,079	762,587
Property and equipment, net	6,487	7,526
Intangibles, net	2,738,639	2,544,447
Deferred financing costs	292,052	—
Security deposit	7,187	7,187
TOTAL ASSETS	$ 4,817,444	$ 3,321,747
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 305,823	$ 109,258
Accrued expenses	505,265	377,359
Deferred revenue	10,417	16,667
Total Current Liabilities	821,505	503,284
Convertible note	12,723	—
Grant payable	99,728	99,728
Other liability	27,662	29,196
TOTAL LIABILITIES	961,618	632,208
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	174,737	174,737
Capital in excess of par	29,684,675	28,136,342
Deficit accumulated during the development stage	(26,003,586)	(25,621,540)
TOTAL STOCKHOLDERS' EQUITY	3,855,826	2,689,539
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 4,817,444	$ 3,321,747

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 September 30, 2007	For the Three Months Ended September 30, 2006	From Inception on July 1, 1998 through September 30, 2007
Revenue	$ 371,250	$ 81,250	$ 1,089,583
Operating Expenses:			
General and administrative	389,059	383,285	19,823,252
Research and development	352,895	309,348	8,546,064
Total Operating Expenses	741,954	692,633	28,369,316

Loss From Operations	(370,704)	(611,383)	(27,279,733)
Sale of state income tax loss	—	—	586,442
Other noncash income	—	—	321,259
Interest income, net	6,879	10,918	386,667
Interest expense on convertible note	(3,000)	—	(3,000)
Amortization of debt discount and financing costs	(15,221)	—	(15,221)
Net Loss	$ (382,046)	$ (600,465)	$ (26,003,586)
Basic and Diluted Net Loss Per Common Share	$ (0.02)	$ (0.04)	
Basic and Diluted Weighted Average Number of Common Shares Outstanding	17,473,694	15,480,649	

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 SEPTEMBER 30, 2007
(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

See Notes to Condensed Consolidated Financial Statements.

	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)
Fair market value of options and warrants vested during the year ended June 30, 2000	—	—	1,475,927	—	1,475,927
Fair market value of options and warrants vesting during 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)
Fair market value of options and warrants vested during the year ended June 30, 2002	—	—	1,848,726	—	1,848,726
Fair market value of options and warrants vested during the year ended June 30, 2003	—	—	848,842	—	848,842
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)

See Notes to Condensed Consolidated Financial Statements.

	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
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)
Fair market value of options and warrants vested during the year ended June 30, 2004	—	—	1,826,514	—	1,826,514
Options and warrants exercised during the year ended June 30, 2004 at exercise prices ranging from $1.00 - $3.25	370,283	$ 3,704	692,945	—	696,649
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)
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
Fair market value of options and warrants vested during the year ended June 30, 2005	—	—	974,235	—	974,235

See Notes to Condensed Consolidated Fnancial Statements.

	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
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	—	—	(230,482)	—	(230,482)
Fair market value of options and warrants vested during the year ended June 30, 2007	—	—	970,162	—	970,162
Warrants exercised during the year ended June 30, 2007 at an exercise price of $0.01	10,000	100	—	—	100
Fair market value of options and warrants vested during the three months ended September 30, 2007	—	—	153,333	—	153,333
Allocation of proceeds from issuance of convertible note and warrants on September 21, 2007	—	—	1,395,000	—	1,395,000
Net loss	—	—	—	$ (26,003,586)	(26,003,586)
Balance at September 30, 2007	17,473,694	$ 174,737	$ 29,684,675	$ (26,003,586)	$ 3,855,826

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 Three Months Ended September 30, 2007	For the Three Months Ended September 30, 2006	From Inception on July 1, 1998 through September 30, 2007
Cash flows from operating activities:			
Net loss	$ (382,046)	$ (600,465)	$ (26,003,586)
Adjustments to reconcile net loss to net cash provided by (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
Issuance of stock options and warrants for services	63,500	87,000	8,862,276
Depreciation and amortization	21,754	7,101	385,595
Amortization of convertible note discount and deferred financing costs	15,221	—	15,221
(Increase) decrease in operating assets:			
Accounts receivable	(75,000)	—	(75,000)
Prepaid expense and other current assets	47,450	2,002	(57,076)
Security deposit	—	—	(7,187)
Increase (decrease) in operating liabilities:			
Accounts payable	196,565	27,866	305,823
Accrued expenses	127,906	212,924	505,265
Deferred revenue	(6,250)	(6,250)	10,417
Other liability	(1,534)	(1,306)	27,662
Net cash provided by (used in) operating activities	7,566	(271,128)	(16,126,104)
Cash flows from investing activities:			
Patent costs	(214,907)	(142,061)	(2,960,614)
Redemption (purchase) of investments, net	250,000	450,000	—
Purchase of property and equipment	—	—	(170,107)
Net cash provided by (used in) investing activities	35,093	307,939	(3,130,721)
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	—	100	19,082,817
Proceeds from issuance of convertible note and warrants, net of $105,000 paid to holder	1,395,000	—	1,395,000
Deferred financing costs	(204,717)	—	(204,717)
Net cash provided by financing activities	1,190,283	100	20,897,828
Net increase in cash and cash equivalents	1,232,942	36,911	1,641,003
Cash and cash equivalents at beginning of period	408,061	318,473	—
Cash and cash equivalents at end of period	$ 1,641,003	$ 355,384	$ 1,641,003
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
Allocation of convertible debt proceeds to warrants and beneficial Conversion feature	$ 1,395,000	$ —	$ 1,395,000
Warrants issued for financing costs	$ 89,833	$ —	$ 89,833

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 Senesco Technologies, Inc. (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 United States 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, 2007.

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 September 30, 2007, the results of its operations and cash flows for the three-month periods ended September 30, 2007 and 2006, and the results of its operations and cash flows for the period from inception on July 1, 1998 through September 30, 2007.

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

Note 2 – Liquidity:

The operations of the Company to date have required significant cash expenditures. As shown in the accompanying financial statements, the Company has a history of losses with a deficit accumulated during the development stage from inception through September 30, 2007 of $26,003,586. The future capital requirements of the Company will depend on the results of its research and development activities, preclinical studies and competitive and technological advances.

The Company does not expect that its revenue and/or cash and investments on hand as of September 30, 2007, and the net proceeds of the $1.5 million convertible note and warrants issued on October 16, 2007, will cover its expenses during the next twelve months. As a result, on August 1, 2007 and August 29, 2007, the Company entered into agreements to issue convertible debentures and warrants which will provide working capital in the gross amount of up to $10,000,000 to fund its operations for approximately the next two years. On each of September 21, 2007 and October 16, 2007 the Company issued a convertible note in the amount of $1,500,000 and 1,387,500 warrants at an exercise price of $1.01. The Company will issue additional convertible notes and warrants and will receive an additional $4,000,000 upon shareholder approval. Additionally, the Company will issue convertible notes and warrants and will receive $1,500,000 on the date the Company enters into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies under a United States Food

and Drug Administration, (the "FDA"), accepted Investigational New Drug application, (an "IND Application, and $1,500,000 on the date the Company enters into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under a FDA accepted IND Application. However, if the Company does not meet all or some of the funding milestones, then the Company cannot provide assurance that it will continue as a going concern.

The American Stock Exchange requires the Company to meet minimum financial requirements in order to maintain its listing. Currently, the Company does not meet the $6,000,000 minimum net worth continued listing requirement of the American Stock Exchange and the Company has received a notice of noncompliance from the American Stock Exchange. The Company submitted a plan to the American Stock Exchange discussing how it intends to regain compliance with the continued listing requirements. The American Stock Exchange has accepted the Company's plan and has given it until March 1, 2008 to effectuate the plan and regain compliance with the continued listing requirements.

Note 3 – Intangible Assets:

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

The length of time that it takes for an initial patent application to be approved is generally between four to six years, however, due to the unique nature of each patent application, the actual length of time may vary. If a patent application is denied, the associated cost of that application would be written off. However, the Company has not had any patent applications denied as of the date of this Report on Form 10-Q. Additionally, should a patent application become impaired during the application process, the Company would write down or write off the associated cost of that patent application.

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

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

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

If the Company's review determines that the future discounted cash flows related to these assets will not be sufficient to recover their carrying value, the Company will reduce the carrying

values of these assets down to its estimate of fair value and continue amortizing them over their remaining useful lives. To date, the Company has not recorded any impairment of intangible assets.

Note 4 - 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 September 30, 2007, shares to be issued upon the exercise of options and warrants aggregating 9,294,982 at an average exercise price of $2.20, and as of September 30, 2006, shares to be issued upon the exercise of options and warrants aggregating 8,286,591 at an average price of $2.89 are not included in the computation of diluted loss per share as the effect is anti-dilutive. Additionally, at September 30, 2007, 1,666,667 shares to be issued upon the conversion of a debenture at a fixed conversion rate of $0.90 are not included in the computation of diluted loss per share as the effect is anti-dilutive.

Note 5 – 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 and warrant 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 and warrants include the following:

	Three Months Ended September 30,	
	2007	2006
Estimated life in years	8-10	6-10
Risk-free interest rate (1)	4.7%	4.2%-4.5%
Volatility	100%	70%-80%
Dividend paid	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 three month period ended September 30, 2007 is as follows:

	Number of Options	Weighted-Average Exercise Price
Outstanding at July 1, 2007	2,646,000	$ 2.33
Granted	—	—
Exercised	—	—
Canceled	—	—
Outstanding at September 30, 2007	2,646,000	$ 2.33
Exercisable at September 30, 2007	2,396,334	$ 2.45

A summary of changes to the non-vested stock options for the three month period ended September 30, 2007 is as follows:

		Weighted-Average
	Number of Options	Grant-Date Fair Value
Non-vested stock options at July 1, 2007	249,666	$ 1.07
Granted	—	—
Vested	—	—
Forfeited	—	—
Non-vested stock options at September 30, 2007	249,666	$ 1.07

As of September 30, 2007, the aggregate intrinsic value of stock options outstanding was $0, with a weighted-average remaining term of 5.4 years. The aggregate intrinsic value of stock options exercisable at that same date was $0, with a weighted-average remaining term of 6.0 years. As of September 30, 2007, the Company has 3,264,000 shares available for future stock option grants.

As of September 30, 2007, total compensation expense not yet recognized related to stock option grants amounted to approximately $142,000**,** which will be recognized over the next 15 months.

Note 6 – **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 7 –Convertible Note and Stockholders Equity:

On August 1, 2007 and August 29, 2007, the Company entered into binding Securities Purchase Agreements with YA Global Investments ("YA Global") and Stanford Venture Capital Holdings, Inc. ("Stanford"), respectively, to sell to each of YA Global and Stanford up to $5,000,000 of secured convertible notes and accompanying warrants for an aggregate gross proceeds of $10,000,000. The convertible notes convert into the Company's common stock at a fixed price of $0.90 per share subject to certain adjustments (the "Fixed Conversion Price"), for a period of two years immediately following the signing date, provided that the Company has achieved the following milestones by January 31, 2008: (i) successful completion of animal studies, other than toxicology studies, necessary for the advancement of factor 5A1 in human clinical trials, (ii) the engagement of a contract research organization for human clinical studies

of factor 5A1, and (iii) the signing of at least one (1) corporate partnership or license agreement after August 1, 2007 with an agricultural company utilizing the Company's proprietary platform. As of October 31, 2007, the Company has signed a license agreement with an agricultural company and has engaged a contract research organization, and therefore has met two of the three required milestones. After the second anniversary of the signing date, or if the Company does not achieve the foregoing milestones by January 31, 2008, the convertible notes may convert into shares of the Company's common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price (the "VWAP"), of the common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global and Stanford is December 30, 2010 and December 31, 2010, respectively. Currently, at the fixed conversion price, the number of shares of common stock issuable upon conversion of the convertible notes and exercise of warrants represents, in the aggregate, 24,994,445 shares, plus an estimated additional 2,000,000 shares for the payment of interest in stock under the convertible notes.

