

SENESCO TECHNOLOGIES INC  
Form 10-Q  
November 03, 2006

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

**FORM 10-Q**

(Mark One)

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

For the quarterly period ended September 30, 2006

OR

**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**

(State or other jurisdiction of incorporation or organization)

**84-1368850**

(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:

No:

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

Accelerated filer

Non-accelerated filer

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Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes:

No:

As of October 31, 2006, 17,473,694 shares of the issuer's common stock, par value \$0.01 per share, were outstanding.

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

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**PART I. FINANCIAL INFORMATION.**

**Item 1. Financial Statements.**

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

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

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

	September 30, 2006 (unaudited)	June 30, 2006
<u>ASSETS</u>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 355,384	\$ 318,473
Short-term investments	400,000	850,000
Prepaid expenses and other current assets	137,582	139,584
<b>Total Current Assets</b>	<b>892,966</b>	<b>1,308,057</b>
Property and equipment, net	9,143	10,318
Intangibles, net	2,345,931	2,209,796
Security deposit	7,187	7,187
<b>TOTAL ASSETS</b>	<b>\$ 3,255,227</b>	<b>\$ 3,535,358</b>
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable	\$ 105,561	\$ 77,695
Accrued expenses	542,808	329,884
Deferred revenue	35,417	41,667
<b>Total Current Liabilities</b>	<b>683,786</b>	<b>449,246</b>
Grant payable	99,728	99,728
Other liability	33,112	34,418
<b>TOTAL LIABILITIES</b>	<b>816,626</b>	<b>583,392</b>
<b>STOCKHOLDERS' EQUITY:</b>		
Preferred stock, \$0.01 par value; authorized 5,000,000 shares, no shares issued		
Common stock, \$0.01 par value; authorized 30,000,000 shares, issued and outstanding 15,487,388 and 15,477,388	154,874	154,774
Capital in excess of par	25,254,035	25,167,035
Deficit accumulated during the development stage	(22,970,308)	(22,369,843)
<b>TOTAL STOCKHOLDERS' EQUITY</b>	<b>2,438,601</b>	<b>2,951,966</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 3,255,227</b>	<b>\$ 3,535,358</b>

See Notes to Condensed Consolidated Financial Statements.

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

(unaudited)

	<b>For the Three Months Ended September 30, 2006</b>	<b>For the Three Months Ended September 30, 2005</b>	<b>From Inception on July 1, 1998 through September 30, 2006</b>
Revenue	\$ 81,250	\$ 12,500	\$ 499,583
Operating Expenses:			
General and administrative	383,285	522,449	17,404,799
Research and development	309,348	419,541	7,294,196
Total Operating Expenses	692,633	941,990	24,698,995
Loss From Operations	(611,383	) (929,490	) (24,199,412
Sale of state income tax loss			586,442
Other noncash income			321,259
Interest income, net	10,918	32,368	321,403
Net Loss	\$ (600,465	) \$ (897,122	) \$ (22,970,308
Basic and Diluted Net Loss Per Common Share	\$ (0.04	) \$ (0.06	)
Basic and Diluted Weighted Average Number of Common Shares Outstanding	15,480,649	15,467,388	

See Notes to Condensed Consolidated Financial Statements.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY(A DEVELOPMENT STAGE COMPANY)CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITYFROM INCEPTION ON JULY 1, 1998 THROUGH SEPTEMBER 30, 2006

(unaudited)

	Common Stock		Capital in	Deficit	Total
	Shares	Amount	Excess of Par Value	Accumulated During the Development Stage	
Common stock outstanding	2,000,462	\$ 20,005	\$ (20,005 )		
Contribution of capital			85,179		\$ 85,179
Issuance of common stock in reverse merger on January 22, 1999 at \$0.01 per share	3,400,000	34,000	(34,000 )		
Issuance of common stock for cash on May 21, 1999 at \$2.63437 per share	759,194	7,592	1,988,390		1,995,982
Issuance of common stock for placement fees on May 21, 1999 at \$0.01 per share	53,144	531	(531 )		
Issuance of common stock for cash on January 26, 2000 at \$2.867647 per share	17,436	174	49,826		50,000
Issuance of common stock for cash on January 31, 2000 at \$2.87875 per share	34,737	347	99,653		100,000
Issuance of common stock for cash on February 4, 2000 at \$2.934582 per share	85,191	852	249,148		250,000
Issuance of common stock for cash on March 15, 2000 at \$2.527875 per share	51,428	514	129,486		130,000
Issuance of common stock for cash on June 22, 2000 at \$1.50 per share	1,471,700	14,718	2,192,833		2,207,551

(continued)

See Notes to Condensed Consolidated Financial Statements.

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

(continued)

See Notes to Condensed Consolidated Financial Statements.



