SENESCO TECHNOLOGIES INC
Form 10-Q
November 15, 2010

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, 2010

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	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 preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes: x No: ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes: ¨ No: ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "accelerated filer", "large accelerated filer" and "smaller reporting

company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨	Accelerated filer ¨
Smaller reporting company x	Non-accelerated filer ¨

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, 2010, 67,713,178 shares of the issuer's common stock, par value $0.01 per share, were outstanding.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION.

Item 1. Financial Statements (Unaudited).

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
(unaudited)

	September 30, 2010	June 30, 2010
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 6,290,995	$ 8,026,296
Prepaid research supplies and expenses	990,696	1,304,795
Total Current Assets	7,281,691	9,331,091
Equipment, furniture and fixtures, net	5,879	4,554
Intangibles, net	4,662,960	4,568,895
Deferred income tax assets, net	-	-
Security deposit	7,187	7,187
TOTAL ASSETS	$ 11,957,717	$ 13,911,727
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 494,365	$ 557,420
Accrued expenses	744,497	576,857
Line of credit	2,194,844	2,194,844
Deferred rent	6,045	-
Total Current Liabilities	3,439,751	3,329,121
Warrant liabilities ($15,587 and $490,438 to related parties, respectively)	1,207,452	2,493,794
Grant payable	99,728	99,728
Deferred rent	-	8,060
TOTAL LIABILITIES	4,746,931	5,930,703
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value, authorized 5,000,000 shares		
Series A 10,297 shares issued and 4,852 and 8,035 shares outstanding, respectively (liquidation preference of $5,094,600 and $8,235,875 at September 30, 2010 and June 30, 2010, respectively)	49	80
Series B 1,200 shares issued and outstanding (liquidation preference of $1,240,000 and $1,210,000 at September 30, 2010 and June 30, 2010, respectively)	12	12
Common stock, $0.01 par value, authorized 250,000,000 shares,		

issued and outstanding 64,302,322 and 50,092,204, respectively	643,022	500,922
Capital in excess of par	60,430,744	58,321,169
Deficit accumulated during the development stage	(53,863,041)	(50,841,159)
Total Stockholders' Equity	7,210,786	7,981,024
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 11,957,717	$ 13,911,727

See Notes to Condensed Consolidated Financial Statements

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

	Three months ended September 30,		Cumulative Amounts from Inception
	2010	2009	
Revenue	$ -	$ -	$ 1,590,000
Operating expenses:			
General and administrative	668,884	494,955	26,949,195
Research and development	1,536,507	488,759	16,485,471
Total operating expenses	2,205,391	983,714	43,434,666
Loss from operations	(2,205,391)	(983,714)	(41,844,666)
Other non-operating income (expense)			
Fair value – warrant liability	319,476	1,888,133	7,567,904
Sale of state income tax loss – net	-	-	586,442
Other noncash (expense) income, net	(111,265)	-	209,994
Loss on extinguishment of debt	-	(86,532)	(361,877)
Amortization of debt discount and financing costs	-	(807,914)	(11,227,870)
Interest expense – convertible notes	-	(199,616)	(2,027,930)
Interest (expense) income - net	(18,296)	347	480,882
Net loss	(2,015,476)	(189,296)	(46,617,121)
Preferred dividends	(1,006,406)	-	(7,245,920)
Loss applicable to common shares	$ (3,021,882)	$ (189,296)	$ (53,863,041)
Basic and diluted net loss per common share	$ (0.05)	$ (0.01)	
Basic and diluted weighted-average number of common shares outstanding	56,930,150	22,046,718	

See Notes to Condensed Consolidated Financial Statements

3

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY
(A DEVELOPMENT STAGE COMPANY)
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FOR THE THREE MONTHS ENDED SEPTEMBER 30, 2010
(unaudited)

	Preferred Stock		Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Stockholders' Equity (Deficiency)
	Shares	Amount	Shares	Amount			
Balance July 1, 1998 (inception) through June 30, 2010	9,235	$ 92	50,092,204	$ 500,922	$ 58,321,169	$ (50,841,159)	$ 7,981,024
Preferred stock converted into common stock during the three months ended September 30, 2010	(3,183)	(31)	9,946,875	99,468	(99,437)	-	-
Issuance of common stock in lieu of cash payment for dividends during the three months ended September 30, 2010	-	-	4,263,243	42,632	912,268	(954,900)	-
Fair market value of options and warrants vested during the three months ended September 30, 2010	-	-	-	-	329,878	-	329,878
Reclassification of warrant liability during the three months ended September 30, 2010	-	-	-	-	966,866	-	966,866
Dividends accrued for the period from	-	-	-	-	-	(51,506)	(51,506)

July 1, 2010 through September 30, 2010							
Net loss for the three months ended September 30, 2010	-	-	-	-	-	(2,015,476)	(2,015,476)
Balance at September 30, 2010	6,052	$ 61	64,302,322	$ 643,022	$ 60,430,744	$ (53,863,041)	$ 7,210,786

See Notes to Condensed Consolidated Financial Statements

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

	Three months ended September 30,		Cumulative Amounts from Inception
	2010	2009	
Cash flows from operating activities:			
Net loss	$ (2,015,476)	$ (189,296)	$ (46,617,121)
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	(319,476)	(1,888,133)	(7,889,163)
Noncash charge for change in warrant terms	111,265	-	111,265
Issuance of common stock and warrants for interest	-	199,616	2,003,386
Issuance of common stock for services	-	-	53,800
Stock-based compensation expense	218,613	34,527	10,808,196
Depreciation and amortization	34,292	27,853	733,300
Amortization of convertible note discount	-	663,637	10,000,000
Amortization of deferred financing costs	-	144,278	1,227,869
Loss on extinguishment of debt	-	86,532	361,877
(Increase) decrease in operating assets:			
Prepaid expenses and other current assets	314,099	44,832	(990,696)
Security deposit	-	-	(7,187)
Increase (decrease) in operating liabilities:			
Accounts payable	(63,055)	(375,592)	494,365
Accrued expenses	116,134	205,271	637,117
Other liability	(2,015)	(1,989)	6,045
Net cash used in operating activities	(1,605,619)	(1,048,464)	(28,850,518)
Cash flows from investing activities:			
Patent costs	(127,656)	(189,332)	(5,221,934)
Redemption of investments, net	-	250,000	-
Purchase of equipment, furniture and fixtures	(2,026)	(1,116)	(180,205)
Net cash (used in) provided by investing activities	(129,682)	59,552	(5,402,139)
Cash flows from financing activities:			
Proceeds from grant	-	-	99,728
Proceeds from draw-down on line of credit	-	-	2,194,844
Proceeds from issuance of bridge notes	-	-	525,000
Proceeds from issuance of preferred stock and warrants, net	-	-	10,754,841
Redemption of convertible notes and warrants	-	-	(2,160,986)
Proceeds from issuance of convertible notes	-	-	9,340,000
Deferred financing costs	-	-	(651,781)
Proceeds from issuance of common stock and			