Pursuant to the terms of the Securities Purchase agreements, the Company is required to seek shareholder approval to increase the authorized number of shares of common stock from 60,000,000 shares to 100,000,000 shares. The Company filed a proxy statement on November 2, 2007 to seek shareholder approval to increase the authorized number of shares of common stock.

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

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

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

exercisable at the fixed conversion price and will have the same maturity as the other warrants issued under the YA Global Financing.

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

YA Global and Stanford will also be issued warrants to purchase an aggregate of 5,550,000 and 8,333,333, respectively, of the Company's common stock, exercisable six months and one day from the date of issuance until their expiration on the date that is five years from the date of issuance. The warrants will be issued in two series. Generally, the Series A warrants may be issued prior to stockholder approval, while the Series B warrants are only issued after stockholder approval. The exercise price of the Series A warrants is $1.01 per share, and the exercise price of the Series B warrants is $0.90 per share, subject to certain adjustments. The warrants provide a right of cashless exercise if, at the time of exercise, there is no effective registration statement registering the resale of the shares underlying the warrants.

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

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

Pursuant to the Registration Rights Agreement, the Company filed an initial registration statement on October 12, 2007 to register 3,333,333 shares of common stock issuable to YA Global, and such registration statement became effective on November 1, 2007. The Company is required to file another registration statement to cover up to an additional 2,432,900 within 30 days of the third closing date, which will occur within two days of receiving shareholder approval, and have such registration statement declared effective within 120 days of the third closing date. If the shares issuable to YA Global remain outstanding after all shares under the registration statements have been sold, the Company may be required to file additional registration statements for those shares. These registration rights will cease once the shares issuable to YA Global are eligible for sale by the investor without restriction under Rule 144(k). Upon certain events, the Company has agreed to pay as partial liquidated damages an amount equal to 1.0% of the aggregate purchase price paid by the investors for any convertible debentures then held by the investors, but these payments may not exceed 12% of the aggregate purchase price paid by the investors. The maximum liquidated damages payable under the Registration Rights Agreement is $600,000. The Company has not recorded an estimated registration rights liability as the Company anticipates that it will fulfill its obligations under the Registration Rights Agreement.

The total gross proceeds from the issuance of the convertible notes and warrants will be $10,000,000 before payment of 3.25% of the purchase price in commissions to Wainwright & Co., Inc. (the "Placement Agent"). The Company will issue to the Placement Agent warrants to purchase 7% of the purchase price, or 777,777 shares, of the Company's common stock with similar terms to the warrants that will be issued to the investors. The Company paid YA Global and will pay Stanford a non-refundable structuring/due diligence fee of $30,000 each. The Company has also agreed to pay YA Global and Stanford a commitment fee of 5% and 7%, respectively, of its purchase price, which is paid proportionately at each closing.

Specifics of YA Global Financing

Pursuant to the YA Global Securities Purchase Agreement, the Company has issued two convertible notes in the amount of $1,500,000 each and two Series A warrants in the amount of 1,387,500 shares each on September 21, 2007 and October 16, 2007 and will issue and sell to YA Global a convertible note in the amount of $2,000,000 and a Series B warrant in the amount of 2,775,000 shares on the date that the stockholders approve the transaction.

The gross proceeds, less $105,000 paid to YA Global, of $1,395,000 from the issuance of convertible notes and warrants have been allocated between the convertible notes and warrants based upon their fair values using the Black-Scholes model. Additional amounts were allocated to the beneficial conversion feature based upon the effective conversion price compared to the fair value of the common stock on the date of issuance of the convertible notes and warrants. The material factors incorporated in the Black-Scholes model in estimating the value of the warrants include the following:

Estimated life in years	5
Risk-free interest rate (1)	4.4%
Volatility	100%
Dividend paid	None

At September 30, 2007, net proceeds of $1,395,000 was allocated to the warrants and beneficial conversion feature and recorded as equity. The costs associated with the issuance in the amount of $294,550 have been recorded as deferred financing costs and are being amortized ratably over the term of the convertible note.

Pursuant to the rules of the American Stock Exchange, the convertible notes and warrants issued to YA Global at the first two closings were subject to a cap on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants, until the Company receives shareholder approval. The cap of 3,493,000 shares is equal to 19.99%

of the company's outstanding common stock on the signing date. In addition, there is a maximum overall cap of 30,500,000 shares for the YA Global financing.

As of September 30, 2007, the outstanding balance of the Convertible Note was $12,723, which is comprised of a note with a face amount of $1,500,000 less unamortized debt discount of $1,487,277.

Debt discount associated with the Convertible Note is amortized to interest expense over the remaining life of the Convertible Note. Upon conversion of the Convertible Note into Common Stock, any unamortized debt discount relating to the portion converted will be charged to equity. Total charges to interest for amortization of debt discount were $12,723 for the three month period ended September 30, 2007.

Specifics of Stanford Financing

Pursuant to the Stanford Securities Purchase Agreement, the Company will issue and sell to Stanford:

1. a convertible note in the amount of $2,000,000 and warrants within two business days of the later of (a) the date stockholders approve the transaction or (b) the date that the initial registration statement relating to the YA Global financing is filed with the SEC. Such registration statement was filed on October 12, 2007;

2. a convertible note in the amount of $1,500,000 on the date the Company enters into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies under an FDA accepted IND Application;

3. a convertible note in the amount of $1,500,000 on the date the Company enters into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under a FDA accepted IND Application.

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

Note 8 – Income Taxes:

No provision for income taxes has been made in the three months ended September 30, 2007 and 2006 given the Company's losses in 2007 and 2006 and available net operating loss carryforwards. A benefit has not been recorded as the realization of the net operating losses is not assured and the timing in which the Company can utilize its net operating loss carryforwards in any year or in total may be limited by provisions of the Internal Revenue Code regarding changes in ownership of corporations.

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

Note 9 – Significant Events:

On July 23, 2007, the Company entered into a license agreement with Bayer CropScience AG for the development and commercialization of cotton (the "Bayer Cotton Agreement"). Under the terms of the Bayer Cotton Agreement, the Company received: (i) an upfront initial payment; (ii) will receive milestone payments upon the achievement of certain development milestones; and (iii) additionally, upon commercialization, a royalty on net sales.

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

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

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 this 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, and related technologies for inhibition, i.e. siRNA, in human health applications, to:

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

Certain preclinical human health results to date include:

- 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;
- inducing apoptosis of cancer cells in a human multiple myeloma cell line;

- measuring VEGF reduction in mouse lung tumors as a result of treatment with our genes;

- reducing the amounts of p24 and IL-8 by approximately 50 percent in a HIV-1 infected human cell line;
- increasing the survival, while maintaining functionality, of mouse pancreatic islet cells isolated for transplantation. Preliminary animal studies have shown that siRNA to Factor 5A administered prior to harvesting beta islet cells from a mouse has a significant impact not only on the survival of the beta islet cells, but also on the retention of the cells functionality when compared to the untreated beta islet cells. Additional studies have also shown that the treated beta islet cells survive a pro-inflammatory cytokine challenge, while maintaining their functionality with respect to insulin levels;
- confirmed protection during pro-inflammatory cytokine challenge;
- 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; and
- increasing the survival rate of mice in a lethal challenge sepsis model. Additionally, a broad spectrum of systemic pro-inflammatory cytokines were down-regulated.

Inhibiting Apoptosis

We believe that down-regulation of our proprietary Factor 5A gene may have potential application as a means for controlling the effect of 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. 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-a, MIP-1alpha, and IL-1 in the lungs of mice challenged with LPS; and (ii) increases the survival rate in which sepsis was induced by a lethal injection of LPS and reduced blood serum levels of inflammatory proteins, such as IL-1, IL-2, IL-6, IL-12, TNF-a, IFNg and MIP-1alpha, while not effecting IL-10, an anti-inflammatory cytokine. 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; the inhibition of early inflammatory changes associated with type-2 diabetes in an in-vivo rat model; and the inhibition of viral replication in a human cell line infected with HIV-1.

Proteins required for cell death include p53, interleukins, TNF-a and other cytokines, and caspases. Expression of these cell death proteins is required for the execution of apoptosis. 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 isoform 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: (i) the up-regulation of p53; (ii) increases inflammatory cytokine production; (iii) increases cell death receptor formation; and (iv) increases caspase activity. These features, coupled with a simultaneous down-regulation Bcl-2, 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 approximately 16 third party researchers at our direction, at the University of Waterloo, Mayo Clinic, the University of Colorado, the University of Virginia, and the University of Florida.

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

- Pancreatic Islets isolated for transplantation. Additional in-vitro experiments will involve moving from mouse beta islet cells to human beta islet cells. The human cells will be tested for survival and functionality, insulin activity post processing and cytokine challenge.

- 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.

- Multiple Myeloma. The next set of multiple myeloma experiments will involve a mouse model system and may include optimizing the delivery of Factor 5A. In-vitro experiments will continue with myeloma cells in order to maximize the transfection efficiency while concurrently elucidating the most effective post-translation form of Factor 5A to employ.

- Delivery Systems. We will be evaluating a number of delivery systems in an effort to maximize the efficacy of eIF-5A.

- 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.

- Diabetic Retinopathy. Based upon the review of data from an ongoing siRNA against Factor 5A diabetic rat experiment, we may be conducting a second round of experiments, which will employ siRNA against Factor 5A in order to decrease pro-inflammatory cytokine levels.

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

Additionally, we are planning to advance a certain cancer target toward a Phase I clinical trial. In connection with the potential clinical trial, we have engaged a clinical research organization, or CRO, to assist us through the process. Together with the CRO, we will also be working towards completing a pre-clinical animal model of the disease, evaluating potential delivery systems for our technology in the animal model, contracting for the supply of pharmaceutical grade materials to be used in toxicology and human studies, and ultimately filing an investigational new drug application, or IND application, with the U.S. Food and Drug Administration for their review and consideration in order to initiate a clinical trial. We estimate that it will take approximately two years to complete this program.

In order to pursue the above research initiatives, as well as other research initiatives that may arise, we have recently completed private placements of $10 million of convertible notes and common stock warrants. We have already issued and received the net proceeds from $3 million of the convertible notes and common stock warrants. The remaining $7 million from the private placements will be received upon the occurance of the following corporate and development milestones:

- $2.0 million upon stockholder approval of the private placement;

- $2.0 million upon stockholder approval of the private placement;
- $1.5 million on the date that we enter into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies; and
- $1.5 million on the date that we enter into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under an FDA accepted IND application.

However, it may be necessary for us to raise a significant amount of additional working capital in the future to continue to pursue some of the above and new initiatives. If we are unable to raise the necessary funds or meet the corporate and scientific milestones provided for in the

private placements, we may be required to significantly curtail the future development of some of our research initiative and we will be unable to pursue other possible research initiatives.

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

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. To date, we have isolated and characterized the senescence-induced Lipase gene, DHS, and Factor 5A in certain species of plants. Our goal is to modulate the expression of these genes in order to achieve such traits as extended shelf life, increased biomass, increased yield and increased resistance to environmental stress and disease, thereby demonstrating proof of concept in each category of crop.

Certain agricultural results to date include:

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

We have licensed this technology to various strategic partners and have entered into a joint venture, and we intend to continue to license this technology, as the opportunities present themselves, to additional strategic partners and/or enter into additional joint ventures. Together with our commercial partners, we are currently working with lettuce, turfgrass, canola, corn, soybean, cotton, banana, alfalfa, rice and certain species of trees and bedding plants, and we have obtained proof of concept for enhanced post harvest shelf life, seed yield, biomass, and resistance to disease in several of these plant species. We have ongoing field trials of certain trees and bananas with our respective partners. The 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 post harvest shelf life benefits, an additional field trial generated encouraging disease tolerance data, specific to Black Sigatoka (Black Leaf Streak Disease), for banana plants. Additional field trials for banana plants are ongoing for Black Sigatoka. Commercialization by our partners may require a combination of traits in a crop, such as both post harvest shelf life and disease resistance, or other traits. Our near-term research and development initiatives include modulating the expression of DHS and Factor 5A genes in these plants and propagation and then propagation and phenotype testing of such plants.