	Common Stock Shares	Amount	Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Total
Issuance of common stock and warrants for cash from January 15, 2004 through February 12, 2004 at \$2.37 per unit	1,536,922	\$ 15,369	\$ 3,627,131		\$ 3,642,500
Allocation of proceeds to warrants			(2,099,090 )		(2,099,090 )
Reclassification of warrants			1,913,463		1,913,463
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2004			(378,624 )		(378,624 )
Fair market value of options and warrants granted and vested during the year ended June 30, 2004			1,826,469		1,826,469
Options and warrants exercised during the year ended June 30, 2004 at exercise prices ranging from \$1.00 - \$3.25	370,283	3,704	692,945		696,649
Issuance of common stock and warrants for cash on May 9, 2005 at \$2.11 per unit	1,595,651	15,957	3,350,872		3,366,829
Allocation of proceeds to warrants			(1,715,347 )		(1,715,347 )
Reclassification of warrants			1,579,715		1,579,715
Commissions, legal and bank fees associated with issuance on May 9, 2005			(428,863 )		(428,863 )

(continued)

	Common Stock			Capital in Excess of		Deficit Accumulated During the Development		
	Shares	Amount		Par Value		Stage	Total	
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
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
Fair market value of options and warrants vested during the three months ended September 30, 2006					87,000			87,000
Warrants exercised during the three months ended September 30, 2006 at an exercise price of \$0.01	10,000		100					100
Net loss						\$	(22,970,308 )	(22,970,308 )
Balance at September 30, 2006	15,487,388	\$	154,874	\$	25,254,035	\$	(22,970,308 )	\$ 2,438,601

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,		From Inception on July 1, 1998 through September 30,
	2006	2005	2006
<b>Cash flows from operating activities:</b>			
Net loss	\$ (600,465 )	\$ (897,122 )	\$ (22,970,308 )
Adjustments to reconcile net loss to net cash used in operating activities:			
Noncash capital contribution			85,179
Noncash conversion of accrued expenses into equity			131,250
Noncash income related to change in fair value of warrant liability			(321,259 )
Issuance of common stock and warrants for interest			9,316
Fair value of stock options and warrants issued for services	87,000	240,559	7,915,613
Depreciation and amortization	7,101	9,751	204,770
(Increase) decrease in operating assets:			
Prepaid expense and other current assets	2,002	26,660	(137,582 )
Security deposit			(7,187 )
Increase (decrease) in operating liabilities:			
Accounts payable	27,866	(77,950)	105,561
Accrued expenses	212,924	93,814	542,808
Deferred revenue	(6,250 )	(12,500)	35,417
Other liability	(1,306 )	8,021	33,112
Net cash used in operating activities	(271,128 )	(608,767 )	(14,373,310 )
<b>Cash flows from investing activities:</b>			
Patent costs	(142,061 )	(157,848 )	(2,391,916 )
Redemption (purchase) of investments, net	450,000	1,059,040	(400,000 )
Purchase of property and equipment			(167,928 )
Net cash provided by (used in) investing activities	307,939	901,192	(2,959,844 )
<b>Cash flows from financing activities:</b>			
Proceeds from grant			99,728
Proceeds from issuance of bridge notes			525,000
Proceeds from issuance of common stock	100		17,063,810
Net cash provided by financing activities	100		17,688,538
Net increase in cash and cash equivalents	36,911	292,425	355,384
Cash and cash equivalents at beginning of period	318,473	291,858	
Cash and cash equivalents at end of period	\$ 355,384	\$ 584,283	\$ 355,384
<b>Supplemental disclosure of cash flow information:</b>			
Cash paid during the period for interest	\$	\$	\$ 22,317
<b>Supplemental schedule of noncash financing activity:</b>			
Conversion of bridge notes into stock	\$	\$	\$ 534,316

See Notes to Condensed Consolidated Financial Statements.



SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(unaudited)

**Note 1 - Basis of Presentation:**

The financial statements included herein have been prepared by the Company, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2006.

In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting solely of those which are of a normal recurring nature, necessary to present fairly its financial position as of September 30, 2006, the results of its operations for the three-month periods ended September 30, 2006 and 2005, cash flows for three-month periods ended September 30, 2006 and 2005, the results of its operations and cash flows for the period from inception on July 1, 1998 through September 30, 2006.

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

**Note 2 - Loss Per Share:**

Net loss per common share is computed by dividing the net loss by the weighted average number of common shares outstanding during the period. As of September 30, 2006 and 2005, shares to be issued upon the exercise of options and warrants aggregating 8,286,591 and 8,015,591 respectively, at an average exercise price of \$2.89 and \$2.94, respectively, are not included in the computation of diluted loss per share as the effect is anti-dilutive.