warrants, net and exercise of warrants and options	-	883,638	20,442,006
Net cash provided by financing activities	-	883,638	40,543,652
Net (decrease) increase in cash and cash equivalents	(1,735,301)	(105,274)	6,290,995
Cash and cash equivalents at beginning of period	8,026,296	380,569	-
Cash and cash equivalents at end of period	$ 6,290,995	$ 275,295	$ 6,290,995
Supplemental disclosure of non-cash transactions:			
Conversion of convertible note into common stock	$ -	$ 653,400	$ 10,000,000
Conversion of bridge notes into common stock	-	-	534,316
Conversion of preferred stock into common stock	99,437	-	170,124
Allocation of preferred stock proceeds to warrants and beneficial conversion feature	-	-	7,089,047
Allocation of convertible debt proceeds to warrants and beneficial conversion feature	-	-	9,340,000
Warrants issued for financing costs	-	-	690,984
Issuance of common stock for interest payments on convertible notes	-	199,616	2,003,386
Issuance of common stock for dividend payments on preferred stock	954,900	-	1,632,900
Issuance of common stock in settlement of accounts payable	-	175,000	175,000
Dividends accrued on preferred stock	51,506	-	282,381
Supplemental disclosure of cash flow information:			
Cash paid for interest	26,671	-	117,619

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, 2010.

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, 2010, the results of its operations for the three-month periods ended September 30, 2010 and 2009, cash flows for the three-month periods ended September 30, 2010 and 2009, and the results of its operations and cash flows for the period from inception on July 1, 1998 through September 30, 2010.

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

Note 2 – Liquidity:

As shown in the accompanying consolidated financial statements, the Company has a history of losses with a deficit accumulated during the development stage from July 1, 1998 (inception) through September 30, 2010 of $53,863,041. Additionally, the Company has generated minimal revenues by licensing its technology for certain crops to companies willing to share in its development costs. In addition, the Company's technology may not be ready for commercialization for several years. The Company expects to continue to incur losses for the next several years because it anticipates that its expenditures on research and development, and administrative activities will significantly exceed its revenues during that period. The Company cannot predict when, if ever, it will become profitable.

As of September 30, 2010, the Company had cash and cash equivalents in the amount of $6,290,995, which consisted of checking accounts and money market funds. The Company estimates that such amount will cover its expenses for at least the next twelve months from September 30, 2010.

The Company will need additional capital and plans to raise additional capital through the placement of debt instruments or equity or both. However, the Company may not be able to obtain adequate funds for its operations when needed or on acceptable terms. If the Company is unable to raise additional funds, it will need to do one or more of the following:

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

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, the patent costs are capitalized. The capitalized patent costs represent the outside legal fees incurred by the Company to submit and undertake all necessary efforts to have such patent applications issued as patents.

The length of time that it takes for an initial patent application to be approved is generally between four to six years. However, due to the unique nature of each patent application, the actual length of time may vary. If a patent application is denied, the associated cost of that application would be written off. However, the Company has not had any patent applications denied as of September 30, 2010. Additionally, should a patent application become impaired during the application process, the Company would write down or write off the associated cost of that patent application.

Issued patents and agricultural patent applications pending are being amortized over a period of 17 years, the expected economic life of the patent. The Company assesses the impairment in value of intangible assets whenever events or circumstances indicate that their carrying value may not be recoverable. Factors the Company considers important which could trigger an impairment review include the following:

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

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

Note 4 - Loss Per Share:

Net loss per share is computed by dividing net loss available to common shareholders by the weighted average number of common shares assumed to be outstanding during the period of computation. Diluted earnings per share is computed similar to basic earnings per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potential common shares had been issued and if the additional common shares were dilutive.

7

For all periods presented, basic and diluted loss per share are the same, as any additional common stock equivalents would be anti-dilutive. Potentially dilutive shares of common stock have been excluded from the calculation of the weighted average number of dilutive common shares.

For the three months ended September 30, 2010, there were 81,652,898 additional potentially dilutive shares of common stock. These additional shares include 18,912,500 shares issuable upon conversion of the Preferred Stock, and 62,740,398 outstanding options and warrants. For the three months ended September 30, 2009, there were 42,008,301 additional potentially dilutive shares of common stock. These additional shares included 15,528,096 shares issuable upon conversion of 8% convertible notes and 26,480,205 outstanding options and warrants at September 30, 2009.

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 or vesting has been determined using the Black-Scholes model. During the three month period ended September 30, 2010, the Company issued 300,000 warrants to purchase common stock for services provided. During the three month period ended September 30, 2009, the Company did not issue any warrants or options. 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,	
	2010	2009
Estimated life in years	3.25-5.0	3.5-5.5
Risk-free interest rate (1)	0.6%–1.3%	1.3% – 1.8%
Volatility	104%	100%
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 or warrant term.

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

There were no changes in the stock option plan during the three months period ended September 30, 2010.

As of September 30, 2010, the aggregate intrinsic value of stock options outstanding was $9,608, with a weighted-average remaining term of 6.6 years. The aggregate intrinsic value of stock options exercisable at that same date was $6,008, with a weighted-average remaining term of 5.8 years. As of September 30, 2010, the Company has 7,935,712 shares available for future stock option grants.

As of September 30, 2010, total compensation expense not yet recognized related to stock option grants amounted to approximately $542,000, which will be recognized over the next 45 months.

Long-Term Incentive Program

On December 13, 2007, the Company adopted a Long-Term Equity Incentive Program for the members of the executive management team in which key employees will be awarded shares of the Company's Common Stock and options to acquire shares of the Company's Common Stock if the Company achieves certain target goals relating to its Multiple Myeloma research project over the three fiscal year period from the date of adoption.

As of September 30, 2010, the Company determined that the achievement of the first target goal under the Long-Term Equity Incentive Program is probable and, therefore, recognized $93,500 of compensation. The Company also determined that the second and third target goals under the Long-Term Equity Incentive Program will not be met. As such, the eligible shares and options related thereto will not vest and the remaining $374,000 of potential compensation expense will not be recognized.

Note 6 –Loan Payable:

On February 17, 2010, the Company entered into a credit agreement with JMP Securities LLC. The agreement provides the Company with, subject to certain restrictions, including the existence of suitable collateral, up to a $3.0 million line of credit upon which the Company may draw at any time (the "Line of Credit"). Any draws upon the Line of Credit accrue at a monthly interest rate of (i) the broker rate in effect at the time of the draw (which was 2.0% at September 30, 2010), plus (ii) 2.75%. There are no other conditions or fees associated with the Line of Credit. The Line of Credit is not secured by any assets of the Company, but it is secured by certain assets of one of the Company's directors, Harlan W. Waksal, M.D., which are currently held by JMP Securities. The balance outstanding as of September 30, 2010 is $2,194,844.