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

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

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, as the opportunies present themselves, additional licensing agreements or other strategic relationships with a variety of companies or other entities on a crop-by-crop basis. We anticipate revenues from these relationships in the form of licensing fees and royalties from our partners, usage fees in the case of the agreement with Poet, 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.

Through October 31, 2007, we have entered into nine license agreements and one joint venture with established agricultural biotechnology companies or, in the case of Poet, 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 sequential development step is as follows:

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

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

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

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

Project	Partner	Current Status
Banana	Rahan Meristem	

- Shelf Life		Field trials
- Disease		Field trials
Lettuce	Harris Moran	Field trial data under evaluation
Melon	Harris Moran	Seed transformation
Trees	ArborGen	
- Growth		Field trials
Alfalfa	Cal / West	Greenhouse
Corn	Monsanto	Just intiated
Cotton	Bayer	Just initiated
Canola	Bayer	Seed transformation
Rice	Bayer	Just initiated
Soybean	Monsanto	Just initiated
Turfgrass	The Scotts Company	Greenhouse
Bedding Plants	The Scotts Company	Greenhouse
Ethanol	Poet	Modify inputs

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

Based upon our commercialization strategy, we anticipate that there may be a significant period of time before plants enhanced using our technology reach consumers and we begin to receive royalties. 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 have selected a cancer target to bring into clinical trials and may select additional 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 fifteen patents by the United States Patent and Trademark Office, or PTO, and twelve patents from foreign countries, twenty-four of which are for use of our technology in agricultural applications and three of which relates to human health applications.

In addition to our twenty-seven 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 September 30, 2007, our cash balance and investments totaled $1,641,003**,** and we had working capital of $951,575. As of September 30, 2007, we had a federal tax loss carryforward of approximately $17,525,000 and a state tax loss carry-forward of approximately $10,164,000 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 September 30, 2007:

	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)	$ 598,213	$ 598,213	$ —	$ —	$ —
Facility, Rent and Operating Leases (2)	$ 289,712	$ 77,824	$ 158,384	$ 53,504	$ —
Employment, Consulting and Scientific Advisory Board Agreements (3)	$ 731,309	$ 649,925	$ 81,384	$ —	$ —
Total Contractual Cash Obligations	$ 1,619,234	$ 1,325,962	$ 239,768	$ 53,504	$ —

(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. 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, 2007, we extended our research and development agreement with the University of Waterloo for an additional one-year period through August 31, 2008, in the amount of CAD $631,050 or approximately USD $630,000. Research and development expenses under this agreement for the three ended September 30, 2007 aggregated USD $192,256 and USD $166,500, respectively, and USD $4,088,560 for the cumulative period from inception through September 30, 2007. Total research and development expenses for the three months ended September 30, 2007 and 2006 aggregated $352,895 and $309,348, respectively, and $8,546,064 for the cumulative period from inception through September 30, 2007.

Capital Resources

Since inception, we have generated revenues of $1,089,583 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, or longer, 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 July 23, 2007, we entered into a license agreement with Bayer CropScience AG for the development and commercialization of cotton, referred to herein as the Bayer Cotton Agreement. Under the terms of the Bayer Cotton Agreement, we received: (i) an upfront initial payment; (ii) will receive milestone payments upon the achievement of certain development milestones; and (iii) additionally, upon commercialization, a royalty on net sales.

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

On September 17, 2007, we entered into a license agreement with Bayer CropScience AG for the development and commercialization of Rice, referred to herein as the Bayer Rice Agreement. Under the terms of the Bayer Rice Agreement, we received: (i) an upfront initial payment: (ii) will receive milestone payments upon the achievement of certain development milestones; and (iii) additionally, upon commercialization, a royalty on net sales.

On August 1, 2007 and August 29, 2007, we entered into binding Securities Purchase Agreements with YA Global Investments, referred to herein as YA Global and Stanford Venture Capital Holdings, Inc., referred to herein as Stanford, respectively, to sell to each of YA Global and Stanford up to $5,000,000 of secured convertible notes and accompanying warrants for an aggregate gross proceeds of $10,000,000. The convertible notes convert into our common stock at a fixed price of $0.90 per share subject to certain adjustments, referred to herein as the Fixed Conversion Price, for a period of two years immediately following the signing date, provided that we have achieved the following milestones by January 31, 2008: (i) successful completion of

animal studies, other than toxicology studies, necessary for the advancement of factor 5A1 in human clinical trials; (ii) the engagement of a contract research organization for human clinical studies of factor 5A1; and (iii) the signing of at least one (1) corporate partnership or license agreement after August 1, 2007 with an agricultural company utilizing our proprietary platform. As of October 31, 2007, the Company has signed a license agreement with an agricultural company and has engaged a contract research organization and therefore has met two of the three required milestones. After the second anniversary of the signing date, or if we do not achieve the foregoing milestones by January 31, 2008, the convertible notes may convert into shares of our common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price, referred to herein as the VWAP, of the common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global and Stanford is December 30, 2010 and December 31, 2010, respectively. Currently, at the fixed conversion price, the number of shares of common stock issuable upon conversion of the convertible notes and exercise of warrants represents, in the aggregate, 24,994,445 shares, plus an estimated additional 2,000,000 shares for the payment of interest in stock under the convertible notes.

Pursuant to the terms of the Securities Purchase agreements, we are required to seek shareholder approval to increase the authorized number of shares of common stock from 60,000,000 shares to 100,000,000 shares. The Company filed a proxy statement on November 2, 2007 to seek shareholder approval to increase the authorized number of shares of common stock.

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

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

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

exercisable at the fixed conversion price and will have the same maturity as the other warrants issued under the YA Global Financing.

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

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

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

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

Pursuant to the Registration Rights Agreement, we filed an initial registration statement on October 12, 2007 to register 3,333,333 shares of common stock issuable to YA Global, and such registration statement became effective on November 1, 2007. We are required to file another registration statement to cover up to an additional 2,432,900 within 30 days of the third closing date, which will occur within two days of receiving shareholder approval, and have such registration statement declared effective within 120 days of the third closing date. If the shares issuable to YA Global remain outstanding after all shares under the registration statements have been sold, we may be required to file additional registration statements for those shares. These registration rights will cease once the shares issuable to YA Global are eligible for sale by the investor without restriction under Rule 144(k). Upon certain events, we have agreed to pay as partial liquidated damages an amount equal to 1.0% of the aggregate purchase price paid by the investors for any convertible debentures then held by the investors, but these payments may not exceed 12% of the aggregate purchase price paid by the investors. The maximum liquidated damages payable under the Registration Rights Agreement is $600,000. We have not recorded an estimated registration rights liability as we anticipate that we will fulfill our obligations under the Registration Rights Agreement.

The total gross proceeds from the issuance of the convertible notes and warrants will be $10,000,000 before payment of 3.25% of the purchase price in commissions to Wainwright & Co., Inc.,

referred to herein as the Placement Agent. We will issue to the Placement Agent warrants to purchase 7% of the purchase price, or 777,777 shares, of our common stock with similar terms to the warrants that will be issued to the investors. We have paid YA Global and will pay Stanford a non-refundable structuring/ due diligence fee of $30,000 each. We have also agreed to pay YA Global and Stanford a commitment fee of 5% and 7%, respectively, of its purchase price, which is paid proportionately at each closing.

Specifics of YA Global Financing

Pursuant to the YA Global Securities Purchase Agreement, we have issued two convertible notes in the amount of $1,500,000 each and two Series A warrants in the amount of 1,387,500 shares underlying the warrants on each September 21, 2007 and October 15, 2007 and will issue and sell to YA Global a convertible note in the amount of $2,000,000 and a Series B warrant in the amount of 2,775,000 shares on the date that the stockholders approve the transaction.

Pursuant to the rules of the American Stock Exchange, the convertible notes and warrants issued to YA Global at the first two closings were subject to a cap on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants, until we receive shareholder approval. The cap of 3,493,000 shares is equal to 19.99% of our outstanding common stock on the signing date. In addition, there is a maximum overall cap of 30,500,000 shares for the YA Global financing.

Specifics of Stanford Financing

Pursuant to the Stanford Securities Purchase Agreement, we will issue and sell to Stanford an additional:

(1) a convertible note in the amount of $2,000,000 and warrants within two business days of the later of (a) the date stockholders approve the transaction or (b) the date that the initial registration statement relating to the YA Global financing is filed with the SEC. Such registration statement was filed on October 12, 2007;

(2) a convertible note in the amount of $1,500,000 on the date we enter into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies under a United States Food and Drug Administration, referred to herein as FDA, accepted Investigational New Drug application, referred to herein as IND application;

(3) a convertible note in the amount of $1,500,000 on the date we enter into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under a FDA accepted IND application.

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

We anticipate that, based upon our current cash and investments and the additional $7,000,000 proceeds from the issuance of convertible notes and warrants, we will be able to fund our operations for the next twenty-four months. If we are unable to issue the additional $7,000,000 of convertible notes and warrants, we will only be able to fund our operations for the next nine months. Over the next twelve months, we plan to fund our research and development and commercialization activities by:

- utilizing our current cash balance and investments;
- achieving some of the milestones set forth in our current licensing agreements;
- through the execution of additional licensing agreements for our technology; and
- through the issuance of convertible notes under the recently completed transaction with YA Global and Stanford Financial.

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

Changes to Critical Accounting Policies and Estimates

There have been no changes to our critical accounting policies and estimates as set forth in our Annual Report on Form 10-K for the fiscal year ended June 30, 2007.

Results of Operations

Three Months Ended Septembr 30, 2007 and Three Months Ended September 30, 2006

The net loss for the three-month period ended September 30, 2007 and 2006 was $382,046 and $600,465, respectively, a decrease of $218,419**,** or 36.4%. This decrease in net loss was primarily the result of an increase in revenue, which was partially offset by an increase in operating expenses.

Revenue

Total revenues consisted of initial fees and milestone payments on our agricultural development and license agreements. During the three-month period ended September 30, 2007, revenue of $371,250 consisted of the initial payments and the amortized portion of previous milestone payments received in connection with certain license agreements. During the three-month period ended September 30, 2006, revenue of $81,250 consisted of current milestone payments and the amortized portion of previous milestone payments received in connection with certain development and license agreements.

We anticipate that we will continue to receive milestone payments in connection with our current agricultural 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 September 30,			
	2007	2006	Change	%
	(in thousands, except% values)			
General and administrative	$ 389	$ 383	$ 6	1.6%
Research and development	353	310	43	13.9%
Total operating expenses	$ 742	$ 693	$ 37	5.3%

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 September 30,			
	2007	2006	Change	%
	(in thousands, except% values)			
Stock-based compensation	$ 49	$ 69	$ (20)	(29.0)%
Payroll and benefits	154	153	1	—
Investor relations	51	51	—	—
Professional fees	59	51	8	15.7%
Depreciation and amortization	22	7	15	214.3%
Other general and administrative	54	52	2	0.4%
Total general and administrative	$ 389	$ 383	$ 6	1.6%

- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options and warrants granted to directors, employees and consultants. During the three-month periods ended September 30, 2007 and 2006 there were no options or warrants granted to such directors, employees and consultants. 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.

- Professional fees increased primarily as a result of an increase in accounting fees primarily due to an increase in the fees related to the audit and review of our financial statements.

- Depreciation and amortization increased primarily as a result of an increase in amortization of patent costs. We began amortizing the cost of our pending patent applications during the three month period ended March 31, 2007. Therefore such amortization was not included in depreciation and amortization during the three month period ended September 30, 2006.

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 surrounding our business.

Research and Development Expenses

	Three Months Ended September 30,			
	2007	2006	Change	%
	(in thousands, except% values)			
Stock-based compensation	$ 15	$ 18	$ (3)	(16.7)%
Other research and development	338	292	46	15.8%
Total research and development	$ 353	$ 310	$ 43	13.9%

- 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 September 30, 2007 and 2006 there were no 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 increased primarily as a result of an expansion of the banana field trials and the weakness of the U.S. currency against the Canadian currency.