**Note 3 Share-Based Transactions:**

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

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

	Three Months Ended			
	September 30,		2005	
	2006		2005	
Estimated life in years	6-10		10	
Risk-free interest rate (1)	4.2%-4.5	%	4.2	%
Volatility	70%-148	%	111%-148	%
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, 2006 is as follows:

	Number of Options	Weighted-Average Exercise Price
Outstanding at July 1, 2006	2,426,500	\$ 2.56
Granted		
Exercised		
Canceled		
Outstanding at September 30, 2006	2,426,500	\$ 2.56
Exercisable at September 30, 2006	2,181,337	\$ 2.64

A summary of changes to the non-vested stock options for the three month period ended September 30, 2006 is as follows:

	Number of Options	Weighted-Average Grant-Date Fair Value
Non-vested stock options at July 1, 2006	245,163	\$ 1.47
Granted		
Vested		
Forfeited		
Non-vested stock options at September 30, 2006	245,163	\$ 1.47

As of September 30, 2006, the aggregate intrinsic value of stock options outstanding was \$0, with a weighted-average remaining term of 6.0 years. The aggregate intrinsic value of stock options exercisable at that same date was \$0, with a weighted-average remaining term of 5.6 years. As of September 30, 2006, the Company has 483,500 shares available for future stock option grants.

As of September 30, 2006, total compensation expense not yet recognized related to stock option grants amounted to approximately \$150,000, which will be recognized over the next 15 months.

#### **Note 4 Revenue Recognition:**

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

specific achievement-based milestones, are deferred and amortized ratably over the estimated research period of the license.

**Note 5 Subsequent Events:**

On October 11, 2006, the Company completed a private placement to certain members of the Company's board of directors, institutional and accredited investors (the Private Placement) for an aggregate amount of 1,986,306 shares of common stock, \$0.01 par value (the Common Stock) and warrants to purchase 993,153 shares of Common Stock for the aggregate cash consideration of \$2,249,491. The Private Placement offered units of one share of Common Stock and a five-year warrant to purchase 0.50 shares of Common Stock, at a price equal to \$1.1325 per unit. The warrants were issued at an exercise price equal to \$1.18 per share, with such warrants vesting on the date of grant, but not exercisable for a six-month period from the date of closing. The estimated costs associated with the Private Placement totaled approximately \$200,000. In addition, the Company entered into a Registration Rights Agreement with these purchasers. The Registration Rights Agreement requires the Company to file a registration statement for the shares within 30 days of the closing date (the Filing Date), and to have such registration statement declared effective within 120 days of the closing date (the Effective Date). If the Company fails to file a registration statement on or before the Filing Date, it is required to pay to each purchaser in the Private Placement 1.0% of the aggregate purchase price for each 30 day period that such registration statement has not been filed. If the registration statement is not declared effective on or before the Effective Date, the Company is required to pay to each purchaser in the Private Placement 2.0% of the aggregate purchase price paid by such purchaser for the first thirty day period following the Effective Date and 1.0% for each thirty day period thereafter, with all payments subject to a maximum of 10.0% of the purchase price.

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

On October 11, 2006, the Company entered into a three-year non-exclusive financial advisory agreement with Stanford Group Company (Stanford). As compensation under the agreement, previously issued warrants that were purchased by Stanford and its affiliates in a private placement were amended. The original exercise prices of the 1,500,000 shares of Common Stock underlying the warrants, 750,000 of which had an exercise price of \$3.25 and 750,000 of which had an exercise price of \$2.00, were reduced to \$2.00 and \$1.50, respectively. Additionally, the original expiration dates of December 2006 and January 2007 were each extended for a three-year period through December 2009 and January 2010, respectively. Stock-based compensation in the amount of approximately \$700,000 related to the amendment of such warrants will be recorded during the period ended December 31, 2006. The agreement may be terminated by either party upon sixty days written notice. Stanford was also granted piggyback registration rights in connection with the shares underlying the warrants.

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

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

**Overview**

*Our Business*

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

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

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

*Human Health Applications*

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

Certain human health results to date include:

