SENESCO TECHNOLOGIES INC
Form 10-Q
February 14, 2012

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended December 31, 2011

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.)

721 Route 202/206, Suite 130

Bridgewater, New Jersey 08807

(Address of principal executive offices)

(908) 864-4444

(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: x 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 ¨

Non-accelerated filer ¨ Smaller reporting company x

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

Yes: ¨ No x

88,026,028 shares of the issuer's common stock, par value $0.01 per share, were outstanding as of January 31, 2012.

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

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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)

	December 31, 2011	June 30, 2011
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$1,552,898	$3,609,954
Prepaid research supplies and expenses	1,657,140	1,446,064
Total Current Assets	3,210,038	5,056,018
Equipment, furniture and fixtures, net	7,048	3,782
Intangibles, net	3,634,869	3,524,731
Deferred income tax assets, net	-	-
Security deposit	5,171	12,358
TOTAL ASSETS	$6,857,126	$8,596,889
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$443,752	$559,525
Accrued expenses	802,307	509,806
Line of credit	2,199,108	2,199,108
Total Current Liabilities	3,445,167	3,268,439
Warrant liabilities	478,948	711,259
Grant payable	99,728	99,728
TOTAL LIABILITIES	4,023,843	4,079,426
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value, authorized 5,000,000 shares Series A 10,297 shares issued and 3,645 and 3,690 shares outstanding, respectively (liquidation preference of $3,736,125 and $3,792,252 at December 31, 2011 and June 30, 2011, respectively)	37	37

Series B 1,200 shares issued and outstanding (liquidation preference of $1,230,000 and $1,230,000 at December 31, 2011 and June 30, 2011, respectively)	12	12
Common stock, $0.01 par value, authorized 350,000,000 shares, issued and outstanding 80,864,443 and 77,769,677, respectively	808,644	777,697
Capital in excess of par	66,376,039	64,488,152
Deficit accumulated during the development stage	(64,351,449)	(60,748,435)
Total Stockholders' Equity	2,833,283	4,517,463
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$6,857,126	$8,596,889

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 December 31,		Six months ended December 31,		Cumulative Amounts from
	2011	2010	2011	2010	Inception
Revenue	$ 200,000	$ -	$ 200,000	$ -	$ 1,790,000
Operating expenses:					
General and administrative	904,621	706,685	1,550,580	1,375,569	30,441,113
Research and development	751,517	798,352	1,385,703	2,334,859	20,055,061
Total operating expenses	1,656,138	1,505,037	2,936,283	3,710,428	50,496,174
Loss from operations	(1,456,138)	(1,505,037)	(2,736,283)	(3,710,428)	(48,706,174)
Other non-operating income (expense)					
Grant income	-	244,479	-	244,479	244,479
Fair value – warrant liability	(39,392)	149,910	232,311	469,386	8,089,978
Sale of state income tax loss – net	-	-	-	-	586,442
Other noncash (expense) income, net	-	(4,604)	-	(115,869)	205,390
Loss on extinguishment of debt	-	-	-	-	(361,877)
Write-off of patents abandoned	-	-	-	-	(1,588,087)
Amortization of debt discount and financing costs	-	-	-	-	(11,227,870)
Interest expense – convertible notes	-	-	-	-	(2,027,930)
Interest (expense) income - net	(32,041)	(21,311)	(62,582)	(39,607)	348,474

Net loss	(1,527,571)	(1,136,563)	(2,566,554)	(3,152,039)	(54,437,175)
Preferred dividends	(127,614)	(675,608)	(1,036,460)	(1,682,014)	(9,914,274)
Loss applicable to common shares	$ (1,655,185)	$ (1,812,171)	$ (3,603,014)	$ (4,834,053)	$ (64,351,449)
Basic and diluted net loss per common share	$ (0.02)	$ (0.03)	$ (0.05)	$ (0.08)	
Basic and diluted weighted-average number of common shares outstanding	80,832,267	67,978,776	80,061,012	62,773,481	

See Notes to Condensed Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

FOR THE SIX MONTHS ENDED DECEMBER 31, 2011

(unaudited)

	Preferred Stock		Common Stock		Capital in Excess	Deficit Accumulated During the Development	Stockholders'
	Shares	Amount	Shares	Amount	of Par Value	Stage	Equity
Balance at June 30, 2011	4,890	$ 49	77,769,677	$777,697	$ 64,488,152	$(60,748,435)	$4,517,463
Issuance of common stock at prices ranging from $0.27 per share to $0.31 per share	-	-	1,817,557	18,175	487,075	-	505,250
Commissions and other fees related to the issuance of common stock	-	-	-	-	(32,031)	-	(32,031)
Preferred stock converted into common stock	(45)		155,556	1,555	(1,555)	-	-
Issuance of common stock in lieu of cash payment for dividends	-	-	1,121,653	11,217	248,370	(137,335)	122,252
Deemed dividend - Preferred Stock	-	-	-	-	778,000	(778,000)	-
Fair market value of options and warrants vested	-	-	-	-	408,028	-	408,028
Dividends accrued and unpaid at December 31, 2011	-	-	-	-	-	(121,125)	(121,125)
Net loss	-	-	-	-	-	(2,566,554)	(2,566,554)