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

	Three Months Ended March 31,			
	2007	%	2006	%
	(in thousands, except% values)			
Agricultural	$ 180	51%	$ 183	59%
Human health	173	49%	127	41%
Total research and development	$ 353	100%	$ 310	100%

Our agricultural research expenses decreased during the three-month period ended September 30, 2007 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 which was mostly offset by an unfavorable exchange rate variance.

Our human health expenses increased during the three-month period ended September 30, 2007 as we have initiated certain research projects that were not in progress during the three month period ended September 30, 2006. 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, net

	Three Months Ended September 30,			
	2007	2006	Change	%
	(in thousands, except% values)			
Interest Income	$ 7	$ 11	$ (4)	(36.3)%
Interest Expense	(3)	—	(3)	—
Interest Income, Net	$ 4	$ 11	$ (7)	(63.6)%

- Interest income decreased during the three-month period ended September 30, 2007 primarily as a result of a lower average cash and short-term investments balance.

- Interest expense represents the 8% coupon rate on the convertible note issued on September 21, 2007.

Period From Inception on July 1, 1998 through September 30, 2007

From inception of operations on July 1, 1998 through September 30, 2007, we had revenues of $1,089,583, 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 $26,003,586 at September 30, 2007. 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 September 30, 2007. Based on this evaluation, our chief executive officer and chief financial officer concluded that as of September 30, 2007, 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 (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms; and (ii) accumulated and communicated to our management including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding disclosures.

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 three-month ended September 30, 2007 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.

Risks Related to Our Business

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

We are a development stage biotechnology company with a limited operating history and limited assets and capital. We have incurred losses each year since inception and have an accumulated deficit of $26,003,586 at September 30, 2007. 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.

Our independent auditors have expressed substantial doubt about our ability to continue as a going concern.

In their audit opinion issued in connection with our consolidated balance sheets as of June 30, 2007 and 2006 and our related consolidated statements of operations, stockholders' equity, and cash flows for the three year period ending June 30, 2007, our auditors have expressed substantial doubt about our ability to continue as a going concern given our recurring net losses, negative cash flows from operations, planned spending levels and the limited amount of funds on our balance sheet. We have prepared our financial statements on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The consolidated financial statements do not include any adjustments that might be necessary should we be unable to continue in existence.

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

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

We do not expect that our revenue and/or cash and investments on hand will cover our expenses during the next twelve months. However, we have entered into definitive agreements to issue convertible notes and warrants for aggregate gross proceeds of $10,000,000, of which $1,500,000 have been issued on each of September 21, 2007 and October 16, 2007. The balance of

$7,000,000 convertible notes and warrants will be issued as follows: (i) $4,000,000 upon receiving shareholder approval; (ii) $1,500,000 on the date we enter into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies under a United States Food and Drug Administration accepted Investigational New Drug application; and (iii) $1,500,000 on the date we enter into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under a United States Food and Drug Administration accepted Investigational New Drug application. However, we can not assure you that we will meet the funding milestones or that our stockholders will approve this financing. In addition, this financing is secured by all of our assets. If we default under the convertible debentures, the investors may foreclose on our assets and our business. As a result, we may need to obtain more funding in the future through collaborations or other arrangements with research institutions and corporate partners or public and private offerings of our securities, including debt or equity financing. We may not be able to obtain adequate funds for our operations from these sources when needed or on acceptable terms. Future collaborations or similar arrangements may require us to license valuable intellectual property to, or to share substantial economic benefits with, our collaborators. If we raise additional capital by issuing additional equity or securities convertible into equity, our stockholders may experience dilution and our share price may decline. Any debt financing may result in restrictions on our spending.

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

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

We believe that at the projected rate of spending and the additional $7,000,000 proceeds from the issuance of the convertible debentures, we should have sufficient cash and investments to maintain our present operations for the next 24 months. However, if we do not receive the additional $7,000,000 proceeds from the issuance of the convertible notes and warrants, we should have sufficient cash and investments to maintain our present operations for the next 9 months.

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, the University of Florida, and with our commercial partners. At this time, we do not have the internal capabilities to perform our research and development activities. Accordingly, the failure of third-party research partners to perform under agreements entered into with us, or our failure to renew important research agreements with these third parties, may delay or curtail our research and development efforts.

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

As of September 30, 2007, we had cash and highly-liquid investments valued at $1,641,003 and working capital of $951,575. Using our available reserves as of September 30, 2007 and the $1,500,000 gross proceeds from the issuance of a convertible note and warrants on October 15, 2007, we believe that we can operate according to our current business plan for the next nine months. However, with the potential additional gross proceeds of $7,000,000 from the issuance of additional convertible notes and warrants, we believe that we can operate according to our current business plan for the next 24 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 and the conversion of the notes into common stock, as of October 15, 2007, we had 25,129,824 shares of common stock authorized but unissued, which may be issued from time to time by our board of directors without stockholder approval. The total number of shares that may be issued under the financing is subject to certain caps as more fully described elsewhere in the Form 10-Q. 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;
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights; and
- increasing our authorized shares, for which we have filed a proxy statement requesting shareholder approval of such increase.

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

Our business is subject to various government regulations and, if we 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 October 15, 2007, our executive officers, directors and affiliated entities together beneficially own approximately 28.7% of the outstanding shares of our common stock, assuming the exercise of options and warrants which are currently exercisable or will become exercisable within 60 days of October 15, 2007, 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 conversion of outstanding convertible debentures, or the exercise of options and warrants to purchase our common stock.

As of October 15, 2007, we have granted options outside of our stock option plan to purchase 10,000 shares of our common stock and outstanding warrants to purchase 8,143,149 shares of our common stock. In addition, as of October 15, 2007, 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, 2,646,000 of which are outstanding, and 3,264,000 of which may be granted in the future. The exercise of these options and warrants will result in dilution to our existing stockholders and could have a material adverse effect on our stock price. In addition, any shares issued in connection with the YA Global or Stanford financings, as further discussed below, can also have a dilutive effect and a possible 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 October 15, 2007, we had 17,473,694 shares of our common stock issued and outstanding, of which approximately 1,986,306 shares are registered pursuant to a registration statement on Form S-3, which was declared effective on November 27, 2006, and the remainder of which are either eligible to be sold under SEC Rule 144 or are in the public float. In addition, we have registered 2,701,715 shares of our Common Stock underlying warrants previously issued on the Form S-3 registration statement that was declared effective on November 27, 2006, and we registered 6,000,000 shares of our common stock underlying options granted or to be granted under our stock option plan. We have also filed a registration statement on October 12, 2007, which became effective on November 1, 2007, to register 3,333,333 shares of common stock underlying convertible notes. 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 do not 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.

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

The American Stock Exchange requires us to meet minimum financial requirements in order to maintain our listing. We have received notices from the American Stock Exchange that we do not meet each of Section 1003(a)(ii) of the American Stock Exchange Company Guide with shareholders' equity of less than $4,000,000 and losses from continuing operations and/or net losses in three out of our four most recent fiscal years and Section 1003(a)(iii) of the American Stock Exchange Company Guide with shareholders' equity less than $6,000,000 and losses from continuing operations and/or net losses in the five most recent fiscal years. We have submitted a plan to the American Stock Exchange discussing how we intend to regain compliance with the continued listing requirements. The American Stock Exchange has accepted our plan and has given us until March 1, 2008 to effectuate the plan and regain compliance with the continued listing requirements. If we are unable to execute on the plan, it is possible that we will be delisted. If we are delisted from the American Stock Exchange, our common stock likely will become a "penny stock." In general, regulations of the SEC define a "penny stock" to be an equity security that is not listed on a national securities exchange or the NASDAQ Stock Market and that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. If our common stock becomes a penny stock, additional sales practice requirements would be imposed on broker-dealers that sell such securities to persons other than certain qualified investors. For transactions involving a penny stock, unless exempt, a broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. In addition, the rules on penny stocks require delivery, prior to and after any penny stock transaction, of disclosures required by the SEC.

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

We believe that the listing of our common stock on a recognized national trading market, such as the American Stock Exchange, is an important part of our business and strategy. Such a

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

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

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

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

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

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

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

On August 1, 2007 and August 29, 2007, we entered into binding Securities Purchase Agreements with YA Global Investments, referred to herein as YA Global and Stanford Venture Capital Holdings, Inc., referred to herein as Stanford, respectively, to sell to each of YA Global and Stanford up to $5,000,000 of secured convertible notes and accompanying warrants for an aggregate gross proceeds of $10,000,000. The convertible notes convert into our common stock at a fixed price of $0.90 per share subject to certain adjustments, referred to herein as the Fixed Conversion Price, for a period of two years immediately following the signing date, provided that we have achieved the following milestones by January 31, 2008: (i) successful completion of animal studies, other than toxicology studies, necessary for the advancement of factor 5A1 in human clinical trials; (ii) the engagement of a contract research organization for human clinical studies of factor 5A1; and (iii) the signing of at least one (1) corporate partnership or license agreement after August 1, 2007 with an agricultural company utilizing our proprietary platform. As of October 31, 2007, the Company has signed a license agreement with an agricultural company and has engaged a contract research organization and therefore has met two of the three required milestones. After the second anniversary of the signing date, or if we do not achieve the foregoing milestones by January 31, 2008, the convertible notes may convert into shares of our common stock at the lower of the fixed conversion price or 80% of the lowest daily volume-weighted average price, referred to herein as the VWAP, of the common stock during the five trading days prior to the conversion date. The maturity date of each of the convertible notes for YA Global and Stanford is December 30, 2010 and December 31, 2010, respectively. Currently, at the fixed conversion price, the number of shares of common stock issuable upon conversion of the convertible notes and exercise of warrants represents, in the aggregate, 24,994,445 shares, plus an estimated additional 2,000,000 shares for the payment of interest in stock under the convertible notes.

Pursuant to the terms of the Securities Purchase agreements, we are required to seek shareholder approval to increase the authorized number of shares of common stock from 60,000,000 shares to 100,000,000 shares. The Company filed a proxy statement on November 2, 2007 to seek shareholder approval to increase the authorized number of shares of common stock.

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

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

principal outstanding under the convertible notes, we will pay an amount equal to the principal being redeemed plus accrued interest.

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

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

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

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

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

Pursuant to the Registration Rights Agreement, we filed an initial registration statement on October 12, 2007 to register 3,333,333 shares of common stock issuable to YA Global, and such registration statement became effective on November 1, 2007. We are required to file another registration statement to cover up to an additional 2,432,900 within 30 days of the third closing date, which will occur within two days of receiving shareholder approval, and have such registration statement declared effective within 120 days of the third closing date. If the shares issuable to YA Global remain outstanding after all shares under the registration statements have been sold, we may be required to file additional registration statements for those shares. These

registration rights will cease once the shares issuable to YA Global are eligible for sale by the investor without restriction under Rule 144(k). Upon certain events, we have agreed to pay as partial liquidated damages an amount equal to 1.0% of the aggregate purchase price paid by the investors for any convertible debentures then held by the investors, but these payments may not exceed 12% of the aggregate purchase price paid by the investors. The maximum liquidated damages payable under the Registration Rights Agreement is $600,000. We have not recorded an estimated registration rights liability as we anticipate that we will fulfill our obligations under the Registration Rights Agreement.

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

Specifics of YA Global Financing

Pursuant to the YA Global Securities Purchase Agreement, we have issued two convertible notes in the amount of $1,500,000 each and two Series A warrants in the amount of 1,387,500 shares underlying the warrants on each September 21, 2007 and October 16, 2007 and will issue and sell to YA Global a convertible note in the amount of $2,000,000 and a Series B warrant in the amount of 2,775,000 shares on the date that the stockholders approve the transaction.

Pursuant to the rules of the American Stock Exchange, the convertible notes and warrants issued to YA Global at the first two closings were subject to a cap on the number of shares of common stock that can be issued upon the conversion of the convertible notes and the exercise of the warrants, until we receive shareholder approval. The cap of 3,493,000 shares is equal to 19.99% of our outstanding common stock on the signing date. In addition, there is a maximum overall cap of 30,500,000 shares for the YA Global financing.