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





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

#### Inhibiting Apoptosis

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

We believe that down-regulation of our proprietary Factor 5A gene may have potential application as a means for controlling a broad range of diseases that are attributable to premature apoptosis, ischemia, or inflammation. Apoptotic diseases include glaucoma, heart disease, and certain inflammatory diseases such as Crohn's disease, sepsis and rheumatoid arthritis, among others. We are engaged in preclinical research on a variety of these diseases. Using small inhibitory RNA's, or siRNA's, against the apoptosis isoform of Factor 5A to inhibit its expression, we have reduced pro-inflammatory cytokine formation and formation of receptors for lipopolysaccharide, or LPS, interferon-gamma and TNF-alpha. *In-vitro* experiments have shown that siRNA's against Factor 5A protected human lamina cribrosa (optic nerve) and colon epithelial cells from TNF alpha induced apoptosis. We have also determined that inhibiting the apoptosis isoform of Factor 5A down-regulates MAPK, NFkB and JAK1 and decreases the inflammatory cytokines formed through these pathways. Additionally, we have shown in a mouse study that our siRNA is comparable to a steroid and to a prescription anti-TNF drug in its ability to reduce cytokine response to LPS. *In-vivo* mouse studies have shown that the siRNA against Factor 5A (i) protects thymocyte cells from apoptosis and decreases formation of myeloperoxidase, or MPO, TNF, MIP-1alpha, and IL-1 in the lungs of mice challenged with LPS; and (ii) increases the survival rate in which sepsis was induced by a lethal injection of LPS and reduced blood serum levels of inflammatory proteins, such as IL-1, IL-2, IL-6, IL-12, TNFa, IFNg and MIP-1a. The siRNA's against Factor 5A are currently being tested in several preclinical *in-vivo* inflammatory disease models. Other experiments utilizing siRNA to Factor 5A include inhibition of cell death, or apoptosis, during the processing of mouse pancreatic beta islet cells for transplantation, and the inhibition of viral replication in a human cell line infected with HIV-1.

Proteins required for cell death include p53, interleukins and other cytokines, caspases, and TNF-a. Expression of these cell death proteins is required for the execution of apoptosis. We have found that downregulating Factor 5A by treatment with siRNA, inhibits the expression of p53, a major cell death transcription factor that in turn controls the formation of a suite of other cell death proteins. In addition, down-regulation of Factor 5A up-regulates Bcl-2, a major suppressor of apoptosis.

### Accelerating Apoptosis

In pre-clinical studies, we have also established that up-regulation of the apoptosis 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 senescence Factor 5A gene appears to facilitate expression of the entire suite of genes required for programmed cell death in plants, the apoptosis 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. We have found, in in-vitro studies, that up-regulating the apoptosis isoform of Factor 5A results in: the up-regulation of p53, an important tumor suppressor gene that promotes apoptosis in cells with damaged DNA; inflammatory cytokine production; increased cell death receptor formation; and caspase activity. These features, coupled with a simultaneous down-regulation Bcl-2, a suppressor of apoptosis, and telomerase, result in apoptosis of cancer cells. In addition, in-vitro studies have shown that up-regulation of Factor 5A also down-regulates VEGF, a growth factor which allows tumors to develop additional vascularization needed for growth beyond a small mass of cells.

### *Human Health Research Program*

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

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

- **Pancreatic Islets isolated for transplantation.** Future studies will be focused on methods of improving the transfection efficiency on pancreatic islet cells treated with the siRNA to Factor 5A prior to harvesting for processing. Improving transfection efficiency may further increase the number of islet cells surviving the processing procedure and may allow for a greater yield of islet cells per donor.
- **HIV-1.** We will continue in-vitro studies utilizing different siRNA delivery systems in order to increase the transfection efficiency of the siRNA to Factor 5A to determine further decreases in HIV replication and may seek animal models to test.
- **Lung Cancer.** Lung cancer experiments will continue to focus on the reduction of tumor load and longevity of the treated mice. Delivery systems that might target the tumor cell and deliver Factor 5A directly to the cancer cells may be explored. Other lung cancers may also be explored to determine Factor 5A's efficacy in different forms of lung cancer.
- **Multiple Myeloma.** The next set of multiple myeloma experiments will involve a mouse model system and may include optimizing the delivery of Factor 5A.
- **Sepsis.** Following encouraging initial results, work will continue on measuring pro-inflammatory cytokines during the progression of the disease.

- Inflammatory Bowel Disease. Routes of administration of the siRNA to Factor 5A will be explored to optimize cell protection against pro-inflammatory cytokines.
- Lung Inflammation. Optimization of the delivery and dose of the siRNA to Factor 5A to the lungs is the direction of our planned future experiments. Mouse model systems may be used to illustrate the siRNA to Factor 5A's ability to reduce morbidity and mortality in lung inflammation, caused by the up-regulation of pro-inflammatory cytokines induced by pathogens and other stresses to the lungs.
- Other. We will continue to look at other disease states in order to determine the role of Factor 5A.

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

#### *Agricultural Applications*

Our research focuses on the discovery and development of certain gene technologies, which are designed to confer positive traits on fruits, flowers, vegetables, forestry species and agronomic crops. Factor 5A, DHS and lipase are already present in all plant cells. Our technology may be incorporated into crops by using either conventional breeding methods (non-genetically modified) or biotechnology gene suppression techniques.