Balance July 1, 1998 (inception) through December 31, 2011	4,845	$ 49	80,864,443	$808,644	$ 66,376,039	$(64,351,449)	$ 2,833,283

See Notes to Condensed Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(unaudited)

	Six months ended December 31,		Cumulative Amounts from Inception
	2011	2010	
Cash flows from operating activities:			
Net loss	$ (2,566,554)	$ (3,152,039)	$ (54,437,175)
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	(232,311)	(469,386)	(8,411,237)
Noncash charge for change in warrant terms	-	115,869	115,869
Issuance of common stock and warrants for interest	-	-	2,003,386
Issuance of common stock for services	-	-	53,800
Stock-based compensation expense	408,028	404,734	11,747,977
Depreciation and amortization	118,986	69,304	961,268
Write-off of intangibles			1,588,087
Deferred rent		(4,030)	-
Amortization of convertible note discount	-	-	10,000,000
Amortization of deferred financing costs	-	-	1,227,869
Loss on extinguishment of debt	-	-	361,877
(Increase) decrease in operating assets:			
Prepaid expenses and other current assets	(211,076)	(3,181)	(1,657,140)
Security deposit	7,187	-	(5,171)
Increase (decrease) in operating liabilities:			
Accounts payable	(115,773)	68,575	443,752
Accrued expenses	293,628	(107,640)	856,183
Net cash used in operating activities	(2,297,885)	(3,077,794)	(34,934,226)
Cash flows from investing activities:			
Patent costs	(227,929)	(258,276)	(6,006,606)
Purchase of equipment, furniture and fixtures	(4,461)	(2,026)	(184,666)
Net cash (used in) provided by investing activities	(232,390)	(260,302)	(6,191,272)
Cash flows from financing activities:			
Proceeds from grant	-	-	99,728
Proceeds from draw-down on line of credit	-	-	2,199,108
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	473,219	149,277	22,572,486
Net cash provided by financing activities	473,219	149,277	42,678,396
Net (decrease) increase in cash and cash equivalents	(2,057,056)	(3,188,819)	1,552,898
Cash and cash equivalents at beginning of period	3,609,954	8,026,296	-
Cash and cash equivalents at end of period	$ 1,552,898	$ 4,837,477	$ 1,552,898
Supplemental disclosure of non-cash transactions:			
Conversion of convertible note into common stock	$ -	$ -	$ 10,000,000
Conversion of bridge notes into common stock	-	-	534,316
Conversion of preferred stock into common stock	1,555	122,148	208,886
Allocation of preferred stock proceeds to warrants and beneficial conversion feature	-	-	7,449,780
Allocation of convertible debt proceeds to warrants and beneficial conversion feature	-	360,733	9,340,000
Warrants issued for financing costs	-	-	690,984
Issuance of common stock for interest payments on convertible notes	-	-	2,003,386
Issuance of common stock for dividend payments on preferred stock	259,587	1,188,156	3,324,377
Issuance of common stock in settlement of accounts payable	-	-	175,000
Dividends accrued on preferred stock	(1,127)	133,125	121,125
Supplemental disclosure of cash flow information:			
Cash paid for interest	66,788	53,387	303,922

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, 2011, as amended.

In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting solely of those which are of a normal recurring nature, necessary to present fairly its financial position as of December 31, 2011, the results of its operations and cash flows for the three months and six months ended December 31, 2011 and 2010.

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

Note 2 – Liquidity:

As shown in the accompanying condensed consolidated financial statements, the Company has a history of losses with a deficit accumulated during the development stage from July 1, 1998 (inception) through December 31, 2011 of $64,351,449. 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 December 31, 2011, the Company had cash and cash equivalents in the amount of $1,552,898, which consisted of checking accounts and money market funds. In January 2012, the Company received net proceeds in the amount of approximately $1,805,000 from the issuance of common stock and warrants. The Company estimates that its cash and cash equivalents as of December 31, 2011 plus the net proceeds received from the issuance of common stock and warrants in January 2012 will cover its expenses through August 2012.

In December 2010, the Company entered into an At Market Issuance Sales Agreement (“ATM”) whereby it may issue up to $5,500,000 of Common Stock under this facility.