Total interest expense for the three month period ended September 30, 2010 amounted to $26,671.

Note 7 – Income Taxes:

No provision for income taxes has been made for the three month periods ended September 30, 2010 and 2009 given the Company's losses in 2010 and 2009 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.

Note 8 - Fair Value Measurements:

The following tables provide the assets and liabilities carried at fair value measured on a recurring basis as of September 30, 2010 and June 30, 2010:

	Carrying Value	Fair Value Measurement at September 30, 2010 Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	$ 6,290,995	$ 6,290,995	$ -	$ -
Liabilities:				
Warrant Liabilities	$ 1,207,452	$ -	$ 1,207,452	$ -

	Carrying Value	Fair Value Measurement at June 30, 2010 Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	$ 8,026,296	$ 8,026,296	$ -	$ -
Liabilities:				
Warrant Liabilities	$ 2,493,794	$ -	$ 2,493,794	$ -

Note 9 – Warrant Liabilities:

The warrant liabilities represent the fair value of common stock purchase warrants, which have exercise price reset features and cash settlement features. At June 30, 2010, there were an aggregate of 43,949,479 warrants included in the fair value of the warrant liabilities. During the three month period ended September 30, 2010, the holders of an aggregate of 16,348,441 of such warrants amended the terms of their warrants. Accordingly, at September 30, 2010, there were an aggregate of 27,601,038 warrants included in the fair value of the warrant liabilities.

As of the dates of the amendments to the warrants, the Black Scholes value in the amount of $966,866 was reclassified from warrant liabilities to equity with the change in fair value from June 30, 2010 through the dates of the amendments being recorded in the statement of operations.

Also, the Company recorded a charge of $111,265 as a result of the amendment to certain of the warrants that had an exercise price reset feature, whereby the exercise price of $0.50, subject to future adjustments, was reset to $0.32 and would no longer be subject to future adjustments. The charge of $111,265 represents the difference in the Black Scholes value of the warrants immediately prior to the amendment and the Black Scholes value of the warrants immediately after the amendment.

On September 30, 2010, the Company revalued all of the remaining warrant liabilities, using the Black Scholes model. A gain on the change in fair value of the warrant liabilities amounting to $319,476, which includes the change in fair value of the warrants from June 30, 2010 through the dates of amendments, was recorded in the Condensed Consolidated Statement of Operations for the three month period ended September 30, 2010.

The fair value of the warrant liabilities at September 30, 2010 was $1,207,452.

The assumptions used to value the warrants were as follows:

	September 30, 2010	June 30, 2010
Warrants issued on December 20, 2007		
Estimated life in years	2.25	2.5
Risk-free interest rate (1)	0.53%	0.80%
Volatility	104%	106%
Dividend paid	None	None
Warrants issued on June 30, 2008		
Estimated life in years	2.75	3.0
Risk-free interest rate (1)	0.53%	1.00%
Volatility	104%	106%
Dividend paid	None	None
Warrants issued on April 1, 2010		
Estimated life in years	4.5	4.75
Risk-free interest rate (1)	1.27%	1.79%
Volatility	104%	106%
Dividend paid	None	None
Warrants issued on June 2, 2010		
Estimated life in years	-	4.9
Risk-free interest rate (1)	-	1.79%
Volatility	-	106%
Dividend paid	-	None

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

Note 10 –Preferred Stock

On April 1, 2010 and June 2, 2010, the Company issued 10,297 and 1,200 shares of 10% convertible preferred stock, respectively. Each share of Preferred Stock has a stated value of $1,000 (the “Stated Value”) and is convertible into 3,125 shares of common stock (a conversion price of $0.32). Each holder of shares of Preferred Stock is entitled to receive semi-annually dividends at the rate of 10% per annum of the Stated Value for each share of Preferred Stock held by such holder. Except in limited circumstances, the Company can elect to pay the dividends in cash or shares of Common Stock. If the dividends are paid in shares of Common Stock, such shares will be priced at the lower of 90% of the average VWAP for the 20 days immediately preceding the payment date or $0.224. The dividends are subject to a 30% make whole provision.

11

During the three months ended September 30, 2010, 3,183 shares of convertible preferred stock were converted into 9,946,875 of common stock. In connection with the conversions of preferred stock into common stock, the Company issued an additional 4,263,243 shares of common stock for payment of dividends in the amount of $954,900 under the 30% make whole provision, as defined. Dividends accrued for the three months ended September 30, 2010 amounted to $51,506. Total dividends payable on the outstanding 6,052 shares of convertible preferred stock at September 30, 2010 amounted to $282,381.

Note 11 – Subsequent Event:

On October 29, 2010, the Company was approved for a grant in the amount of $244,479 in connection with under the Qualified Therapeutic Discovery Project, which is section 48D of the Internal Revenue Code. The funds were granted in connection with the Company's program for the use of its lead therapeutic candidate, SNS01-T, in Multiple Myeloma.

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 "Risk Factors" and elsewhere in this report.

Overview

Our Business

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

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

Human Health Applications

We believe that our gene technology could have broad applicability in the human health field, by either inducing or inhibiting programmed cell death, also known as apoptosis, which is the natural process the human body goes through in order to eliminate redundant or defective cells. Inducing apoptosis is useful in treating cancer where the cancerous cells have failed to undergo apoptosis on their own due to a mutation or damage to their apoptotic pathways. Conversely, inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributable to premature apoptosis.

We are pursuing preclinical in-vivo and in-vitro research to determine the ability of Factor 5A modulation to regulate key execution genes, pro-inflammatory cytokines, receptors, and transcription factors, which are involved in multiple apoptotic pathways and mechanisms associated with human diseases.