Certain agricultural results to date include:

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

Together with our commercial partners, we are currently working with lettuce, turfgrass, tomato, canola, *Arabidopsis* (a model plant that is similar to canola), banana, alfalfa, and certain species of trees and bedding plants, and we have obtained proof of concept for enhanced shelf life, seed yield, biomass, and resistance to disease in several of these plants. We have ongoing field trials of certain trees, lettuce and bananas with our respective partners. The first round of lettuce field trials showed that our technology reduced browning in cut lettuce. The first and second round of banana field trials have shown that our technology extends the shelf life of banana fruit by 100%. In addition to the shelf life benefits, field trials conducted during the winter of 2004-2005 generated encouraging disease tolerance data, specific to Black Sigatoka (Black Leaf Streak Disease), for banana plants. Additional field trials for banana plants are planned for Black Sigatoka. Commercialization by our partners may require a combination of traits in a crop, such as both shelf life and disease resistance, or other traits. Our near-term research and development initiatives include modulating the expression of DHS and Factor 5A genes in these plants and propagation and phenotype testing of such plants.

Our ongoing research and development initiatives for agriculture include:

- further developing and implementing the DHS and Factor 5A gene technology in lettuce, banana, oil seed crops, turfgrass, bedding plants, tomato, alfalfa, corn, soybean and trees; and
- testing the resultant crops for new beneficial traits such as increased yield, increased tolerance to environmental stress, disease resistance and more efficient use of fertilizer.

*Commercialization Strategy*

In order to address the complexities associated with marketing and distribution in the worldwide market, we have adopted a multi-faceted commercialization strategy, in which we have entered into and plan to enter into additional licensing agreements or other strategic relationships with a variety of companies or other entities on a crop-by-crop basis. We anticipate revenues from these relationships in the form of licensing fees and royalties from our partners, usage fees in the case of the agreement with the Broin Company, or sharing gross profits in the case of the joint venture with Rahan Meristem. In addition, we anticipate payments from our partners upon our achievement of certain research and development benchmarks. This commercialization strategy allows us to generate revenue at various stages of product development, while ensuring that our technology is incorporated into a wide variety of crops. Our optimal partners combine the technological expertise to incorporate our technology into their product line along with the ability to successfully market the enhanced final product, thereby eliminating the need for us to develop and maintain a sales force. Through September 30, 2006, we have entered into five license and development agreements and one joint venture with established agricultural biotechnology companies or, in the case of Broin, an established ethanol company.

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

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

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

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

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

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

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

Project	Partner	Status
Banana	Rahan Meristem	
- Shelf Life		Field Trials
- Disease		Field Trials
Lettuce	Harris Moran	
- Browning		Field Trials
- Disease		Field Trials
Trees	Arborgen	
- Growth		Field Trials
Alfalfa	Cal / West	Greenhouse
Turfgrass	The Scotts Company	Greenhouse
Bedding Plants	The Scotts Company	Greenhouse
Ethanol	The Broin Company	Modify Inputs

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

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

We plan to employ the same partnering strategy in both the human health and agricultural target markets. Our preclinical research has yielded data that we have presented to various biopharmaceutical companies that may be prospective licensees for the development and marketing of potential applications of our technology. Consistent with our commercialization strategy, we intend to attract other companies interested in strategic partnerships or licensing our technology, which may result in additional license fees, revenues from contract research and other related revenues. Additionally, we may select some human health indications to bring into clinical trials on our own. Successful future operations will depend on our ability to transform our research and development activities into commercially feasible technology.

*Patent and Patent Applications*

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

In addition to our nineteen 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, 2006, our cash balance and investments totaled \$755,384, and we had working capital of \$209,180. In addition, upon the closing of our private equity financing on October 11, 2006, we received aggregate net proceeds of approximately \$2,050,000. As of September 30, 2006, we had a federal tax loss carryforward of approximately \$14,842,000 and a state tax loss carry-forward of approximately \$7,371,000 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, 2006:

Contractual Obligations	Payments Due by Period				More than 5 years
	Total	Less than 1 year	1 - 3 years	4 - 5 years	
Research and Development Agreements (1)	\$ 518,000	\$ 518,000	\$	\$	\$
Facility, Rent and Operating Leases (2)	\$ 366,624	\$ 76,912	\$ 156,560	\$ 133,152	\$
Employment, Consulting and Scientific Advisory Board Agreements (3)	\$ 629,771	\$ 602,442	\$ 27,329	\$	\$
Total Contractual Cash Obligations	\$ 1,514,395	\$ 1,197,354	\$ 183,889	\$ 133,152	\$

- (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.

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

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

Effective September 1, 2006, we extended our research and development agreement with the University of Waterloo for an additional one-year period through August 31, 2007, in the amount of CDN \$631,050 or approximately U.S. \$566,000. Research and development expenses under this agreement for the three months ended September 30, 2006 and 2005 aggregated U.S. \$166,500 and U.S. \$162,896 respectively, and U.S. \$3,494,335 for the cumulative period through September 30, 2006.