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 December 31, 2011. 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 from inception. 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 a triggering event occurs and the Company's review determines that the future undiscounted cash flows related to the groups, including 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, except for certain patents and patents pending that the Company abandoned during the year ended June 30, 2011, 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.

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.

As of December 31, 2011, there were 87,237,290 additional potentially dilutive shares of Common Stock. These additional shares include 17,944,444 shares issuable upon conversion of the Preferred Stock, and 69,292,846 shares issuable upon the exercise of outstanding options and warrants. As of December 31, 2010, there were 84,111,290 additional potentially dilutive shares of Common Stock. These additional shares included 17,750,000 shares issuable upon conversion of Preferred Stock and 66,361,290 shares issuable upon the exercise of outstanding options and warrants.

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. The material factors incorporated in the Black-Scholes model in estimating the value of the options and warrants include the following:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2011	2010	2011	2010
Warrants granted	None	5,000	None	305,000
Options granted	647,500	4,115,892	4,860,500	4,115,892
Estimated life in years (1)	3.0-5.5	5.0-10.0	3.0-10.0	5.0-10.0
Risk-free interest rate (2)	0.4%-0.9%	1.5%-2.9 %	0.4%-1.9 %	1.3% – 2.9%
Volatility	91%-104%	104 %	91%-105 %	104 %
Dividend paid	None	None	None	None

(1) Expected life for employee based stock options was estimated using the “simplified” method, as allowed under the provisions of the securities and exchange commission – accounting bulletin no.110.

(2) 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, which cannot be forecast with reasonable accuracy.

A summary of changes in the stock option plan for the six months ended December 31, 2011 is as follows:

	Number of Options	Weighted-Average Exercise Price
Outstanding at July 1, 2011	11,348,314	$ 0.78
Granted	4,860,500	0.23
Exercised	—	—
Expired	(975,000)	2.32
Outstanding at December 31, 2011	15,233,814	$ 0.50
Exercisable at December 31, 2011	9,116,436	$ 0.66
Not Exercisable at December 31, 2011	6,117,378	$ 0.27

The weighted average grant date fair value of options granted during the six months ended December 31, 2011 and 2010 was $0.17 and $0.45, respectively.

As of December 31, 2011, the aggregate intrinsic value of stock options outstanding was $159,690, with a weighted-average remaining term of 8.1 years. The aggregate intrinsic value of stock options exercisable at that same date was $59,725, with a weighted-average remaining term of 7.3 years. As of December 31, 2011, the Company has 9,782,789 shares available for future stock option grants.

Stock-based compensation expense for the three months ended December 31, 2011 and December 31, 2010 amounted to $284,477 and $186,121, respectively.

Stock-based compensation expense for the six months ended December 31, 2011 and December 31, 2010 amounted to $408,028 and $404,734, respectively.

As of December 31, 2011, total stock-based compensation expense not yet recognized related to stock option grants amounted to approximately $1,388,000**,** which will be recognized over the next 45 months.

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 the broker rate in effect at the interest date (which was 3.75% at December 31, 2011), plus 2.0%. 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 a member of the Company’s Board of Directors, Harlan W. Waksal, M.D., which security interest is currently held by JMP Securities. In April 2011, we were required to enter into a new demand note with the clearing agent for JMP Securities in connection with the Line of Credit.

Total interest expense recorded under the Line of Credit for the three months ended December 31, 2011 and 2010 amounted to $33,479 and $26,715, respectively.

Total interest expense recorded under the Line of Credit for the six months ended December 31, 2011 and 2010 amounted to $66,788 and $53,387, respectively.

Note 7 – Income Taxes:

No provision for income taxes has been made for the three months and six months ended December 31, 2011 and 2010 given the Company's losses in 2011 and 2010 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 December 31, 2011 and June 30, 2011:

	Carrying Value	Fair Value Measurement at December 31, 2011 Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	$1,552,898	$1,552,898	$ -	$-
Liabilities:				
Warrant Liabilities	$478,948	$-	$ -	$478,948

	Carrying Value	Fair Value Measurement at June 30, 2011 Level 1	Level 2	Level 3
Assets:				
Cash and cash equivalents	$3,609,954	$3,609,954	$ -	$-
Liabilities:				
Warrant Liabilities	$711,259	$-	$ -	$711,259

The following table summarizes the changes in fair value of the Company's Level 3 financial instruments:

	Six months ended December 31,	
	2011	2010
Beginning Balance	$ 711,259	$ 2,493,794
Reclassification to equity due to change in terms of common stock warrants	-	(1,121,733)
Gain due to change in fair value of warrant liabilities, net	(232,311)	(469,386)
Ending Balance	$ 478,948	$ 902,675

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.