To date, certain preclinical results related to human health include:

- Performing efficacy, toxicological and dose-finding studies in vitro in non-human and human cells and in-vivo in mice and dogs for our potential multiple myeloma drug candidate, SNS01-T. SNS01-T is a potential treatment for cancer that consists of a nano-encapsulated combination of an siRNA against the Factor 5A message and a DNA-plasmid for a closely related form of Factor 5A. Our efficacy studies in severe combined immune-deficient, or SCID, mice with subcutaneous human multiple myeloma tumors tested SNS01-T dose ranging from 0.15 mg/kg to 1.5 mg/kg. In these studies, mice treated with a dose of either 0.75 mg/kg or 1.5 mg/kg both showed, compared to relevant controls, a 91% reduction in tumor volume and a decrease in tumor weight of 87% and 95%, respectively. For mice that received smaller doses of either 0.38 mg/kg or 0.15 mg/kg, there was also a reduction in tumor volume (73% and 61%, respectively) and weight (74% and 36%, respectively). All SNS01-T treated mice survived. This therapeutic dose range study provided the basis for an 8-day maximum tolerated dose study in which normal mice received two intravenous doses of increasing amounts of SNS01-T (from 2.2 mg/kg). Body weight, organ weight and serum levels of liver enzymes were used as clinical indices to assess toxicity. A dose between 2.2 mg/kg and 2.9 mg/kg was well tolerated with respect to these clinical indices, and the survival rate at 2.9 mg/kg was 80%. Those mice receiving above 2.9 mg/kg of SNS01-T showed evidence of morbidity and up to 80% mortality. The 2.9 mg/kg threshold, twice the upper end of the proposed therapeutic dose range, was therefore determined to be the maximum tolerated dose in mice.

- demonstrating significant tumor regression and diminished rate of tumor growth of multiple myeloma tumors in SCID mice treated with Factor 5A technology encapsulated in nanoparticles;

- increasing 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 in the presence of IL-6;

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

- decreasing ICAM and activation of NFkB in cancer cells employing siRNA against Factor 5A;

- increasing the survival rate in H1N1 mouse influenza survival studies from 14% in untreated mice to 52% in mice treated with our siRNA against Factor 5A. Additionally, the treated mice reversed the weight loss typically seen in infected mice and had other reduced indicators of disease severity as measured by blood glucose and liver enzymes;

- increasing the survival, while maintaining functionality, of mouse pancreatic islet cells isolated for transplantation, using intraperitaneal administration of our technology. Initial animal studies have shown that our technology administered prior to harvesting beta islet cells from a mouse, has a significant impact not only on the survival of the beta islet cells, but also on the retention of the cells' functionality when compared to the untreated beta islet cells. Additional studies have shown that the treated beta islet cells survive a pro-inflammatory cytokine challenge, while maintaining their functionality with respect to insulin production. These further studies also revealed Factor-5A's involvement in the modulation of inducible nitric oxide synthase, or iNOS, an important indicator of inflammation; 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, while not effecting the anti-inflammatory cytokine IL-10.

Accelerating Apoptosis

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

Inhibiting Apoptosis

Our preclinical studies indicate that down-regulation of the Factor 5A gene may have potential application as a means of controlling the effects of a broad range of diseases that are attributable to premature cell death, ischemia, or inflammation. Such inflammatory diseases include glaucoma, heart disease, and other certain inflammatory diseases such as Crohn’s disease, sepsis and diabetic retinopathy. We have performed preclinical research on certain inflammatory diseases. Using small inhibitory RNA’s, or siRNA’s, against Factor 5A mRNA to inhibit its expression, our studies have indicated a reduction in pro-inflammatory cytokine formation and the formation of receptors for LPS, interferon-gamma and TNF-alpha. Our studies have also indicated that by inhibiting Factor 5A, iNOS, MAPK, NFkB, JAK1 and ICAM are downregulated, which decreases the inflammatory cytokines formed through these pathways. Additionally, a mouse study has indicated that our siRNA is comparable in effectiveness to a steroid and to an anti-TNF drug in its ability to reduce cytokine response to LPS. Other mouse studies have also indicated that the siRNA against Factor 5A (i) protects thymocyte cells from apoptosis and decreases formation of MPO, TNF-a, MIP-1alpha, and IL-1 in the lungs of mice challenged with LPS and (ii) increases the survival rate when sepsis was induced by an injection of LPS and (iii) reduces blood serum levels of inflammatory proteins, such as IL-1, IL-2, IL-6, IL-12, TNF-a, IFNg and MIP-1alpha, while not effecting IL-10, an anti-inflammatory cytokine. Other experiments utilizing siRNA to Factor 5A include inhibition of apoptosis during the processing of mouse pancreatic beta islet cells for transplantation, and the inhibition of early inflammatory changes associated with type-1 diabetes in an in-vivo rat model.

Proteins involved in cell death include p53, interleukins, TNF-a and other cytokines and caspases. Expression of these cell death proteins is required for the execution of apoptosis. Based on our studies, we believe that down-regulating 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.

Human Health Target Markets

We believe that our gene regulatory technology may have broad applicability in the human health field, by either inducing or inhibiting apoptosis. Inducing apoptosis may be useful in treating cancers that have mutated and now have the ability to evade the body's immune surveillance system and avoid undergoing apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributable, at least in part, to premature apoptosis, including diabetes, diabetic retinopathy and lung inflammation.

We are advancing our research in multiple myeloma with the goal of initiating a Phase 1/2 clinical trial, and may select additional human health indications for intervention with Factor 5A technology that may result in clinical trials. We believe that the success of our future operations will likely depend on our ability to transform our research and development activities into commercially useful applications of our technology.

Human Health Research Program

Our human health research program, which has consisted of pre-clinical in-vitro and in-vivo experiments designed to assess the role and method of action of the Factor 5A genes and proteins in human diseases, is being performed by approximately eleven (11) third party researchers, at our direction, at the University of Waterloo, Mayo Clinic, our contract research organization, Cato Research and other consultants. Additionally, we currently outsource certain preclinical research and development activities, such as our pivotal toxicity studies, to other third party research organizations. We plan to outsource certain clinical development activities to other third party research organizations.

Our research and development expenses incurred on human health applications were approximately 90% of our total research and development expenses for the three months ended September 30, 2010. Our research and development expenses incurred on human health applications were approximately 75% of our total research and development expenses for the three months ended September 30, 2009. Since inception, the proportion of our research and development expenses on human health applications has increased, as compared to our research and development expenses on agricultural applications. This change is primarily due to the fact that our research focus on human health has increased and some of our research costs for agricultural applications have shifted to our license partners.

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

- Multiple Myeloma. Our objective is to advance our technology for the potential treatment of multiple myeloma in order to initiate a Phase 1/2 clinical trial. In connection with the potential clinical trial, we have engaged a clinical research organization, or CRO, to assist us through the process. We have also determined the delivery system for our technology, contracted for the supply of pharmaceutical grade materials to be used in toxicology and human studies, performed certain toxicology studies, and have contracted with a third party laboratory to conduct additional toxicology studies. Together with the assistance of our CRO, we will have additional toxicology studies performed with the goal of filing an investigational new drug application, or IND application, with the U.S. Food and Drug Administration, or FDA, for their review and consideration in order to initiate a Phase 1/2 clinical trial in multiple myeloma. We estimate that it will take approximately three (3) months from September 30, 2010 to complete these objectives.

- Other. We may consider other human diseases in order to determine the role of Factor 5A.