#### *Capital Resources*

Since inception, we have generated revenues of \$499,583 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, we may enter into additional licensing or other agreements with marketing and distribution partners that may result in additional license fees, receive revenues from contract research, or other related revenue.

On October 11, 2006, we completed a private placement to certain members of our board of directors, institutional and accredited investors for an aggregate amount of 1,986,306 shares of common stock and warrants to purchase 993,153 shares of Common Stock for the aggregate net cash consideration of approximately \$2,050,000. The private placement offered units of one share of common stock and a five-year warrant to purchase 0.50 shares of common stock at a price equal to \$1.1325 per unit. The warrant was offered with an exercise price equal to \$1.18 per share, with such warrant becoming exercisable six months from the date of closing. The estimated costs associated with the private placement totaled approximately \$200,000.

We anticipate that, based upon our current cash and investments, we will 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 (i) utilizing our current cash balance and investments, (ii) achieving some of the milestones set forth in our current licensing agreements, (iii) through the execution of additional licensing agreements for our technology, and (iv) through a sale of our securities.

**Changes to Critical Accounting Policies and Estimates**

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

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**Results of Operations**Three Months Ended September 30, 2006 and Three Months Ended September 30, 2005

The net loss for the three-month periods ended September 30, 2006 and 2005 was \$600,465 and \$897,122, respectively, a decrease of \$296,657, or 33.1%. This decrease was primarily the result of an increase in revenue and a decrease in operating expenses.

*Revenue*

Total revenues consisted of milestone payments on our agricultural development and license agreements. During the three-month period ended September 30, 2006, revenue of \$81,250 consisted of a current milestone payment received and the amortized portion of previous milestone payments received in connection with certain development and license agreements. During the three-month period ended September 30, 2005, revenue of \$12,500 consisted of the amortized portion of previous milestone payments in connection with a certain development and license agreement.

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

*Operating Expenses*

	Three Months Ended September 30,		Change	%
	2006	2005		
	(in thousands, except % values)			
General and administrative	\$ 383	\$ 522	\$ (139 )	(26.6 )%
Research and development	310	420	(110 )	(26.2 )%
Total operating expenses	\$ 693	\$ 942	\$ (249 )	(26.4 )%

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

*General and Administrative Expenses*

	Three Months Ended September 30,		Change	%
	2006	2005		
	(in thousands, except % values)			
Stock-based compensation	\$ 69	\$ 181	\$ (112 )	(61.9 )%
Payroll and benefits	153	149	4	2.7 %
Investor relations	51	68	(17 )	(25.0 )%
Professional fees	51	61	(10 )	(16.4 )%
Other general and administrative	59	63	(4 )	(6.3 )%
Total general and administrative	\$ 383	\$ 522	\$ (139 )	(26.6 )%

- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options and warrants previously granted to consultants, directors and employees. There were no options granted during the three-month periods ended September 30, 2006 and 2005. The decrease is due to a decrease in the Black-Scholes value related to the options granted on December 16, 2005, which, due to market conditions, were at a lower market price than the options granted in the previous year.
- Payroll and benefits increased primarily as a result of salary and health insurance rate increases.
- Investor relations decreased primarily as a result of a decrease in the amount of consulting fees in connection with a consultant.
- Professional fees decreased primarily as a result of a decrease in estimated auditing fees for the year ended June 30, 2007 as a result of the one-year postponement by the SEC of the auditing requirements in connection with Section 404 of Sarbanes-Oxley.

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

#### *Research and Development Expenses*

	Three Months Ended September 30,		Change	%
	2006	2005		
	(in thousands, except % values)			
Stock-based compensation	\$ 18	\$ 60	\$ (42 )	(70.0 )%
Other research and development	292	360	(68 )	(18.9 )%
Total research and development	\$ 310	\$ 420	\$ (110 )	(26.2 )%

- Stock-based compensation consists primarily of the amortized portion of Black-Scholes value of options and warrants previously granted to consultants, directors and employees. There were no options granted during the three-month periods ended September 30, 2006 and 2005. The decrease is due to a decrease in the Black-Scholes value related to the options granted on December 16, 2005, which, due to market conditions, were at a lower market price than the options granted in the previous year.
- Other research and development costs decreased primarily as a result of a decrease in the costs related to our human health and agricultural research programs.

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

	Three Months Ended September 30,		%
	2006	%	
	(in thousands, except % values)		
Agricultural	\$ 183	59 %	\$ 204 49 %
Human health	127	41 %	216 51 %
Total research and development	\$ 310	100 %	\$ 420 100 %

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

*Interest Income*

Interest income decreased during the three-month period ended September 30, 2006 primarily as a result of a lower cash balance.