The fair value of the warrants that have exercise price reset features is estimated using an adjusted Black-Scholes model. The Company computes valuations, each quarter, using the Black-Scholes model for such warrants to account for the various possibilities that could occur due to changes in the inputs to the Black-Scholes model as a result of contractually-obligated changes. The Company effectively weights each calculation based on the likelihood of occurrence to determine the value of the derivative at the reporting date. The fair value of the warrants that have cash settlement features is estimated using the Black-Scholes model.

During the six months ended December 31, 2011 and 2010, the Company revalued all of the remaining warrant liabilities, using the adjusted Black-Scholes and Black-Scholes models. A gain on the change in fair value of the warrant liabilities in the amount of $232,311 and $469,386 was recorded in the Condensed Consolidated Statement of Operations for the six months ended December 31, 2011 and 2010, respectively.

At December 31, 2011 and 2010, there were an aggregate of 21,307,814 and 22,870,314 warrants, respectively, included in the fair value of the warrant liabilities, which are valued at $478,948 and $902,675, respectively.

The assumptions used to value the warrants were as follows:

	December 31, 2011		June 30, 2011	
Warrants issued on December 20, 2007				
Estimated life in years	1.00		1.50	
Risk-free interest rate [1]	0.12	%	0.45	%
Volatility	74	%	79	%
Dividend paid	None		None	
Warrants issued on June 30, 2008				
Estimated life in years	1.50		2.00	
Risk-free interest rate [1]	0.20	%	0.45	%
Volatility	79	%	79	%
Dividend paid	None		None	

Warrants issued on April 1, 2010

Estimated life in years	3.25		3.75	
Risk-free interest rate [1]	0.41	%	1.29	%
Volatility	88	%	107	%
Dividend paid	None		None	

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

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Note 10- At Market Issuance Sales Agreement

On December 22, 2010, the Company entered into an At Market Issuance Sales Agreement (the "ATM") under which the Company, from time to time, may issue and sell shares of its Common Stock, par value $0.01 per share, with an aggregate offering price of up to $5,500,000.

During the six months ended December 31, 2011, the Company issued 1,817,557 shares of Common Stock under the ATM for gross proceeds in the amount of $505,250 and net proceeds in the amount of $473,219. From the inception of the ATM through December 31, 2011, the Company has issued 7,729,014 shares of Common Stock under the ATM for gross proceeds in the amount of $2,358,670.

Note 11 –Preferred Stock

On July 18, 2011, in connection with the Company's ATM facility discussed above, the conversion price on the then outstanding 4,860 shares of Preferred Stock was adjusted from $0.30 to $0.27, resulting in an additional 1,800,000 shares of Common Stock that will be issued upon conversion of the then outstanding Preferred Stock. In connection with the adjustments to the conversion price, due to a beneficial conversion feature, an additional dividend in the amount of $778,000 was recorded as an increase to both additional paid-in capital and accumulated deficit. As a result of the resets to the conversion price, each share of Preferred Stock is convertible into 3,704 shares of Common Stock (a conversion price of $0.27).

During the six months ended December 31, 2011, 45 shares of Preferred Stock were converted into 155,556 shares of Common Stock. During the six months ended December 31, 2011, the Company issued an additional 1,121,653 shares of Common Stock for the payment of dividends in the amount of $1,037,587. Total dividends payable on the outstanding 4,845 shares of Preferred Stock at December 31, 2011 amounted to $121,125.

Note 12 – Subsequent Event

On January 6, 2012, the Company entered into a securities purchase agreement to raise $1,862,012 in gross proceeds through the sale of 7,161,585 shares of its common stock. The investors, excluding officers and directors of Senesco or funds affiliated with such officers or directors participating in the offering, also received 50% warrant coverage at an exercise price of $0.286 per share. The common stock and 50% warrant coverage (the "Unit") was priced at $0.26 per Unit.

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Note 13 – Recent Accounting Pronouncements

In April 2011, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2011-04 "Fair Value Measurement: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs" ("ASU 2011-04"). ASU 2011-04 amends current fair value measurement and disclosure guidance to include increased transparency around valuation inputs and investment categorization. The new guidance is effective for the fiscal year and interim periods beginning after December 15, 2011. The adoption of ASU 2011-04 is not expected to have a material impact on the Company's Consolidated Financial Statements.

Management does not believe there would have been a material effect on the accompanying financial statements had any other recently issued, but not yet effective, accounting standards been adopted in the current period.

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 technology related to certain genes, primarily eukaryotic translation initiation Factor 5A, or Factor 5A, and deoxyhypusine synthase, or DHS, and related technologies for human therapeutic applications to develop novel approaches to treat cancer and inflammatory diseases.