Specifics of Stanford Financing

Pursuant to the Stanford Securities Purchase Agreement, we will issue and sell to Stanford an additional:

(1) a convertible note in the amount of $2,000,000 and warrants within two business days of the later of (a) the date stockholders approve the transaction or (b) the date that the initial registration statement relating to the YA Global financing is filed with the SEC. Such registration statement was filed on October 12, 2007;

(2) a convertible note in the amount of $1,500,000 on the date we enter into a supply agreement with a third party manufacturer for sufficient quantity and quality of nano-particle for encapsulation of Factor 5A gene to be used in toxicology and proof of concept human studies under a United States Food and Drug Administration, referred to herein as FDA, accepted Investigational New Drug application, referred to herein as IND application;

(3) a convertible note in the amount of $1,500,000 on the date we enter into a supply agreement with a third party manufacturer to provide sufficient quantity and quality of Factor 5A DNA to carry out toxicology and proof of concept human studies under a FDA accepted IND application.

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

Item 6. Exhibits.

Exhibits.

10.1+	License Agreement with Bayer CropScience AG dated as of July 23, 2007.
10.2+	License Agreement with Monsanto Company dated as of August 6, 2007.
10.3+	License Ageement with Bayer CropScience AG dated as of September 17, 2007.
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 for portions of this exhibit has been requested.

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: November 14, 2007

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

DATE: November 14, 2007

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

LICENSE AGREEMENT

between

BAYER CROPSCIENCE AG

and

SENESCO TECHNOLOGIES, INC.

Initials LICENSEE: *Initials SENESCO:*

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LICENSE AGREEMENT

1. INTRODUCTION OF THE PARTIES

This Agreement is made effective the 23rd day of July, 2007,
(the "Effective Date"), by and between:

Bayer CropScience AG,
having its registered office at
Alfred-Nobel-Strasse 50,
40789 Monheim,
Germany
(hereinafter referred to as "LICENSEE")

and

Senesco Technologies, Inc.,
having its registered office at
303 George Street, Suite 420
New Brunswick, NJ 08901
United States of America
(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. "COTTON": cells, plants, seeds, part of plants of any species of the genus Gossypium cultivated for cotton fiber and/or cotton seed oil production.

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 COTTON, comprising a DNA sequence introduced by BAYER which modulates the native expression of eIF-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 COTTON 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 COTTON 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. "Product Seed Unit": ***

3.19. "Proof of Phenotype": ***

3.20. "Regulatory Clearance": ***

3.21. "Territory": worldwide.

3.22. "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 COTTON, 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 COTTON, 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 COTTON and outside the following crops: ***

5.3. Without prejudice to the provisions regarding improvement set forth in the license agreement dated November 8, 2006 regarding brassica, 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 COTTON 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 COTTON, 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 COTTON 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 COTTON 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 above-mentioned 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 COTTON, 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 COTTON. 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 COTTON, 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 commercialize 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: ***.

The milestone payments contemplated in this Article are due within thirty (30) days after the specific milestone has been reached.

11.2. Royalties

11.2.1. Upon Product Launch LICENSEE will pay to SENESCO a royalty based on yield performance attributable to Licensed Technology and Licensee Improvement in that Product. Such *** shall consist of ***, as determined hereinafter, ***. However, the *** by LICENSEE to growers for *** will be *** from ***.

11.2.2. The amount of the royalty due shall be determined as follows:

*** to by *** (hereinafter referred to as "***"), followed by *** or imposed by *** in that *** (or, as the case may be, ***in *** in a group of ***or even a ***a ***in the ***or in ***in that ***(e.g. the ***), or in the absence thereof, in *** by *** in that *** which would be in *** to said *** (e.g. the ***), as agreed by the ***or by ***by *** (hereinafter referred to as "***yield ***to ***in ***and *** will be ***, and this for each of the *** or ***:

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

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

c. yield increase equal to or greater than ***over the best COTTON, including Bayer COTTON (other than controls), of the same species in the relevant trials: ***

Parties acknowledge and agree that said royalty amounts will be multiplied by a multiplier as follows: ***.

11.2.3. Parties furthermore acknowledge and agree that in the event the Contractual Field Trials and Governmental Field Trials lead to different results in a given country or region, yield performance attributable to Licensed Technology and Licensee Improvement in that Product and royalty amount will be determined as follows:

a. the results of the *** will account for *** of the ***, as set forth by ***, and

b. According to the results of the *** the *** amount will be ***, as from the date of such ***, to ***, as determined hereinabove, provided *** of the *** and *** do not substantially differ. The results of the ***and *** shall be

deemed not to differ substantially if such results are within the same range of yield increase, as set forth by Article 11.2.2. In the event the ***and ***the ***shall be ***by the ***of the ***and ***.

11.2.4. If at any time in a given country or region the ***of *** with more than *** compared to the ***of *** in such country or region at *** in such country or region, or, as the case may be, the ***of *** in such country or region at the date of the previous adjustment pursuant to this article 11.2.5, Parties shall, upon request of LICENSEE (hereinafter in this section referred to as the "Request"), *** set forth by *** in such ***. Parties acknowledge and agree however that *** at least be *** to the *** in the above ***.

If the Parties are unable to agree upon an *** within *** days as from the date of the Request, Parties shall agree on the appointment of an independent expert, who will determine, by way of a final and binding third party decision, the adjustment of the royalty amounts set forth by article 11.2.2 in such country or region. If Parties are however unable to agree on an expert within fifteen (15) days as from the date of the Request, each of the Parties shall be entitled to request the competent court to appoint an independent expert of repute with relevant experience.

11.2.5. If at the *** of the *** and/or at each subsequent *** in a given country or region the *** as specified in article 11.2.2 has *** with more than *** compared to the *** as specified in article 11.2.2 at Product Launch in such country or region, Parties shall, upon request of LICENSEE (hereinafter in this section referred to as the "Request"), ***a ***of the *** set forth by *** in such ***. Parties acknowledge and agree however that such adjustment shall at *** with the ***, and ***, set forth by ***.

If the Parties are unable to agree upon an *** within ***days as from the date of the Request, Parties shall agree on the appointment of an independent expert, who will determine, by way of a final and binding third party decision, the adjustment of the royalty amounts set forth by article 11.2.2 in such country or region. If Parties are however unable to agree on an expert within fifteen (15) days as from the date of the Request, each of the Parties shall be entitled to request the competent court to appoint an independent expert of repute with relevant experience.

11.2.6. The royalties due pursuant to this Article 11.2 shall be payable on a country by country basis until the expiration of the last to expire of the Patents within such Licensed Patents in such country.

11.2.7. Each Party shall use reasonable and legal efforts to reduce tax on withholding payments to be made to the other Party. If tax withholdings

under the laws of any country are required with respect to payments to the other Party, each Party may reduce such payment by the amount of such required withholding and then transfer it to the appropriate government authority.

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

11.4. 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.

11.5. 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. 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.

13.2. 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.

13.3. 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.

13.4. 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 AG
Alfred-Nobel-Strasse 50,
40789 Monheim
Germany
Attention: General Counsel
Fax number: ++ 49 2173/38 51 43

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
United States of America
Attention: Sascha Fedyszyn, Vice President Corporate Development
Fax number: ++ 1 (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 containing the 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 party 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 the other 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.

/s/ Bruce C. Galton
Name: Bruce C. Galton
Title: President & CEO

Bayer CropScience AG,

/s/ Dr. G. Merchand
Name: Dr. G. Merchand
Title: General Counsel

/s/ Philippe Walker
Name: Philippe Walker

ANNEX I
to the
License Agreement
between
Bayer CropScience AG
and
Senesco Technologies, Inc.

Licensed Patents

Any Patent, in any country of the world, claiming or having claimed priority of patent applications:

***, filed on ***
***, filed on ***
***, filed on ***
*** filed on ***
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)

*** filed on ***
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)
Provisional *** filed *** (incorporated in ***)

including but not limited to:

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ANNEX II
to the

Licensed Know-How

Intentionally left blank :
information will be added later on by Senesco Technologies, Inc.

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.**

PATENT LICENSE AGREEMENT

This PATENT LICENSE AGREEMENT (this "Agreement") by and between Monsanto Company, a Delaware corporation ("Monsanto"), and Senesco Technologies, Inc., a Delaware corporation ("Senesco") and shall be effective as of the Effective Date.

BACKGROUND

A. Senesco has developed certain patents and technology in the field of improved yield and stress tolerance in plants.

B. Senesco desires to license to Monsanto and Monsanto desires to license from Senesco the patents and technology related to improved yield and stress tolerance in plants in order for Monsanto to further develop and commercialize this technology.

In consideration of the covenants, conditions, and undertakings hereinafter set forth, it is agreed by and between the parties as follows:

1. DEFINITIONS

1.1 "Advancement to Commercial Development" means the ***of a***either***the***Technology or with***with such ***being***by***such***being***in a***so as to ***a ***of***that there is a ***that a***of ***will be ***to ***for***of a ***for***in ***shall***to the ***of a***of***of the ***a***of ***of***for which ***has been ***

1.2 "Agreement" has the meaning set forth in the Preamble.

1.3 "Affiliate" means any corporation, association or other entity which directly or indirectly Controls, is Controlled by or is under common Control with the party in question.

1.4 "Commercially Reasonable Efforts" shall mean, with respect to the efforts expended by Monsanto, those good faith efforts to research, develop and commercialize Product(s), that Monsanto would normally use to accomplish a similar objective under similar circumstances taking into consideration all factors (including, but not limited to market, patent and regulatory) related to such Product.

1.5 "Conceived" and "Conception" has the meaning as applied under applicable United States patent law.

1.6 "Confidential Information" means (i) the terms and conditions of this Agreement (ii) any proprietary or confidential information or material, including all trade secrets, in tangible form disclosed hereunder that is marked as "Confidential" at the time it is delivered to the receiving party, or (iii) proprietary or confidential information or material, including all trade secrets, disclosed orally hereunder which is identified as confidential or proprietary when disclosed and such disclosure of confidential information is confirmed in writing (or by facsimile or email) within thirty (30) days by the disclosing party; *provided however,* that the above information shall not be deemed Confidential Information, to the extent the receiving party can establish by competent written proof that such information:

1.6.1 was already known to the receiving party, other than under an obligation of confidentiality owed to the disclosing party, at the time of disclosure;

1.6.2 was generally available to the public or otherwise part of the public domain at the time of its disclosure hereunder to the receiving party;

1.6.3 becomes generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving party in breach of this Agreement;

1.6.4 is independently developed by the receiving party without reference to any Confidential Information disclosed by the disclosing party; or

1.6.5 was subsequently disclosed to the receiving party by a person other than the disclosing party without breach of any legal obligation to the disclosing party.

1.7 "Control" means:

1.7.1 as to third party Confidential Information or Intellectual Property that is in-licensed by a party, the possession of the ability to disclose or grant the licenses or sublicenses as provided for herein without violating the terms of any agreement or other arrangement with any third party;

1.7.2 as to the prosecution of patent applications, the maintenance of patent rights, and the enforcement and/or defense of patent rights, Control includes the authority to select legal counsel, solicit other expert advice and assistance, and to make decisions pertaining to the conduct of patent prosecution, interferences, patent issuance, maintenance, reissue, reexamination, patent enforcement or defense, as applicable; and

1.7.3 as to an entity, (a) ownership of fifty percent (50%) or more in the aggregate of the voting power of all outstanding equity interest entitled to vote at a general election of directors of such entity, or other ability to elect a majority of the directors or other controlling persons of such entity, (b) ownership of fifty percent (50%) or more of the equity interests in such entity, or (c) ownership of fifty percent (50%) or more of the assets of such entity.

1.8 "Defense or Enforcement Matter" has the meaning set forth in Section 5.2.2.

1.9 "Dispute Resolution" has the meaning set forth in Section 10.

1.10 "Effective Date" means the date of last signature by the undersigned on the signature page hereto.

1.11 "Exclusive License" has the meaning set forth in Section 2.1.

1.12 "Intellectual Property" means generally any and all right title and interest in, arising from, or relating to inventions, ideas, know-how, works of authorship and confidential information, including copyrights, patents and patent applications, trade secrets, trademarks, service marks, any registrations or applications relating to any of the foregoing, and any other rights of a similar nature or character whether now existing or hereafter created, developed, arising or otherwise coming into being.