In order to pursue the above research initiatives, as well as other research initiatives that may arise, we completed a private placement of convertible preferred stock and warrants on April 1, 2010 and June 2, 2010. However, it will be necessary for us to raise a significant amount of additional working capital in the future. If we are unable to raise the necessary funds, we may be required to significantly curtail the future development of some of our research initiatives and we will be unable to pursue other possible research initiatives.

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

Human Health Competition

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

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

- Developing in-house production and marketing capabilities.

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

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

We do not currently have any commercialized products, and therefore, it is difficult to assess our competitive position in the market. However, we believe that if we are able to develop and commercialize a product or products under our patents to our Factor 5A platform technology, we will have a competitive position in the markets in which we will operate.

Agricultural Applications

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

Certain agricultural results to date include:

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

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

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

We have ongoing field trials of certain trees and bananas with our respective partners. The initial field trials conducted with ArborGen over a five year period in certain species of trees have concluded and the trees have been harvested for wood quality assessment. Preliminary data from our joint field trials show significantly enhanced growth rates in some of the trees relative to controls. Selected trees from the field trials were harvested and their wood chemistry and density was assessed. There were no differences in key economic characteristics of wood, such as lignin, cellulose and specific gravity, between the trees with the enhanced growth attributes and untreated control trees, which indicates that the faster growth does not result in lower wood quality. Additional field trials for enhanced growth rates and other traits are currently being performed with ArborGen.

18

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

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

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

- further develop and implement the DHS and Factor 5A gene technology in banana, canola, cotton, turfgrass, rice, alfalfa, corn, soybean and trees; and

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

Agricultural Target Markets

In order to address the complexities associated with marketing and distribution in the worldwide market, we have entered into, and may enter into additional, licensing agreements or other collaborations with a variety of companies or other entities on a crop-by-crop basis. We anticipate revenues from these relationships in the form of licensing fees, royalties, usage fees, or the sharing of gross profits. In addition, we anticipate payments from certain of our partners upon their achievement of certain research and development benchmarks. This approach 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 collaborators combine the technological expertise to incorporate our technology into their product line and the ability to successfully market the enhanced final product.

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

Agricultural Development and License Agreements

Through September 30, 2010, we have entered into eight (8) license agreements and one (1) joint collaboration with established agricultural biotechnology companies and an established ethanol company.

Agricultural Research Program

Our agricultural research and development is performed by four (4) researchers, at our direction, at the University of Waterloo, where the technology was developed. Additional agricultural research and development is performed by our license or joint collaboration partners.

The discoverer of our technology, John E. Thompson, Ph.D., is the Associate Vice President, Research and former Dean of Science at the University of Waterloo in Ontario, Canada, and is our Executive Vice President and Chief Scientific Officer. Dr. Thompson is also one of our directors and owns 1.4% of the outstanding shares of our common stock, $0.01 par value, as of September 30, 2010.

On September 1, 1998, we entered into, and have extended through November 30, 2010, a research and development agreement with the University of Waterloo and Dr. Thompson as the principal inventor. The Research and Development Agreement provides that the University of Waterloo will perform research and development under our direction, and we will pay for the cost of this work and make certain payments to the University of Waterloo. In return for payments made under the Research and Development Agreements, we have all rights to the intellectual property derived from the research.

Agricultural Competition

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

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

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

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

We do not currently have any commercialized products, and therefore, it is difficult to assess our competitive position in the market. However, we believe that if we or our licensee’s are able to develop and commercialize a product or products using our technology, we will have a competitive position in the markets in which we or our licensee’s operate.

Agricultural Development Program

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

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

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

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

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

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

Project	Partner	Status
Banana	Rahan Meristem	
- Shelf Life		Field trials
- Disease Resistance		Field trials
Trees	Arborgen	
- Growth		Field trials
Alfalfa	Cal/West	Greenhouse
Corn	Monsanto	Proof of concept ongoing
Cotton	Bayer	Seed transformation
Canola	Bayer	Seed transformation
Rice	Bayer	Proof of concept ongoing
Soybean	Monsanto	Proof of concept ongoing
Turfgrass	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.

Intellectual Property

We have twenty-one (21) issued patents from the United States Patent and Trademark Office, or PTO, and fifty-seven (57) issued patents from foreign countries, fifty-three (53) of which are for the use of our technology in agricultural applications and twenty-five (25) of which relate to human health applications.

In addition to our seventy-eight (78) 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.

Our agricultural patents are generally set to expire in 2019 in the United States and 2025 outside the United States. Our core human health technology patents are set to expire in 2021 in the United States and 2025 outside the United States, and our patents related to multiple myeloma are set to expire, both in and outside the United States in 2026. To the extent our patents have different expiration dates abroad than in the United States, we are currently developing a strategy to extend the United States expiration dates to the foreign expiration dates.

Government Regulation

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

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

We believe that our current activities, which to date have been confined to research and development efforts, do not require licensing or approval by any government regulatory agency. However, we are planning on performing clinical trials, which would be subject to FDA approval. Additionally, federal, state and foreign regulations relating to crop protection products and human health applications developed through biotechnology are subject to public concerns and political circumstances, and, as a result, regulations have changed and may change substantially in the future. Accordingly, we may become subject to governmental regulations or approvals or become subject to licensing requirements in connection with our research and development efforts. We may also be required to obtain such licensing or approval from the governmental regulatory agencies described above, or from state agencies, prior to the commercialization of 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.

Liquidity and Capital Resources

Overview

As of September 30, 2010, our cash balance totaled $6,290,995, and we had working capital of $3,841,940. As of September 30, 2010, we had a federal tax loss carryforward of approximately $43,501,000 and a state tax loss carry-forward of approximately $36,136,000 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. Additionally, the federal tax loss carryforward in total may be limited by provisions of the Internal Revenue Code regarding changes in ownership of corporations.

Contractual Obligations

The following table lists our cash contractual obligations as of September 30, 2010:

		Payments Due by Period			
Contractual Obligations	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Research and Development Agreements (1)	$ 697,242	$ 697,242	$ —	$ —	$ —
Facility, Rent and Operating Leases (2)	$ 53,504	$ 53,504	$ —	$ —	$ —
Employment, Consulting and Scientific Advisory Board Agreements (3)	$ 194,250	$ 189,250	$ 5,000	$ —	$ —
Total Contractual Cash Obligations	$ 944,996	$ 939,996	$ 5,000	$ —	$ —

(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 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, 2010, we extended our research and development agreement with the University of Waterloo for an additional three-month period through November 30, 2010, in the amount of CAD $164,200, or approximately USD $164,200.

Capital Resources

Since inception, we have generated revenues of $1,590,000 in connection with the initial fees and milestone payments received under our license and development agreements. We have not been profitable since inception, we will continue to incur additional operating losses in the future, and we will require additional financing to continue the development and subsequent commercialization of our technology. While we do not expect to generate significant revenues from the licensing of our technology for several years, if ever, we may enter into additional licensing or other agreements with marketing and distribution partners that may result in additional license fees, revenues from contract research or other related revenue.