For agricultural applications, we have licensed 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 Therapeutic Applications

We believe that our Factor 5A gene regulatory technology could have broad applicability in the human therapeutic 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 defective cancer cells have failed to respond to the body's natural apoptotic signals. Conversely, inhibiting apoptosis may be useful in preventing, ameliorating or treating an exaggerated, acute immune response in a wide range of inflammatory and ischemic diseases attributable to or aggravated by premature apoptosis.

SNS01-T for Multiple Myeloma

We have developed a therapeutic candidate, SNS01-T, an improved formulation of SNS01, for the potential treatment of multiple myeloma. SNS01-T utilizes our Factor 5A technology and comprises of two active components: a DNA plasmid, or pDNA, expressing human eIF5A containing a lysine to arginine substitution at amino acid position 50, or eIF5AK50R, and a short inhibitory RNA, or siRNA. These two components are combined in a fixed ratio with a polymer, polyethyleneimine, or PEI, which enables self-assembly of the DNA and RNA into nanoparticles with demonstrated enhanced delivery to tissues and protection from degradation in the blood stream. Under the control of a B cell selective promoter, SNS01-T's DNA plasmid up-regulates the apoptotic pathways within cancer cells by preferentially expressing the stable arginine form of the Factor 5A death message in target cells. The siRNA reduces expression of the hypusine form of Factor 5A that supports cell survival and proliferation. The siRNA also down-regulates anti-apoptotic proteins, such as NFkB, ICAM and pro-inflammatory cytokines, which protect malignant cells from apoptosis and promote cell growth in multiple myeloma. The PEI, a cationic polymer, promotes auto-assembly of a nanoparticle with the other two components for intravenous delivery and protects the combination from degradation in the bloodstream until it is taken up by the tumor cell, where the siRNA and DNA plasmid are released.

We have performed efficacy, toxicological and dose-finding studies *in vitro* in non-human and human cells and *in-vivo* in mice for SNS01. Our efficacy studies in severe combined immune-deficient, or SCID, mice with subcutaneous human multiple myeloma tumors tested SNS01 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 of 73% and 61%, respectively, and weight of 74% and 36%, respectively. All SNS01 treated mice survived. This therapeutic dose range study provided the basis for a non-good laboratory practices, or GLP, 8-day maximum tolerated dose study in which normal mice received two intravenous doses of increasing amounts of SNS01 (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%. Mice receiving above 2.9 mg/kg of SNS01 showed evidence of morbidity and up to 80% mortality. The 2.9 mg/kg threshold was therefore determined to be the maximum tolerated dose in mice in this study. We have also completed our pivotal GLP toxicology studies in mice and dogs, employing SNS01-T, an improved formulation of SNS01, and have an open investigational new drug application, or IND, with the United States Food and Drug Administration, or FDA. We have also been granted orphan drug status for SNS01-T by the FDA for the potential treatment of multiple myeloma.

We have initiated a Phase 1b/2a clinical study with SNS01-T in multiple myeloma patients. The clinical study is an open-label, multiple-dose, dose-escalation study, which will evaluate the safety and tolerability of SNS01-T when administered by intravenous infusion to relapsed or refractory multiple myeloma patients. The study design calls for four cohorts of three to six patients each. Patients in each cohort will receive twice-weekly dosing for six weeks followed by a four-week safety data review period before escalating to a higher dose level in the next cohort. While the primary objective of the initial study is to evaluate safety and tolerability, the effect of SNS01-T on tumor response will also be evaluated using multiple, well-established criteria including measurement of the monoclonal protein, or M-protein. We have selected Mayo Clinic as a clinical site and are considering adding an additional site. The study is open and we have begun treating patients.

Additionally, we have recently demonstrated in human multiple myeloma cell lines that there may be an additional benefit to combining SNS01-T with other approved myeloma drugs, such as bortezomib and lenalidomide. We have shown, in vitro, that these drugs are up to forty (40) times more effective in inhibiting cell growth when used in combination with SNS01-T. These results further reinforce the significance of our target and will guide us in designing future clinical studies.

SNS01-T for other B cell cancers

We have demonstrated in mice that we can inhibit the growth of both human mantle cell and diffuse large B-cell lymphoma in a dose dependent manner.

We have also demonstrated that the combination of lenalidomide and SNS01-T performs better than either treatment alone in mouse xenograft models of human mantle cell lymphoma. When SCID mice, implanted with an aggressive human mantle cell lymphoma cell line (JVM2), were treated with either 15 mg/kg lenalidomide (5 times weekly by intra-peritoneal injection) or 0.375 mg/kg SNS01-T (twice weekly by intravenous injection) there was a growth delay of 4 days and 14 days, respectively. Mice treated with a combination of both drugs using the same dose levels and dosing regimens exhibited a tumor growth delay of 27 days (p value = 0.0008).