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

From inception of operations on July 1, 1998 through September 30, 2006, we had revenues of \$499,583, 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 \$22,970,308 at September 30, 2006. We expect to continue to incur losses as a result of expenditures on research and development and administrative activities.

**Item 3. Quantitative and Qualitative Disclosures about Market Risk.**

*Foreign Currency Risk*

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

*Interest Rate Risk*

We invest in high-quality financial instruments, primarily money market funds, federal agency notes, corporate debt securities and United States treasury notes, with an effective duration of the portfolio of less than nine months, and no security with an effective duration in excess of two years, 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, 2006. Based on this evaluation, our chief executive officer and chief financial officer concluded that as of September 30, 2006, our disclosure controls and procedures were (1) designed to ensure that material information relating to us, including our consolidated subsidiaries, is made known to our chief executive officer and chief financial officer by others within those entities, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

No change in our internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three-month ended September 30, 2006 that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

**PART II. OTHER INFORMATION.**

**Item 1A. Risk Factors.**

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

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

We are a development stage biotechnology company with a limited operating history and limited assets and capital. We have incurred losses each year since inception and have an accumulated deficit of \$22,970,308 at September 30, 2006. We have generated minimal revenues by licensing our technology for certain crops to companies willing to share in our development costs. However, our technology may not be ready for widespread commercialization for several years. We expect to continue to incur losses for the next several years because we anticipate that our expenditures on research and development, commercialization and administrative activities will significantly exceed our revenues during that period. In addition, we cannot assure you that we will be able to sell our New Jersey state net operating losses for any specific fiscal year. We cannot predict when, if ever, we will become profitable.

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

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

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

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

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

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

As of September 30, 2006, we had cash and highly-liquid investments valued at \$755,384 and working capital of \$209,180. In October 2006, we received aggregate net proceeds of approximately \$2,050,000 from a private placement of our equity securities. Using our available reserves as of September 30, 2006 and the net proceeds from the private equity financing, we believe that we can operate according to our current business plan for the next nine months. To date, we have generated minimal revenues and anticipate that our operating costs will exceed any revenues generated over the next several years. Therefore, we will be required to raise additional capital in the future in order to operate according to our current business plan, and this funding may not be available on favorable terms, if at all. If we are unable to raise additional funds, we will need to do one or more of the following:

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

In addition, in connection with any funding, if we need to issue more equity securities than our certificate of incorporation currently authorizes, or more than 20% of the shares of our common stock outstanding, we may need stockholder approval. If stockholder approval is not obtained or if adequate funds are not available, we may be required to curtail operations significantly or to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain of our technologies, product candidates, products or potential markets. Investors may experience dilution in their investment from future offerings of our common stock. For example, if we raise additional capital by issuing equity securities, such an issuance would reduce the percentage ownership of existing stockholders. In addition, assuming the exercise of all options and warrants outstanding, as of September 30, 2006, we had 6,226,021 shares of common stock authorized but unissued, which may be issued from time to time by our board of directors without stockholder approval. In connection with our private placement of equity securities, in October 2006, we issued an aggregate of an additional 1,986,306 shares of common stock and warrants to purchase 1,132,194 shares of common stock. Therefore, assuming the exercise of all options and warrants granted as of October 31, 2006, we had 3,107,521 shares of common stock authorized but unissued, which may be issued from time to time by our board of directors without stockholder approval. Furthermore, we may need to issue securities that have rights, preferences and privileges senior to our common stock. Failure to obtain financing on acceptable terms would have a material adverse effect on our liquidity.



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

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

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

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

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

We have been issued eleven patents by the U.S. Patent and Trademark Office, or PTO, and eight 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 agricultural and human health 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 agricultural and human health biotechnology companies are engaged in research and development activities relating to senescence and apoptosis. The market for plant protection and yield enhancement products is intensely competitive, rapidly changing and undergoing consolidation. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for products containing our technology. Our competitors in the field of plant senescence gene technology are companies that develop and produce transgenic plants and include major international agricultural companies, specialized biotechnology companies, research and academic institutions and, potentially, our joint venture and strategic alliance partners. These companies include: Icoria (formerly Paradigm Genetics); Bayer Crop Science; Mendel Biotechnology; Renessen LLC; Exelixis Plant Sciences, Inc.; Syngenta International AG; and Eden Bioscience, among others. Some of our competitors that are involved in apoptosis research include: Amgen; Centocor; Genzyme; OSI Pharmaceuticals, Inc.; Idun Pharmaceuticals; Novartis; Introgen Therapeutics, Inc.; Genta, Inc.; and Vertex Pharmaceuticals, Inc. Many of these competitors have substantially greater financial, marketing, sales, distribution and technical resources than us and have more experience in research and development, clinical trials, regulatory matters, manufacturing and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technology may be rendered obsolete or uneconomical by technological advances or entirely

different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our technology.