We anticipate that, based upon our cash balance as of September 30, 2010 we will be able to fund our operations for at least the next twelve months from September 30, 2010. Over the next twelve months, we plan to fund our research and development and commercialization activities by:

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

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, 2010.

Results of Operations

Three Months Ended September 30, 2010 and Three Months Ended September 30, 2009

The net loss for the three month period ended September 30, 2010 was $2,015,476. The net loss for the three month period ended September 30, 2009 was $189,296. Such a change represents an increase in net loss of $1,826,180, or 964.7%. This increase in net loss was primarily the result of a decrease in other non-operating income and an increase in research and development costs related to the development of our multiple myeloma drug candidate, SNS01-T.

Revenue

There was no revenue for the three month periods ended September 30, 2010 and September 30, 2009.

We anticipate that we will receive future milestone payments in connection with our current agricultural development and license agreements. Additionally, we anticipate that we will receive future 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 with no history of receiving development milestone payments and royalties. 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,			
	2010	2009	Change	%
	(in thousands, except % values)			
General and administrative	$ 669	$ 495	$ 174	35.2%
Research and development	1,537	489	1,048	214.3%
Total operating expenses	$ 2,206	$ 984	$ 1,222	124.2%

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 as they relate to the potential clinical development of SNS01-T.

General and Administrative Expenses

	Three Months Ended September 30,			
	2010	2009	Change	%
	(in thousands, except % values)			
Payroll and benefits	$ 149	$ 161	$ (12)	(7.6)%
Investor relations	49	46	3	6.5%
Professional fees	105	122	(17)	(13.9)%
Depreciation and amortization	34	28	6	21.4%
Director fees	39	43	(4)	(9.3)%
Other general and administrative	90	57	33	57.9%
	466	457	9	2.0%
Stock-based compensation	203	38	165	434.2%
Total general and administrative	$ 669	$ 495	$ 174	35.2%

- Payroll and benefits for the three months ended September 30, 2010 was lower than the three months ended September 30, 2009 primarily due to the resignation of the former VP-Corporate Development during Fiscal 2010. This was partially offset by a bonus granted to the Chief Financial Officer.

- Investor relations expense for the three months ended September 30, 2010 was lower than the three months ended September 30, 2009 primarily as a result of a decrease in investor relations consulting costs.

- Professional fees for the three months ended September 30, 2010 was lower than the three months ended September 30, 2009 primarily as a result of an decrease in legal fees. Legal fees decreased primarily due to discounts offered by the legal firm as well as lower fees in connection with the review of our regulatory filings.

- Depreciation and amortization for the three months ended September 30, 2010 was higher than the three months ended September 30, 2009 primarily as a result of an increase in amortization of patent costs.

- Stock-based compensation for the three months ended September 30, 2010 and 2009 consisted of the amortized portion of the Black-Sholes value of options, restricted stock units and warrants granted to directors, employees and consultants. There were no options granted during the three month period ended September 30, 2010 and 2009. There were 300,000 warrants granted to consultants during the three months ended September 30, 2010 and no warrants granted during the three month period ended September 30, 2009.

Stock-based compensation for the three months ended September 30, 2010 was higher than the three months ended September 30, 2009 primarily due to the Black-Sholes value of the 300,000 warrants granted to consultants. Also, during the three months ended September 30, 2010, we recognized $93,500 of stock-based compensation in connection with the achievement of a milestone related to our long-term incentive plan.

We expect cash based general and administrative expenses to modestly increase over the next twelve months primarily due to an increase in payroll and benefits and insurance costs related to our multiple myeloma project.

Research and Development Expenses

	Three Months Ended September 30,			
	2010	2009	Change	%
	(in thousands, except % values)			
Stock-based compensation	$ 15	$ (3)	$ 18	600.0%
Payroll	55	40	15	37.5%
Research contract with the University of Waterloo	164	160	4	2.5%
Other research and development	1,303	292	1,011	346.2%
Total research and development	$ 1,537	$ 489	$ 1,048	214.3%

- 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. Additionally, for the three months ended September 30, 2010, it consisted of the amount of our long-term incentive plan and for the three months ended September 30, 2009, it also consisted of the amount of our short-term incentive plan.

    - Payroll increased primarily due to a bonus grant to the VP-Research and Development.

- Other research and development costs increased primarily due to an increase in the costs incurred in connection with our development of SNS01-T for multiple myeloma. Specifically, during the three month period ended September 30, 2010 we initiated our pivotal toxicology study.

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

	Three Months Ended September 30,			
	2010	%	2009	%
	(in thousands, except % values)			
Agricultural	$ 146	10%	$ 143	29%
Human health	1,391	90%	346	71%
Total research and development	$ 1,537	100%	$ 489	100%

- Agricultural research expenses did not materially change during the three month period ended September 30, 2010 as we have not materially changed the scope of our agricultural research.

- Human health research expenses increased during the three month period ended September 30, 2010 primarily as a result of the timing of certain aspects of the development of our potential drug candidate, SNS01-T, for treating multiple myeloma.

We expect the percentage of our human health research program to continue 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, in particular as they relate to the potential clinical development of our potential drug candidate, SNS01-T, for treating multiple myeloma.

Other non-operating income and expense

Fair value – warrant liability

On September 30, 2010, the amount of the warrant liability was adjusted to $1,207,452 from $2,493,794 at June 30, 2010. This decrease of $1,286,342 was primarily due to a decrease in the number of warrants that are accounted for as a liability as the terms that gave rise to liability accounting for these warrants were modified by the holders during the three months ended September 30, 2010. Accordingly, $966,866 of the decrease was recorded as an increase to capital in excess of par with the balance of the decrease in the amount of $319,476 being recorded as income from the change in the Black-Scholes value of the remaining warrants.

On September 30, 2009, the amount of the warrant liability was adjusted to $1,311,915 from $3,200,048 at June 30, 2009. This decrease of $1,888,133 was due to a decrease in the Black-Scholes value of the underlying warrants.

Other noncash expense or income

During the three months ended September 30, 2010, the exercise price of 3,901,566 warrants was adjusted from $0.50 to $0.32 in exchange for those warrant holders giving up their right to future adjustments to the exercise price. This resulted in a charge to stock-based compensation of $111,265

Amortization of debt discount, financing costs and interest expense on convertible notes

During the year ended June 30, 2010, all of the convertible notes were either converted into common stock or redeemed. Accordingly, unamortized portion of the convertible notes and deferred financing costs were fully amortized during the year ended June 30, 2010. Therefore, there are no charges for amortization of debt discount and financing costs and interest expense during the three months ended September 30, 2010.