The median survival of mice treated with control nanoparticles was 21 days. Mice treated with lenalidomide or SNS01-T had a median survival of 28 days (33 % increase) and 37 days (76 % increase), respectively. Mice treated with the drug combination had a median survival of 52 days, an increase in survival of 148 %. Survival analysis using the Kaplan-Meier method revealed that treatment of mice with the drug combination resulted in statistically significant increases in survival compared to both SNS01-T (p value = 0.002) and lenalidomide (p value = 0.007) alone.

We believe that the results of these studies not only support moving forward in multiple myeloma, but also support extending our clinical evaluation of SNS01-T in other B-cell cancers.

We may consider other human diseases in order to determine the role of Factor 5A and SNS01-T.

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

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.

We have licensed this technology to various strategic partners. We may continue to license this technology, as opportunities present themselves, to additional strategic partners and/or enter into joint collaborations or ventures.

Our ongoing research and development initiatives for agriculture include assisting our license 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 Development and License Agreements

Effective December 22, 2011, the Company re-structured its research and development agreement with Rahan Meristem (1998) Ltd ("Rahan") to reflect the priorities of both Companies. The new agreement is an amendment to the original research and development agreement, dated May 1999, that provided Rahan access to the Company's proprietary technology enabling the two Companies to engage in a jointly-funded research and development program relating to the development and production of banana plants with improved traits. The new agreement re-structures the collaboration from a cost and profit sharing arrangement to a license agreement, which provides Senesco with a mid- to upper-single digit royalty on incremental revenue as defined in the agreement, from the sale of Rahan's banana seedling products containing the Company's technology without any future payments by Senesco for the costs of development and commercialization. If a product, which incorporates Senesco technology, is commercialized by Rahan, the royalties will be payable from first commercial sale for the longer of ten (10) years or the expiration of the last valid patent on a country-by-country basis.

As of December 31, 2011, we have eight (8) active license agreements with established agricultural biotechnology companies.

Agricultural Development Program

Generally, projects with our licensees 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.

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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	Field trials
Corn	Monsanto	Field trials
Cotton	Bayer	Greenhouse
Canola	Bayer	Field trials
Rice	Bayer	Greenhouse
Soybean	Monsanto	Field trials
Turfgrass	The Scotts Company	Greenhouse

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-four (24) issued patents from the United States Patent and Trademark Office, or PTO, and seventy-eight (78) issued patents from foreign countries. Of our one hundred and two (102) domestic and foreign issued patents, sixty-six (66) are for the use of our technology in agricultural applications and thirty-six (36) relate to human therapeutics applications.

In addition to our one hundred and two (102) 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 therapeutic 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 2029. 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.

During Fiscal 2011, we reviewed our patent portfolio in order to determine if we could reduce our cost of patent prosecution and maintenance. We identified several patents and patents pending that we believe we no longer need to maintain without having a material impact on the portfolio. We determined that we would no longer incur the cost to prosecute or maintain those patents or patents pending and may allow them to lapse when the next payment was due. Therefore, some of the issued patents may be allowed to lapse in the future.

Liquidity and Capital Resources

Overview

For the six months ended December 31, 2011, net cash of $2,297,885 was used in operating activities primarily due to a net loss of $2,566,554, which was reduced by non-cash expenses, net of non-cash income, of $294,703. Cash used in operating activities was also increased by changes in operating assets and liabilities in the amount of $26,034.

The $26,034 change in operating assets and liabilities was primarily the result of an increase in prepaid expenses in the amount of $211,076 offset by a net increase in accounts payable and accrued expenses in the amount of $177,855 and a repayment of a security deposit in the amount of $7,187.

During the six months ended December 31, 2011, cash used for investing activities amounted to $232,390, which was primarily related to patent costs incurred.

Cash provided by financing activities during the six months ended December 31, 2011 amounted to $473,219, which was related to the placement of common stock through our $5,500,000 ATM facility.

As of December 31, 2011, our cash balance totaled $1,552,898, and we had a working capital deficit of $235,129.

In January 2012, we received net proceeds of approximately $1,805,000 from the issuance of common stock and warrants.

Contractual Obligations

The following table lists our cash contractual obligations as of December 31, 2011:

	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]	$864,424	$646,215	$218,219	$ —	$ —
Facility, Rent and Operating Leases [2]	$96,952	$34,218	$62,734	$ —	$ —
Employment, Consulting and Scientific Advisory Board Agreements [3]	$126,250	$46,250	$80,000	$ —	$ —
Total Contractual Cash Obligations	$1,087,636	$726,683	$360,953	$ —	$ —

(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 Bridgewater, 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.