1.13 "Monsanto" has the meaning set forth in the Preamble.

1.14 "Monsanto Field" means corn, soy and any hybrids and varieties thereof, in any territory in the world.

1.15 "Net Trait Revenue" means, with respect to traits conferred in their entirety to a Royalty Base Product, an amount equal to the gross trait revenue (e.g., ***) received by Monsanto ***or***, as reasonably determined by Monsanto consistent with its then-current custom and practice (e***on a***at the ***are***with***) all in accordance with generally accepted accounting principles (GAAP), less all returns, customer rebates, dealer incentives, channel and marketing programs, volume discounts, seed service fees, cash discounts (pre-pay discounts), local competitive response, freight and insurance, which ***are***on a***or if such ***do not ***then as ***of all ***and ***of ***) in the applicable Royalty Base Product.

1.16 "Prime Rate" means the base lending rate on corporate loans from commercial banks, as published from time to time in The Wall Street Journal.

1.17 "Product" means any product, good, or service that incorporates, contains, utilizes, is enabled by or otherwise exploits the Senesco Technology, or the making, using, selling or importing of which would, absent the Exclusive License granted hereunder, infringe upon Senesco's Intellectual Property rights.

1.18 "Proof of Concept" means the ***in the ***that at***of the***but not ***with at ***.

1.19 "Reduced to Practice" and "Reduction to Practice" has the meaning as applied under applicable United States patent law.

1.20 "Regulatory Submission" means a submission, or submissions, to a U.S. regulatory authority, or such comparable authority in countries outside of the U.S., whose purpose is to allow for the commercial production or importation for food or feed use in the jurisdiction governed by such regulatory authority.

1.21 "Research License" has the meaning set forth in Section 2.4.

1.22 "Royalty Base Product" means any product, good, or service that incorporates, contains, or expresses a Trait embodied in the Senesco Technology and the making, using, selling or importing of which would, absent the License granted hereunder, infringe an issued, existing, valid, and unexpired claim under an issued, existing, valid and unexpired Senesco patent (but not a patent application).

1.23 "Senesco" has the meaning set forth in the Preamble.

1.24 "Senesco Biological Material" means seeds, vectors, germplasm, and any other cells, plants, plant tissues, and other material provided by Senesco to Monsanto pursuant to Section 2.3.

1.25 "Senesco Patent Rights" means all the patents and patent applications listed in Exhibit A and any amendements thereto, including any continuations, divisionals, continuations-in-part, reissues, or foreign equivalents based on any of the foregoing patents, patent applications or claims in respect thereof.

1.26 "Senesco Research Crop" means any crop other than ***and any ***and***.

1.27 "Senesco Technology" means (a) the Senesco Patent Rights, (b) any data that provided proof of concept for the Senesco Patent Rights, including but not limited to the coding region, promoter guidance, and vectors used for plant transformations, and (c) any know-how, trade secrets, processes, or other information necessary or useful to the practice of the Senesco Patent Rights or use of the knowledge covered in clauses (a), (b), or (c) above, provided that (b) and (c) above shall only include that data and know-how to which Senesco has a right to provide under this Agreement.

1.28 "Senesco Trait" means any biochemical, physiological, or physical attribute or phenotype of a cell, plant, or other organism, which trait is caused or regulated by one or more genes, and which trait is covered by a claim under the Senesco Patent Rights.

1.29 "Technology Access Fee" has the meaning set forth in Section 3.1.

1.30 "Term" means the term of this Agreement.

2. LICENSE TO MONSANTO.

2.1 Exclusive License to Monsanto. Subject to the terms and conditions of this Agreement, Senesco grants to Monsanto and its Affiliates, and Monsanto accepts for itself and on behalf of its Affiliates, an exclusive, perpetual, worldwide, sub-licensable, license under Senesco's interest in the Senesco Technology to research, develop, make, have made, use, have used, import, export, distribute, sell, offer for sale, have sold, and otherwise exploit Products for all applications in the Monsanto Field (the "Exclusive License").

2.2 Sublicenses. Monsanto is entitled to grant sublicenses under the Exclusive License. Each sublicense granted by Monsanto shall be consistent with all the terms and conditions of this Agreement.

2.3 Access to Senesco Biological Materials and Data. Senesco agrees to provide Monsanto within thirty (30) days of any reasonable request by Monsanto, to the extent reasonably available, representative samples of all Senesco Biological Material and data necessary or useful for Monsanto to exercise the rights and licenses granted to Monsanto pursuant to this Section 2 or pertaining to the Senesco Technology.

2.4 Grant Back Obligations . Monsanto agrees to grant and hereby grants to Senesco, which Senesco accepts, a nonexclusive, nonsublicensable, non-transferable, royalty-free, worldwide research license (the "Research License") in the Senesco Research Crops to any patentable improvements developed by Monsanto under the Exclusive License to any invention covered by an issued claim of the Senesco Patent Rights licensed to Monsanto. The Research License includes the right to research, develop, make and use (but not to distribute, sell, offer for sale, have sold, import, export, have made or otherwise commercially exploit) any patentable improvements covered by this Section 2.4. Senesco acknowledges and agrees that the Research License is not a commercial license.

2.5 Reservation of Rights. Senesco reserves and retains title to, ownership of, or Control over all rights not expressly granted to Monsanto pursuant to this Agreement.

3. PAYMENTS.

3.1 Technology Access Fee. Monsanto shall pay to Senesco, within thirty (30) days of the Effective Date, a non-refundable, non-creditable technology access fee in the amount of ***) (the "Technology Access Fee").

(a) Royalty Payments on Net Trait Revenue. Subject to the terms and conditions of this Agreement, Monsanto agrees to pay to Senesco a royalty on each Royalty Base Product sold by Monsanto, a Monsanto Affiliate or a Monsanto sublicensee *** for each such Royalty Base Product sold hereunder.

(b) ***pays ***for***to***for the ***of***then***may***any such ***under***but in ***of ***of the ***in***of the ***

3.2 Milestone Payments. Provided the pre-commercial Products developed by Monsanto contain Senesco Technology or are otherwise Royalty Base Products, Monsanto agrees to pay Senesco the following fees (collectively, "Milestone Fees within sixty (60) days of achievement thereof by Monsanto, a Monsanto Affiliate, or a Monsanto sublicensee:

(a) ***

***payable at ***

*** payable upon ***

*** payable upon ***

(b) ***

*** payable at ***

*** payable upon ***

*** payable upon ***

Any and all ***by ***are***any ***made in ***of each ***

3.3 Disclaimer. Senesco agrees and acknowledges that Monsanto has no obligation under this Section 3 or otherwise under this Agreement to pursue any regulatory or governmental approval for any particular crop or set of crops in any particular market or in general. Monsanto does not represent, warrant, or assert that any royalties or Milestone Fee payments will accrue hereunder, and any statement to the contrary by any agent, employee, officer, director, or shareholder of Monsanto is hereby disclaimed and not binding on Monsanto. Without limiting the generality of the foregoing, Monsanto intends to use Commercially Reasonable Efforts to evaluate the efficacy of the Senesco Technology.

4. PAYMENTS; BOOKS AND RECORDS.

4.1 Royalty Reports and Payments. After the first commercial sale of a Product, Monsanto shall deliver written reports to Senesco annually on or before December 31 for the prior twelve (12) month period ending August 31st, stating in each such report, separately for Monsanto and each of its Affiliates, the number and description of each Product sold, the Net Trait Revenue with respect thereto, and the calculation of royalties due thereon.

4.2 Payment Method. All payments due under this Agreement shall be made by check or by Electronic Funds Transfer (EFT) to a bank account designated by Senesco. All payments hereunder shall be made in U.S. dollars. If the due date of any payment is a Saturday, Sunday or national holiday, such payment may be paid on the following business day.

4.3 Late Payment Penalties. Interest shall accrue on any late payment owed to Senesco hereunder not made within sixty (60) days of the date such payment is due, at an annual interest rate equal to the lesser of the Prime Rate plus two percent (2%) or the highest rate permissible by law, with such interest accruing from the date the payment was originally due, and any late payment pursuant to this Section shall be credited first to interest and then to any outstanding fees.

4.4 Currency Conversions. If any currency conversion shall be required in connection with the calculation of payments hereunder, such conversion shall be made using the selling exchange rate for conversion of the foreign currency into U.S. Dollars, quoted for current transactions reported in Reuters for the second to last business day of the month prior to the month in which Monsanto records such sale giving rise to the payment obligation set forth herein.

4.5 Records; Inspection. Monsanto shall endeavor reasonably to keep complete, true and accurate books of account and records for the purpose of determining the royalty amounts payable under this Agreement. Such books and records shall be kept at Monsanto's principal place of business, for at least two (2) years following the end of the annual period to which they pertain. These books and records of Monsanto shall be open for inspection by Senesco during such two (2) year period by a public accounting firm for whom Monsanto has no reasonable objection, solely for the purpose of verifying royalty statements hereunder. Such inspections may be made no more than once each calendar year, and no more than once with respect to the period inspected, at reasonable times and on reasonable notice. Inspections conducted under this Section 4.4 shall be at Senesco's expense and may not be conducted on a contingent fee basis; *provided, however,* that if a variation or error producing an increase exceeding ten percent (10%) of the royalty amount stated for any period covered by the inspection is established in the course of any such inspection, then all reasonable third party inspector's costs relating to the inspection for such period incurred by Senesco, and any unpaid amounts that are discovered, shall be paid by Monsanto to Senesco.

4.6 Tax Matters. All royalty amounts and other payments required to be paid pursuant to this Agreement shall be paid with deduction therefrom for withholding for or on account of any sales tax, use tax, value-added tax or other similar tax (other than taxes imposed on, measured by, or credited against net income) or governmental charge imposed upon such royalties by a jurisdiction other than the United States. The withholding party shall provide Senesco with a certificate evidencing payment of any such withholding taxes pursuant to this Section 4.6.

5. INTELLECTUAL PROPERTY.

5.1 Inventorship and Title. Inventorship and rights of ownership and title to improvements and modifications to the Senesco Technology licensed to Monsanto hereunder that are Conceived or Reduced to Practice in whole or part by personnel of Monsanto or its Affiliates shall be determined in accordance with applicable law. Monsanto or its designee shall own all right, title and interest in any inventions or discoveries, and all Intellectual Property rights relating to such inventions or discoveries, Conceived or Reduced to Practice by Monsanto's or its Affiliates' employees, agents or independent contractors (or conceived or reduced to practice jointly with any third parties under an obligation to assign such Intellectual Property rights covering such inventions or discoveries to Monsanto or its designee) under or in the course of exercising the Exclusive License rights hereunder in respect of the Senesco Technology.

5.2 Patent Rights.

5.2.1 Prosecution and Maintenance. Senesco shall Control and be solely responsible for all costs related to the prosecution and maintenance of the Senesco Patent Rights. If Senesco elects not to prosecute or maintain a patent application or patent in a particular country, Senesco shall provide Monsanto with sixty (60) days notice thereof. If Monsanto objects to such abandonment or withdrawal, at Senesco's sole discretion, Senesco shall either (i) continue to prosecute, maintain and defend such patent application or patent or (ii) give Monsanto the right to take over the prosecution, maintenance and/or defense of such patent

application, at Monsanto's own discretion and at its own cost and to have such patent application assigned to Monsanto. Senesco will execute the appropriate documents for filing with the relevant government patent office to enable Monsanto to take over prosecution or maintenance of said patent application or patent and to assign rights of ownership to Monsanto. Any such patent or patent application which Senesco abandons and Monsanto continues to prosecute or maintain will no longer be considered within the scope of Senesco Patent Rights under the terms of this Agreement.