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

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

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

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

Use of our technology, if developed for human health applications, will also be subject to FDA regulation. The FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human health technology must be approved by the regulatory agencies of foreign governments. Prior to filing a new drug application or biologics license application with the FDA, we would have to perform extensive clinical trials, and prior to beginning any clinical trial, we need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

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

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

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

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

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

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

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

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

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

In addition, we are subject to the Business Combination Act of the Delaware General Corporation Law which, subject to certain exceptions, restricts certain transactions and business combinations between a corporation and a stockholder owning 15% or more of the corporation's

outstanding voting stock for a period of three years from the date such stockholder becomes a 15% owner. These provisions may have the effect of delaying or preventing a change of control of us without action by our stockholders and, therefore, could adversely affect the value of our common stock.

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

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

Recent political and social turmoil, including the conflict in Iraq and the current crisis in the Middle East, can be expected to put further pressure on economic conditions in the United States and worldwide. These political, social and economic conditions may make it difficult for us to plan future business activities. Specifically, if the current situation in Israel continues to escalate, our joint venture with Rahan Meristem Ltd. could be adversely affected.

### **Risks Related to Our Common Stock**

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

As of September 30, 2006, our executive officers, directors and affiliated entities together beneficially own approximately 41.4% 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 September 30, 2006, held by these stockholders. As of October 11, 2006, upon the closing of our private placement of equity securities, our executive officers, directors and affiliated entities together beneficially own approximately 37.2% 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 11, 2006, held by these stockholders. As a result, these stockholders, acting together, will be able to exercise significant influence over matters requiring approval by our stockholders, including the election of directors, and may not always act in the best interests of other stockholders. Such a concentration of ownership may have the effect of delaying or preventing a change in control of us, including transactions in which our stockholders might otherwise receive a premium for their shares over then current market prices.

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

As of September 30, 2006, we have granted options outside of our stock option plan to purchase 10,000 shares of our common stock and outstanding warrants to purchase 5,860,091 shares of our common stock. In addition, as of September 30, 2006, we have reserved 3,000,000 shares of our common stock for issuance upon the exercise of options granted pursuant to our stock option plan, 2,516,500 of which have been granted, 90,000 of which have been exercised since inception, 2,426,500 of which are outstanding, and 483,500 of which may be granted in the

future. As of October 11, 2006, upon the closing of our private placement of equity securities, we have outstanding warrants to purchase 6,982,285 shares of our common stock. The exercise of these options and warrants will result in dilution to our existing stockholders and could have a material adverse effect on our stock price.

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

As of September 30, 2006, we had 15,487,388 shares of our common stock issued and outstanding, of which approximately 1,595,651 shares are registered pursuant to a registration statement on Form S-3, which was declared effective on June 17, 2005, and the remainder of which are either eligible to be sold under SEC Rule 144 or are in the public float. In addition, we have registered 965,380 shares of our Common Stock underlying warrants previously issued on the Form S-3 registration statement that was declared effective on June 17, 2005, and we registered 3,000,000 shares of our common stock underlying options granted or to be granted under our stock option plan. As of October 11, 2006, upon closing of our private placement of equity securities, we had 17,473,694 shares of our common stock issued and outstanding. Consequently, sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, may have a material adverse effect on our stock price.

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

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

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

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

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



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

The American Stock Exchange requires us to meet minimum financial requirements in order to maintain our listing. Currently, we believe we meet the continued listing requirements of the American Stock Exchange. If we do not continue to meet the continued listing requirements, we could be delisted. If we are delisted from the American Stock Exchange, our common stock likely will become a penny stock. In general, regulations of the SEC define a penny stock to be an equity security that is not listed on a national securities exchange or the NASDAQ Stock Market and that has a market price of less than \$5.00 per share or with an exercise price of less than \$5.00 per share, subject to certain exceptions. If our common stock becomes a penny stock, additional sales practice requirements would be imposed on broker-dealers that sell such securities to persons other than certain qualified investors. For transactions involving a penny stock, unless exempt, a broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. In addition, the rules on penny stocks require delivery, prior to and after any penny stock transaction, of disclosures required by the SEC.

If our common stock were subject to the rules on penny stocks, the market liquidity for our common stock could be severely and adversely affected. Accordingly, the ability of holders of our common stock to sell their shares in the secondary market may also be adversely affected.

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

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

**Item 6. Exhibits.**

Exhibits.

- 31.1\* Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2\* Certification of principal financial and accounting officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1\* Certification of principal executive officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. 1350.
- 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.

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\* Filed herewith.

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**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 3, 2006

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

DATE: November 3, 2006

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