We anticipate that, based upon our cash balance as of December 31, 2011 and the net proceeds from the issuance of common stock and warrants in January 2012, we will be able to fund our operations through August 31, 2012. However, we have the ability to raise additional capital through our ATM facility, utilize our unused line of credit and, if necessary, delay certain costs. Over such period, 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.

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We cannot assure you that we will be able to raise money through any of the foregoing transactions 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, 2011, as amended.

Results of Operations

Three Months Ended December 31, 2011 and Three Months Ended December 31, 2010

The net loss for the three months ended December 31, 2011 was $1,527,571. The net loss for the three months ended December 31, 2010 was $1,136,563. Such a change represents an increase in net loss of $391,008, or 34.4%. This increase in net loss was the result of a decrease in other non-operating income and an increase in general and administrative expenses which was partially offset by a decrease in research and development costs and an increase in revenue.

Revenue

Total revenue in the amount of $200,000 for the three months ended December 31, 2011 consisted of a milestone payment in connection with an agricultural license agreement.

There was no revenue during the three months ended December 31, 2010.

We anticipate that we will receive future milestone payments in connection with our current agricultural development and license agreements. Additionally, we may 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 our future milestone payments are primarily contingent on our partners successful implementation of their development plan, we have no history of receiving royalties and the timing and outcome of our experiments, the timing of signing new partner agreements and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

General and Administrative Expenses

	Three Months Ended December 31,			
	2011	2010	Change	%
(in thousands, except % values)				

Payroll and benefits	$159	$136	$ 23	16.9 %
Investor relations	75	57	18	31.6 %
Professional fees	265	160	105	65.6 %
Director fees	(29)	(14)	(15)	(107.1)%
Depreciation and amortization	62	35	27	77.1 %
Other general and administrative	104	163	(59)	(36.2)%
	636	537	99	18.4 %
Stock-based compensation	269	170	99	58.2 %
Total general and administrative	$905	$707	$ 198	28.0 %

. Payroll and benefits for the three months ended December 31, 2011 was higher than for the three months ended December 31, 2010, primarily as a result of salary increases effective July 1, 2011 and a 401K contribution made during the three months ended December 31, 2011. There was no 401K contribution during the three months ended December 31, 2010

- Investor relations fees for the three months ended December 31, 2011 was higher than the for three months ended December 31, 2010, primarily as a result of the costs related to the annual meeting held in December 2011, which was partially offset by lower consultant fees. There was no annual meeting during the three months ended December 31, 2010.

- Professional fees for the three months ended December 31, 2011 was higher than for the three months ended December 31, 2010, primarily as a result of an increase in legal fees, which was partially offset by a decrease in accounting fees. Legal fees increased primarily due to fees incurred in connection with the exploration of alternative uses of our technology. Accounting fees decreased primarily due to the use of a consultant for a special project during the three months ended December 31, 2010. There were no special projects during the three months ended December 31, 2011.

- Director fees for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily as a result of fewer meetings being held during the three months ended December 31, 2011.

- Depreciation and amortization for the three months ended December 31, 2011 was higher than for the three months ended December 31, 2010, primarily as a result of an increase in amortization of patent costs.

- Other general and administrative expenses for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily due to a decrease in consultant and travel costs.

- Stock-based compensation for the three months ended December 31, 2011 was higher than for the three months ended December 31, 2010, primarily due to the black-scholes value on a greater number of options vesting during the three months ended December 31, 2011.

We expect cash-based general and administrative expenses to remain relatively unchanged over the next twelve months.

Research and Development Expenses

	Three Months Ended December 31,			
	2011	2010	Change	%
	(in thousands, except % values)			
Payroll	$42	$40	$ 2	5.0 %
Research contract with the University of Waterloo	138	150	(12)	(8.0)%
Other research and development	557	592	(35)	(5.9)%

	737	782	(45)	(5.8)%
Stock-based compensation	15	16	(1)	(6.3)%
Total research and development	$752	$798	$ (46)	(5.8)%

- Payroll for the three months ended December 31, 2011 was higher than for the three months ended December 31, 2010, primarily as a result of a salary increases effective July 1, 2011.

- The cost associated with the research contract with the University of Waterloo for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily due to a reduction in amount being funded for agricultural research, effective March 1, 2011.

- Other research and development costs for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily due to a decrease in the costs incurred in connection with our development of SNS01-T for multiple myeloma. Specifically, during the three months ended December 31, 2010, we incurred significant costs related to our pivotal toxicology study and other preclinical work that we did not incur during the three months ended December 31, 2011. This was partially offset by costs incurred related to the performance of the phase 1b/2a clinical trial for multiple myeloma which were not incurred during the three months ended December 31, 2010.

- Stock-based compensation for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily due to a lower black-sholes value of the options vesting and unvested.