5.2.2 Patent Enforcement. In the event that either party becomes aware of any infringement of the Senesco Patent Rights or assertion thereof within the Monsanto Field, it shall promptly and in any case before taking any action thereon notify the other party, and the parties shall meet and confer regarding the appropriate action to be taken in respect thereof. For any enforcement of the Senesco Patent Rights pertaining to the Monsanto Field (to which Monsanto has retained its Exclusive License), Monsanto shall have the first option to enforce the Senesco Patent Rights. If Monsanto chooses to enforce said rights, except as provided for in the following sentence, Monsanto will assume full Control of such matter, at its own cost. To the extent that Senesco Patent Rights outside of the Monsanto Field are implicated or at risk, Senesco will be given the opportunity to participate, at its own cost in the defense of any validity or enforceability of one or more of the Senesco Patent Rights, and Senesco shall retain full Control of all decisions regarding the validity and enforceability of those rights. Any and all lost profits damages awards resulting from any enforcement action pursued by Monsanto within the Monsanto Field, as provided above shall be retained by Monsanto. If Monsanto declines to assume Control, Senesco shall retain Control of such matter and shall be solely responsible for all decisions and costs related to the matter, and shall also own any damages obtained therefrom. Senesco agrees to assist and cooperate with Monsanto as may be required in order to perfect Monsanto's interests hereunder and to facilitate Monsanto's enforcement of the Senesco Patent Rights Senesco acknowledges that it may be a necessary party to any action brought by Monsanto arising from enforcement of the Senesco Patent Rights, and Senesco will provide such assistance and cooperation for its participation in such proceedings. Monsanto agrees to reimburse Senesco any reasonable and necessary documented out of pocket expenses Senesco may incur for the aforementioned assistance.

5.2.3 Defense Against Third Party Infringement. In the event either party is sued for infringement of a third party patent based in whole or in part on use of the Senesco Technology or the Senesco Patent Rights, each party will retain Control of its own defense and bear its own cost of defense. Monsanto assumes full liability for any damages assessed or awarded based upon Monsanto's making, using, selling, offering to sell, or importing Products or Royalty Base Products.

6. REPRESENTATIONS, WARRANTIES AND COVENANTS; DISCLAIMERS.

6.1 Representations and Warranties.

6.1.1 By Senesco. Senesco represents, warrants and covenants to Monsanto that (i) it has the full right and authority to enter into this Agreement and grant the rights and licenses granted herein; (ii) as of the Effective Date and to the knowledge of Senesco, there are no

existing or threatened actions, suits or claims pending against it with respect to the license granted hereunder, or its right to enter into and perform its obligations under this Agreement; (iii) as of the Effective Date Senesco is not aware of any allegation by a third party that the Senesco Technology is invalid, unenforceable or infringes the Intellectual Property rights of a third party; (iv) Senesco has not previously granted, and shall not grant during the Term, any rights in or to the Senesco Technology which are in conflict with the rights granted to Monsanto hereunder; (v) the list of patents in Exhibit A contains all patents and pending applications known to and Controlled by Senesco and its Affiliates which are or shall be required in order to create or practice any invention, product, method, or process comprising the Senesco Technology without infringement or violation of any Intellectual Property rights owned or Controlled by Senesco; and (vi) Senesco and its Affiliates do not and shall not at any point in the future assert that any patent currently or in the future owned, licensed or Controlled by such parties is directly or indirectly infringed by any good, service, process or method offered or used by Monsanto in a case, lawsuit, to any third party, or otherwise in any manner provided such product, good, service or process is treated by Monsanto as a Royalty Base Product hereunder.

6.1.2 By Monsanto. Monsanto warrants and represents to Senesco that (i) it has the full right and authority to enter into this Agreement, and (ii) as of the Effective Date and to the knowledge of Monsanto, there are no existing or threatened actions, suits or claims pending against it with respect to its right to enter into and perform its obligations under this Agreement.

6.2 ***Disclaimer of Warranties. Except as expressly provided in Section 6.1, Senesco and Monsanto each expressly disclaim any warranties, including without limitation any implied warranties of merchantability or fitness for a particular purpose, or any warranty that any patent licensed hereunder shall be valid or enforceable. Each party acknowledges that it is not relying on any warranties other than those set forth in this Section 6.***

7. CONFIDENTIALITY.

7.1 Confidential Information. Except as expressly provided in this Agreement, the parties agree that, for the Term and for five (5) years thereafter, the receiving party shall keep completely confidential and shall not publish or otherwise disclose and shall not use for any purpose except for the purposes contemplated by this Agreement any Confidential Information furnished to it by the disclosing party hereto pursuant to this Agreement. Without limiting any provision of this Agreement, each of the parties hereto shall be responsible for the observance by its employees of the confidentiality obligations set forth in this Section 7 and this Agreement, generally.

7.2 Permitted Disclosures. Except as otherwise limited by this Agreement, each party hereto may disclose the other party's Confidential Information and scientific data resulting from the activities conducted under this Agreement only (a) to its Affiliates, or to its advisors, financial investors, including prospective financial investors, and the agents or advisors of the foregoing and other similarly situated third parties on a need to know basis, if such Affiliates and other permitted recipients agree to be bound by the terms of this Section 7 or have a fiduciary duty of confidentiality, and (b) to the extent such disclosure is reasonably necessary in connection with filing or prosecuting patent applications, prosecuting or defending litigation, complying with applicable governmental regulations, submitting information to tax or other

governmental authorities, making a permitted sublicense or otherwise exercising its rights hereunder, provided that if a party is required to make any such disclosure of another party's Confidential Information, other than pursuant to a confidentiality agreement, it shall give reasonable advance notice to the other party of such disclosure and, save to the extent inappropriate in the case of patent applications, shall cooperate with the disclosing party to secure a protective order blocking the disclosure of, or otherwise affording confidential treatment to, such Confidential Information. Without limiting the generality of the preceding, Monsanto and Senesco agree that no press release or other public statement concerning the negotiation, execution and delivery of this Agreement and any other agreements and transactions contemplated hereby shall be issued or made without the prior written approval of both parties. Further, the parties agree that neither party shall make any other press release or public disclosures relating to the terms of this Agreement without obtaining the prior written consent of the other party. The party wishing to make said other press release or public disclosures shall submit a copy of the proposed release or disclosure at least two weeks prior to wishing to make such disclosure or release. Notwithstanding the foregoing, the parties shall be entitled to issue a press release to announce the execution of this Agreement, as approved by both parties. Consent shall not be unreasonably withheld or delayed.

Notwithstanding the terms of this Article 7, either party shall be permitted to disclose the existence and terms of this Agreement, to the extent required, in the reasonable opinion of such party's counsel, to comply with applicable laws, rules or regulations, including, without limitation, the rules and regulations promulgated by the U.S. Securities and Exchange Commission or any other governmental agency. Prior to disclosing the Agreement or the terms hereof, the parties shall consult with one another on the terms of this Agreement for which confidential treatment will be sought in making such disclosure. If a party wishes to disclose this Agreement or any of the terms hereof in accordance with this paragraph, such party agrees, at its own expense, to seek confidential treatment of the portions of this Agreement or such other terms as may be reasonably requested by the other party, provided that the disclosing party shall always be entitled to comply with legal requirements.

8. EXCLUSION OF DAMAGES; LIMITATION OF LIABILITY.

In no event shall either party be liable under this Agreement to the other party for any incidental, consequential, indirect or exemplary damages, including damages from loss of profits or opportunities, even if advised of the possibility of such damages. In no event shall Monsanto's liability to Senesco arising out of or in connection with this Agreement, the Senesco Technology, or Monsanto's use or other exploitation thereof, whether in contract, tort or any other theory of liability, including strict liability, exceed in the aggregate the amounts actually paid by Monsanto to Senesco during the one (1) year period before such liability first accrues.

9. TERM AND TERMINATION.

9.1 Term. The term of this Agreement shall commence on the Effective Date and, unless terminated earlier as provided for herein, shall continue until the expiration of the last to expire Senesco Patent Rights. Without limiting the foregoing, the term of this Agreement shall

survive the non-renewal or termination of any particular license granted hereunder, but not the Agreement in its entirety.

9.2 Termination by Monsanto. Monsanto may terminate this Agreement at any time upon sixty (60) prior notice to Senesco.

9.3 Termination for Cause.

9.3.1 Termination of the Agreement. Subject to the limitations set forth in Section 9.3.2 regarding Senesco's right to terminate any licenses granted under this Agreement, either party may, upon notice to the other party, terminate this Agreement in its entirety if the other party materially breaches this Agreement and fails to cure such breach within ninety (90) days after receiving written notice thereof from the party seeking to terminate.

9.3.2 Termination of License. Senesco may, upon notice to Monsanto and Monsanto's failure to cure within a ninety (90) day period, terminate any license to a Senesco Patent Right following Monsanto's unauthorized use thereof or nonpayment of undisputed fees accrued and payable under Section 3.

9.3.3 For avoidance of doubt, termination of the Agreement or of a license hereunder pursuant to this Section 9.3 shall be effective only if the party seeking to terminate provides notice of breach, such breach is not cured within ninety (90) days, and such party then provides notice of termination upon expiration of such cure period.

9.4 Accrued Obligations. Termination of this Agreement or any license granted hereunder for any reason shall not release any party from any liability which, at the time of such termination, has already accrued to the other party. Subject to the limitations set forth in Sections 6.2 and 8, neither party is precluded from pursuing any rights and remedies it may have under this Agreement and at law and in equity which accrued or are based upon any event occurring prior to such termination.

9.5 Insolvency. The parties agree that the licenses granted hereunder are of intellectual property covered by 11 U.S.C. § 365(n) and that if a trustee of Senesco rejects the Agreement as an executory contract, Monsanto has the right to continue its rights under the Agreement following notice and assumption of its obligations. They further agree that in the event of such rejection, failure by the Monsanto to assert its rights to "retain its benefits" under the Agreement pursuant to 11 U.S.C. § 365(n)(1)(B) shall not be construed by either party or by a court as a termination of the Agreement by Monsanto under 11 U.S.C. § Section 365(n)(1)(A).

9.6 Survival. Sections 1, 2.1, 2.2, 2.5, 3.1(a), 3.1(a) 3.3, 4, 5.1, 6, 7, 8, 9.4, 9.5, 9.6, 10 and 11 shall survive the expiration or termination of this Agreement.

10. DISPUTE RESOLUTION.

10.1 If a dispute arises out of or relates to this Agreement or a breach thereof, the parties shall first try to resolve their dispute through informal and good faith negotiation between the Chief Executive Officer of Senesco and the Executive Vice President of Technology of Monsanto. If said officers cannot resolve the dispute within three business days, then the parties

agree first to try in good faith to settle the dispute by mediation under the Commercial Mediation Rules of the American Arbitration Association, before resorting to arbitration, litigation, or some other dispute resolution procedure.

11. MISCELLANEOUS.

11.1 Governing Law. This Agreement and any dispute arising from the performance or breach hereof shall be governed by and construed in accordance with the internal laws of the State of Missouri applicable to contracts entered into and performed in Missouri by residents thereof, except in respect of matters arising under patent law, which matters shall be governed by and construed in accordance with Title 35, United States Code, and patent law as interpreted by the U.S. Court of Appeals for the Federal Circuit and the U.S. Supreme Court. Any action or lawsuit brought relating to this agreement shall be brought in the state and federal courts of St. Louis, Missouri, and any objection to venue or personal jurisdiction in such courts is hereby irrevocably waived.

11.2 Waiver. Neither party may waive or release any of its rights or interests in this Agreement except in writing. The failure of either party to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right or excuse a similar subsequent failure to perform any such term or condition.

11.3 Amendment. This Agreement may be modified or amended only pursuant to a writing executed by both parties.

11.4 Assignment. Except as otherwise provided herein, this Agreement and the licenses granted herein shall not be assignable by either party to any third party hereto without the prior written consent of the other party hereto, provided, however, Monsanto may assign this Agreement, without such consent, to an Affiliate, upon a change of Control, or in connection with the reorganization, consolidation, spin-off, sale or transfer of substantially all of the stock or assets related to that portion of its business pertaining to the subject matter of this Agreement, either alone or in conjunction with other businesses as part of an overall reorganization. The terms and conditions of this Agreement shall be binding on and inure to the benefit of the permitted successors and assigns of the parties.