Interest (expense) income

Interest expense for the three months ended September 30, 2010 was higher than the three months ended September 30, 2009 due to the interest incurred on the $3,000,000 line of credit opened in February 2010, of which approximately $2,200,000 was utilized during the three months ended September 30, 2010.

From Inception on July 1, 1998 through September 30, 2010

From inception of operations on July 1, 1998 through September 30, 2010, we earned revenues in the amount of $1,590,000, which consisted of the initial license fees and milestone payments in connection with our various development and license agreements. We do not expect to generate significant revenues for several years, during which time we will engage in significant research and development efforts.

We have incurred losses each year since inception and have an accumulated deficit of $53,863,041 at September 30, 2010. We expect to continue to incur losses as a result of expenditures on research, product 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, with an effective duration of the portfolio of less than 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 4T. Controls and Procedures.

(a) Evaluation of disclosure controls and procedures.

The principal executive officer and principal financial officer have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of September 30, 2010. Based on this evaluation, they have concluded that our disclosure controls and procedures were effective to ensure that the information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, and to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive and principal financial officers, to allow timely decisions regarding required disclosure.

(b) Changes in internal controls.

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 period ended September 30, 2010 that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION.

Item 1. Legal Proceedings.

None

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 to incur future losses.

We are a development stage biotechnology company with a limited operating history and limited assets and capital. We have incurred losses each year since inception and had an accumulated deficit of $53,863,041 at September 30, 2010. We have generated minimal revenues by licensing our technology for certain crops to companies willing to share in our development costs. In addition, our technology may not be ready for commercialization for several years. We expect to continue to incur losses for the next several years because we anticipate that our expenditures on research and development and administrative activities will significantly exceed our revenues during that period. We cannot predict when, if ever, we will become profitable.

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

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

We will 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;
- provide licenses to third parties to develop and commercialize products or technologies that we would otherwise seek to develop and commercialize ourselves;
- seek strategic alliances or business combinations;

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

We believe that at the projected rate of spending we should have sufficient cash to maintain our present operations for at least the next twelve (12) months from September 30, 2010.

We may be adversely affected by the current economic environment.

Our ability to obtain financing, invest in and grow our business, and meet our financial obligations depends on our operating and financial performance, which in turn is subject to numerous factors. In addition to factors specific to our business, prevailing economic conditions and financial, business and other factors beyond our control can also affect our business and ability to raise capital. We cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

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

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

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

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

We rely on third parties to perform all of our research and development activities. Our research and development efforts take place at the University of Waterloo in Ontario, Canada, where our technology was discovered, at the Mayo Clinic, at other commercial research facilities and with our commercial partners. At this time, we do not have the internal capabilities to perform our own 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, 2010, we had cash of $6,290,995 and working capital of $3,841,940. Using our available reserves as of September 30, 2010, we believe that we can operate according to our current business plan for at least the next twelve (12) months from September 30, 2010. 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 in accordance with 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;
- provide a license to third parties to develop and commercialize our technology that we would otherwise seek to develop and commercialize ourselves;
- seek strategic alliances or business combinations;
- attempt to sell our company;
- cease operations; or
- declare bankruptcy.

In addition, in connection with any funding, if we need to issue more equity securities than our certificate of incorporation currently authorizes, or more than 20% of the shares of our common stock outstanding, we may need stockholder approval. If stockholder approval is not obtained or if adequate funds are not available, we may be required to curtail operations significantly or to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain of our technologies, product candidates, products or potential markets. Investors may experience dilution in their investment from future offerings of our common stock. For example, if we raise additional capital by issuing equity securities, such an issuance would reduce the percentage ownership of existing stockholders. In addition, assuming the exercise of all options and warrants outstanding and the conversion of the preferred stock into common stock, as of September 30, 2010, we had 68,746,396 shares of common stock authorized but unissued and unreserved, which may be issued from time to time by our board of directors without stockholder approval. Furthermore, we may need to issue securities that have rights, preferences and privileges senior to our common stock. Failure to obtain financing on acceptable terms would have a material adverse effect on our liquidity.

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

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

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

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

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

As of September 30, 2010, we have been issued twenty one (21) patents by the PTO and fifty-seven (57) 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 that it 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 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 incur licensing fees and the payment of significant other 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 scope and 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, all employees agreed to a confidentiality provision in their employment agreement that prohibited the disclosure of confidential information to anyone outside of our company, during the term of employment and for 5 years thereafter. The employment agreements have since been terminated, but the period of confidentiality is still in effect. 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 that the collaborators conduct certain tests. We cannot assure you that the academic institutions will not assert intellectual property rights in the results of the tests conducted by the research collaborators, or that the academic institutions will grant licenses under such intellectual property rights to us on acceptable terms, if at all. If the assertion of intellectual property rights by an academic institution is substantiated, and the academic institution does not grant intellectual property rights to us, these events could limit our ability to commercialize our technology.

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

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

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

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

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

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

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

Many human health and agricultural biotechnology companies are engaged in research and development activities relating to apoptosis and senescence. The market for plant protection and yield enhancement products is intensely competitive, rapidly changing and undergoing consolidation. We may be unable to compete successfully against our current and future competitors, which may result in price reductions, reduced margins and the inability to achieve market acceptance for products containing our technology. Our competitors in the field of plant senescence gene technology are companies that develop and produce transgenic plants and include major international agricultural companies, specialized biotechnology companies, research and academic institutions and, potentially, our joint venture and strategic alliance partners. These companies include: Mendel Biotechnology, Inc., Renessen LLC, Exelixis Plant Sciences, Inc., and Syngenta International AG, among others. Some of our competitors that are involved in apoptosis research include: Amgen Inc.; Centocor, Inc.; Genzyme Corporation; OSI Pharmaceuticals, Inc.; Novartis AG; Introgen Therapeutics, Inc.; Genta Incorporated; and Vertex Pharmaceuticals, Inc. Many of these competitors have substantially greater financial, marketing, sales, distribution and technical resources than us and have more experience in research and development, clinical trials, regulatory matters, manufacturing and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technology may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our technology.

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

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

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

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

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

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

Preclinical studies 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 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. We are currently in the process of conducting preclinical toxicology studies for our multiple myeloma product candidate. Any delay in this toxicology study, or any potential negative findings in this toxicology study, will delay our ability to file an IND for our multiple myeloma product candidate. 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.

Our success will depend on the success of our clinical trials that have not yet begun.

It may take several years to complete the clinical trials of a product, and failure of one or more of our clinical trials can occur at any stage of testing. We believe that the development of our product candidate involves significant risks at each stage of testing. If clinical trial difficulties and failures arise, our product candidate may never be approved for sale or become commercially viable.

There are a number of difficulties and risks associated with clinical trials. These difficulties and risks may result in the failure to receive regulatory approval to sell our product candidate or the inability to commercialize our product candidate. The possibility exists that:

- we may discover that the product candidate does not exhibit the expected therapeutic results in humans, may cause harmful side effects or have other unexpected characteristics that may delay or preclude regulatory approval or limit commercial use if approved;

- the results from early clinical trials may not be statistically significant or predictive of results that will be obtained from expanded advanced clinical trials;

- institutional review boards or regulators, including the FDA, may hold, suspend or terminate our clinical research or the clinical trials of our product candidate for various reasons, including noncompliance with regulatory requirements or if, in their opinion, the participating subjects are being exposed to unacceptable health risks;

- subjects may drop out of our clinical trials;

- our preclinical studies or clinical trials may produce negative, inconsistent or inconclusive results, and we may decide, or regulators may require us, to conduct additional preclinical studies or clinical trials; and

- the cost of our clinical trials may be greater than we currently anticipate.

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

Before obtaining regulatory approval for the commercial sales of any product containing our technology, we must demonstrate through clinical testing that our technology and any product containing our technology is safe and effective for use in humans. Conducting clinical trials is a time-consuming, expensive and uncertain process and typically requires years to complete. In our industry, the results from preclinical studies and early clinical trials often are not predictive of results obtained in later-stage clinical trials. Some products and technologies that have shown promising results in preclinical studies or early clinical trials subsequently fail to establish sufficient safety and efficacy data necessary to obtain regulatory approval. At any time during clinical trials, we or the FDA might delay or halt any clinical trial for various reasons, including:

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

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

If our clinical trials for our product candidates are delayed, we would be unable to commercialize our product candidates on a timely basis, which would materially harm our business.

Planned clinical trials may not begin on time or may need to be restructured after they have begun. Clinical trials can be delayed for a variety of reasons, including delays related to:

- obtaining an effective investigational new drug application, or IND, or regulatory approval to commence a clinical trial;
- negotiating acceptable clinical trial agreement terms with prospective trial sites;
- obtaining institutional review board approval to conduct a clinical trial at a prospective site;
- recruiting qualified subjects to participate in clinical trials;
- competition in recruiting clinical investigators;
- shortage or lack of availability of supplies of drugs for clinical trials;
- the need to repeat clinical trials as a result of inconclusive results or poorly executed testing;
- the placement of a clinical hold on a study;
- the failure of third parties conducting and overseeing the operations of our clinical trials to perform their contractual or regulatory obligations in a timely fashion; and
- exposure of clinical trial subjects to unexpected and unacceptable health risks or noncompliance with regulatory requirements, which may result in suspension of the trial.

We believe that our product candidate has significant milestone to reach, including the successful completion of clinical trials, before commercialization. If we have significant delays in or termination of clinical trials, our financial results and the commercial prospects for our product candidates or any other products that we may develop will be adversely impacted. In addition, our product development costs would increase and our ability to generate revenue could be impaired.

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

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

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

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

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

We are highly dependent on our scientific advisors, consultants and third-party research partners. Our success will also depend in part on the continued service of our key employees and our ability to identify, hire and retain additional qualified personnel in an intensely competitive market. Although we have a research agreement with Dr. John Thompson, this agreement may be terminated upon short or no notice. Additionally, we do not have employment agreements with our key employees. 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 NYSE Amex 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 our outstanding equity awards or issue equivalent equity awards, our current equity plans require the accelerated vesting of such outstanding equity awards.

Risks Related to Our Common Stock

We currently meet the NYSE Amex Exchange continued listing standards. However, if our common stock is delisted from the NYSE Amex 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 NYSE Amex Exchange requires us to meet minimum financial requirements in order to maintain our listing. Although we have met the $6,000,000 minimum net worth continued listing requirement of the NYSE Amex Exchange and have received notice from the NYSE that we are back in compliance with their continued listing requirement, we previously did not meet the $6,000,000 minimum net worth continued listing requirement of the NYSE Amex Exchange. However, we remain subject to periodic review by NYSE Staff. Failure to remain in compliance with the continued listing standards could result in our company being delisted from the NYSE Amex Exchange. If we are delisted from the NYSE Amex 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 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 NYSE Amex 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 NYSE Amex 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 we may undertake. A delisting from the NYSE Amex Exchange could result in negative publicity and could negatively impact our ability to raise capital in the future.

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, 2010, our executive officers, directors and affiliated entities together beneficially own approximately 45.0% 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, 2010, held by these stockholders. As a result, these stockholders, acting together, will be able to exercise significant influence over matters requiring approval by our stockholders, including the election of directors, and may not always act in the best interests of other stockholders. Such a concentration of ownership may have the effect of delaying or preventing a change in control of us, including transactions in which our stockholders might otherwise receive a premium for their shares over then current market prices.

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

As of September 30, 2010, we had 64,302,322 shares of our common stock issued and outstanding and 6,052 shares of convertible preferred stock outstanding which can convert into 18,912,500 shares of common stock. Approximately 34,164,431 shares of such shares are registered pursuant to registration statements on Form S-3 and 49,050,391 of which are either eligible to be sold under SEC Rule 144 or are in the public float. In addition, we have registered 35,890,007 shares of our common stock underlying warrants previously issued on Form S-3 registration statements and we registered 11,137,200 shares of our common stock underlying options granted or to be granted under our stock option plan. Consequently, sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, may have a material adverse effect on our stock price.

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

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

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.

For example, during the year ended June 30, 2010, our common stock traded between $0.25 per share and $0.83 per share.

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

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

Our stockholders may experience substantial dilution as a result of the conversion of convertible preferred stock, the exercise of options and warrants to purchase our common stock, or due to anti-dilution provisions relating to any on the foregoing.

As of September 30, 2010, we have outstanding 6,052 shares of convertible preferred stock which may convert into 18,912,500 shares of our common stock and warrants to purchase 55,471,226 shares of our common stock. In addition, as of September 30, 2010, we have reserved 15,204,884 shares of our common stock for issuance upon the exercise of options granted or available to be granted pursuant to our stock option plan, all of which may be granted in the future. The conversion of the convertible preferred stock and 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. The conversion price of the convertible preferred stock and certain warrants are also subject to certain anti-dilution adjustments.

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

None

Item 3. Defaults Upon Senior Securities

None

Item 4. [REMOVED AND RESERVED]

Item 5. Other Information

None

Item 6. Exhibits.

Exhibits.

Exhibit No.	Description
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)

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 15, 2010	By:	/s/ Leslie J. Browne Leslie J. Browne, President and Chief Executive Officer (Principal Executive Officer)
DATE: November 15, 2010	By:	/s/ Joel Brooks Joel Brooks, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)