11.5 Notices. All notices, requests and other communications hereunder shall be in writing and shall be personally delivered or sent by international express delivery service, registered or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below, or such other address as may be specified in writing to the other parties hereto:

Monsanto:
Monsanto Company
Attn.: Vice President, Biotechnology
800 N. Lindbergh Blvd.
St. Louis, Missouri 63167

with a copy to:
General Patent Counsel
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167

Senesco:
Senesco Technologies, Inc
Sascha Fedyszyn
Vice President, Corporate Development
303 George St., Suite 420
New Brunswick, NJ 08901

with a copy to:

Except for a notice of a change of address, which shall be effective only upon receipt thereof, all such notices, requests, demands, waivers and communications properly addressed shall be effective: (i) if sent by U.S. mail (or if internationally, by air mail), three (3) business days after deposit in the U.S. mail or air mail, postage prepaid; (ii) if sent with overnight delivery by Federal Express or other overnight delivery service, one (1) business day after delivery to such service; (iii) if sent by personal courier, upon receipt; and (iv) if sent by facsimile (if the receiving machine confirms receipt through answerback and the sending machine prints a paper copy of the answerback message), upon receipt.

11.6 Performance Warranty. Monsanto and Senesco hereby warrant and guarantee the performance of any and all rights and obligations of this Agreement by their Affiliates.

11.7 Force Majeure. Neither party shall be liable to the other for failure or delay in the performance of any of its obligations under this Agreement (other than obligations to pay money) for the time and to the extent such failure or delay is caused by riot, civil commotion, war, terrorist act, hostilities between nations, governmental law, order or regulation, embargo, action by the government or any agency thereof, act of God, storm, fire, earthquake, accident, labor dispute or strike, sabotage, explosion or other similar or different contingencies, in each case, beyond the reasonable control of such party. The party affected by Force Majeure shall provide the other party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and shall use its best endeavors to overcome the difficulties created thereby and to resume performance of its obligations as soon as practicable.

11.8 Independent Contractors. Nothing contained in this Agreement is intended implicitly, or is to be construed, to constitute Monsanto or Senesco as partners in the legal sense. No party hereto shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of any other party or to bind any other party to any contract, agreement or undertaking with any third party.

11.9 Advice of Counsel. Monsanto and Senesco each have had the opportunity to consult with counsel of their choice regarding this Agreement, and each acknowledges and agrees that this Agreement shall not be deemed to have been drafted by one party or another and shall be construed accordingly.

11.10 Other Obligations. Except as expressly provided in this Agreement or as separately agreed upon in writing between Senesco and Monsanto, each party shall bear its own costs incurred in connection with the implementation of the obligations under this Agreement.

11.11 Severability. If any provisions of this Agreement are determined to be invalid or unenforceable by an arbitrator or court of competent jurisdiction, the remainder of this Agreement shall remain in full force and effect without said provision. The parties shall in good faith negotiate a substitute clause for any provision declared invalid or unenforceable, which shall most nearly approximate the intent of the parties in entering this Agreement.

11.12 Further Assurances. At any time or from time to time on and after the date of this Agreement, either party shall at the request of the other party (i) deliver to the requesting party such records, data or other documents consistent with the provisions of this Agreement, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of assignment, transfer or license, and (iii) take or cause to be taken all such actions, as the requesting party may reasonably deem necessary or desirable in order for the requesting party to obtain the full benefits of this Agreement and the transactions contemplated hereby.

11.13 Approvals. Monsanto shall be responsible, at its expense, for obtaining any approvals from the governmental entities which may be required under applicable law for the commercial exploitation of Products.

11.14 Entire Agreement. This Agreement together with the Exhibit hereto constitutes the entire agreement, both written or oral, with respect to the subject matter hereof, and supersedes all prior or contemporaneous understandings or agreements, whether written or oral, between Monsanto and Senesco with respect to such subject matter.

11.15 Headings. The headings to the Sections hereof are not a part of this Agreement, but are included merely for convenience of reference only and shall not affect its meaning or interpretation.

11.16 Construction. Whenever examples are used in this Agreement with the words “including,” “for example,” “e.g.,” “such as,” “etc.” or any derivation of such words, such examples are intended to be illustrative and not limiting.

11.17 Counterparts. This Agreement may be executed in two counterparts and by facsimile, each of which shall be deemed an original and which together shall constitute one instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed by their authorized representatives effective as of the Effective Date.

MONSANTO COMPANY

By: /s/ Robert T. Fraley

SENESCO TECHNOLOGIES, INC.

By: /s/ Bruce C. Galton

Its: EVP and Chief Technology Officer
Date of Execution: 8/06/07

Its: President and Chief Executive Officer
Date of Execution: 8/06/07

EXHIBIT A

***

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 AG

and

SENESCO TECHNOLOGIES, INC.

Initials LICENSEE: *Initials SENESCO:*

TABLE OF CONTENTS

LICENSE AGREEMENT

1. INTRODUCTION OF THE PARTIES

This Agreement is made effective the 17th day of September 2007, (the "Effective Date"), by and between:

Bayer CropScience AG,
having its registered office at
Alfred-Nobel-Strasse 50,
40789 Monheim,
Germany
(hereinafter referred to as "LICENSEE")

and

Senesco Technologies, Inc.,
having its registered office at
303 George Street, Suite 420
New Brunswick, NJ 08901
United States of America
(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");

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

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

3.3 "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 forty-nine per cent (49 %) 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.

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

3.5 "Genes": the eIF-5A gene described in the Licensed Patents filed by SENESCO, and its Orthologs in the form of a chimeric gene to be introduced in Rice. "Ortholog" means any protein having *** or more overall identity with the protein encoded by the selected base Gene.

3.6 "Hybrid": a BAYER's best considered hybrid rice.

3.7 "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.

3.8 "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 RICE 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.

3.9 "Licensed Technology": methods and means to modulate expression of eIF-5A.

3.10 "License Income": the amounts of royalties and/or lump sum fees effectively received by LICENSEE 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.

3.11 "Net Sales": the total amounts received by LICENSEE for the sale of a Product to any third party (namely, not a LICENSEE entity) ***.

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

3.13 "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.

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

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

3.16 "Proof of Phenotype": ***.

3.17 "Regulatory Clearance": ***.

3.18 "Rice": *Oryza sativa sp*.

3.19 "Territory": worldwide.

3.20 "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.

3.21 "Value Captured": ***.

3.22 "Yield": The grain quantity harvested from the field per unit area.

3.23 "Yield Increase Percentage": ***.

4. LICENSE GRANT

4.1 SENESCO hereby grants to LICENSEE, an exclusive worldwide license for RICE 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, 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 RICE and outside the following crops: ***.

5.3 Without prejudice to the provisions regarding improvement set forth in the license agreement dated November 8, 2006 regarding brassica and the license agreement dated July 17, 2007 regarding cotton, 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-5Ain plants (such as novel eIF-5A genes, novel chimeric genes involving eIF-5A) 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 by using the Licensed Technology to the extent that it is directed or is applied in relation to RICE 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 RICE, 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 RICE 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 RICE 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 RICE, 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 RICE. 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 RICE, 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 commercialize 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 Proof of Phenotype in the field in an *** $ ***; and
c. at Proof of Phenotype in the field in a *** $ ***; and
d. at submission to the relevant authority of first regulatory package for the first Product for which regulatory approval is sought for commercialization in the first country: $***; and
e. at Regulatory Clearance in the first country: $US ***.

The milestone payments contemplated in this Article are due within thirty (30) days after the specific milestone has been reached.

11.2 Royalties

11.2.1. Upon Product Launch LICENSEE will pay to SENESCO a royalty based on Yield increase attributable to Licensed Technology and Licensee Improvement in that Product. Such *** shall consist of *** by LICENSEE. However, *** by LICENSEE to growers for ***will be *** from ***.

11.2.2. Performance Based Royalty. In consideration of the license under the Licensed Patents granted herein and of the undertakings of SENESCO hereunder, LICENSEE shall pay to SENESCO a royalty with respect to each Product sold equal to the percentage set forth below of the *** by LICENSEE that is applicable to such Product, such royalty rate to be determined in accordance with *** attributable to the Product (determined as set forth in Article 11.6 below) as set forth below.

Such performance-based royalty fees will be as follows:

a. Yield Increase Percentage ***;
b. Yield Increase Percentage equal or greater than *** : *** on the *** by LICENSEE;
c. Yield Increase Percentage equal to or greater than *** : *** on the *** by LICENSEE;
d. Yield Increase Percentage equal to or greater than *** : *** on the *** by LICENSEE.
e. Yield Increase Percentage equal to or greater than *** : *** on the *** by LICENSEE;

11.2.3. The royalties due pursuant to this Article 11.2 shall be payable on a country by country basis until the expiration of the last to expire of the Patents within such Licensed Patents in such country.

11.2.4. Each Party shall use reasonable and legal efforts to reduce tax on withholding payments to be made to the other Party. If tax withholdings under the laws of any country are required with respect to payments to the other Party, each Party may

reduce such payment by the amount of such required withholding and then transfer it to the appropriate government authority.

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

11.4 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.

11.5 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.

11.6 Determination of Yield Increase, Value Captured and License Income. The LICENSEE determines the values of Yield Increase Percentage, Value Captured by LICENSEE and License Income. Yield Increase Percentage will be determined ***, if relevant, prior to commercial launch. In the event that SENESCO does not agree with any of the aforesaid values, it may require a process of determination by expert opinion, in accordance with the procedure provided below.

After notice of SENESCO is delivered to LICENSEE, the Parties will agree on an acceptable independent expert. LICENSEE and SENESCO shall then each present to the expert their proposed values for Yield Increase Percentage, Value Captured by LICENSEE and/or License Income, as applicable, and the rationales and data used for determining such value. Such submission will be made no later than *** from the original requirement for determination. LICENSEE will pay, with its submission, the remuneration amount resulting from LICENSEE's proposed values. In respect of each value on which determination was requested, the expert will adopt, without any modification, the value proposed by either LICENSEE or SENESCO which is closest to the expert's assessment of the correct value. The selection of the expert will be binding on the Parties as if both of them have consented to it; where applicable, LICENSEE will pay the excess within 15 days of the expert determination. SENESCO shall bear the costs relating to the expert's services unless the expert's assessment of the value differs from LICENSEE's by more than 5%, in which case LICENSEE shall reimburse SENESCO for all reasonable expert costs evidenced by invoices. SENESCO shall bear the costs relating to the expert's services unless the expert's assessment of the Value Captured and License Income value(s) differs from LICENSEE's by more than 10%, in which case LICENSEE shall reimburse SENESCO for all reasonable expert costs evidenced by invoices.

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 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.

13.2 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.

13.3 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.

13.4 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 AG
Alfred-Nobel-Strasse 50,
40789 Monheim
Germany
Attention: General Counsel
Fax number: ++ 49 2173/38 51 43

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
United States of America
Attention: Sascha Fedyszyn, Vice President Corporate Development
Fax number: ++ 1 (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 containing the 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 party 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 the other 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.

/s/ Bruce C. Galton
Name: Bruce C. Galton
Title: President & CEO

Bayer CropScience AG,

/s/ Dr. G. Merchand
Name: Dr. G. Merchand
Title: General Counsel

/s/ Philippe Walker
Name: Philippe Walker
Title: Head of Business Development

ANNEX I
to the
License Agreement
between
Bayer CropScience AG
and
Senesco Technologies, Inc.

Licensed Patents

Any Patent, in any country of the world, claiming or having claimed priority of patent applications:

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*** filed on *** which includes:
Provisional *** filed ***
Provisional *** filed ***
Provisional *** filed ***
Provisional *** filed ***

*** filed on *** which includes:
Provisional *** filed ***
Provisional *** filed ***
Provisional *** filed ***
Provisional *** filed ***

including, but not limited to:

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ANNEX II
to the
License Agreement
between
Bayer CropScience AG
and

Senesco Technologies, Inc.

Licensed Know-How

Intentionally left blank:
Information will be added later on by Senesco Technologies, Inc.

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):

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   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: November 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):

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   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: November 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 September 30, 2007 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: November 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 September 30, 2007 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: November 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.