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

	Three Months Ended December 31,					
	2011	%		2010	%	
	(in thousands, except % values)					
Agricultural	$ 112	15	%	$ 139	17	%
Human therapeutic	640	85	%	659	83	%
Total research and development	$ 752	100	%	$ 798	100	%

- Agricultural research expenses for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily due to a reduction in the funding for agricultural research at the University of Waterloo.

- Human therapeutic research expenses for the three months ended December 31, 2011 was lower than for the three months ended December 31, 2010, primarily as a result of the timing of certain aspects of the development of our drug candidate, SNS01-T, for treating multiple myeloma. Specifically, during the three months ended December 31, 2010, we incurred costs related to our pivotal toxicology studies and other pre-clinical work that we did not incur during the three months ended December 31, 2011. This was mostly offset by costs incurred related to the performance of the Phase 1b/2a clinical trial for multiple myeloma which were not incurred during the three months ended December 31, 2010.

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We expect our human therapeutic research program to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human therapeutic initiatives, in particular as they relate to the clinical development of our drug candidate, SNS01-T, for treating multiple myeloma and other cancers. Additionally, effective January 1, 2012, we will no longer incur development costs in connection with the Rahan Meristem banana project as we converted the joint collaboration agreement into a license agreement.

Other non-operating income and expense

Fair value – warrant liability

On December 31, 2011, the amount of the warrant liability was adjusted to $478,948 from $439,556 at September 30, 2011.

On December 31, 2010, the amount of the warrant liability was adjusted to $902,675 from $1,207,452 at September 30, 2010.

Six Months Ended December 31, 2011 and Six Months Ended December 31, 2010

The net loss for the six months ended December 31, 2011 was $2,566,554. The net loss for the six months ended December 31, 2010 was $3,152,039. Such a change represents a decrease in net loss of $585,485, or 18.6%. This decrease in net loss was primarily the result of an increase in revenue and a decrease research and development costs, which was partially offset by an increase in general and administrative expenses and a decrease in other non-operating income.

Revenue

Total revenue in the amount of $200,000 for the six months ended December 31, 2011 consisted of a milestone payment in connection with an agricultural license agreement.

There was no revenue during the six months ended December 31, 2010.

We anticipate that we will receive future milestone payments in connection with our current agricultural development and license agreements. Additionally, we may 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 our future milestone payments are primarily contingent on our partners successful implementation of their development plan, we have no history of receiving royalties and the timing and outcome of our experiments, the timing of signing new partner agreements and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

General and Administrative Expenses

	Six Months Ended December 31,			
	2011	2010	Change	%
	(in thousands, except % values)			
Payroll and benefits	$296	$286	$ 10	3.5 %
Investor relations	120	106	14	13.2 %
Professional fees	403	265	138	52.1 %
Director fees	21	24	(3)	(1.3)%
Depreciation and amortization	119	69	50	72.5 %
Other general and administrative	207	251	(44)	(17.5)%
	1,166	1,001	165	16.5 %
Stock-based compensation	385	374	11	2.9 %
Total general and administrative	$1,551	$1,375	$ 176	12.8 %

- Payroll and benefits for the six months ended December 31, 2011 was higher than for the six months ended December 31, 2010, primarily as a result of a 401K contribution made during the six months ended December 31, 2011. There was no 401K contribution during the six months ended December 31, 2010

- Investor relations fees for the six months ended December 31, 2011 was higher than for the six months ended December 31, 2010, primarily as a result of the costs related to the annual meeting held in December 2011, which was partially offset by lower consultant fees. There was no annual meeting during the six months ended December 31, 2010.

- Professional fees for the six months ended December 31, 2011 was higher than for the six months ended December 31, 2010, primarily as a result of an increase in legal and accounting fees. Legal fees increased primarily due to fees incurred in connection with the exploration of alternative uses of our technology and discounts on legal fees that were recorded during the six months ended December 31, 2010 but were not available during the six months ended December 31, 2011. Accounting fees increased primarily due to the use of a consultant to prepare a valuation of the Company’s intangible assets.

- Director fees for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily as a result of fewer meetings being held during the six months ended December 31, 2011.

- Depreciation and amortization for the six months ended December 31, 2011 was higher than for the six months ended December 31, 2010, primarily as a result of an increase in amortization of patent costs.

- Other general and administrative expenses for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily due to a decrease in consultant costs and rent, which was partially offset by an increase in insurance costs.

- Stock-based compensation for the six months ended December 31, 2011 was higher than for the six months ended December 31, 2010, primarily due to the black-scholes value on a greater number of options outstanding vesting during the six months ended December 31, 2011, which was mostly offset by fewer warrants being issued to consultants during the six months ended December 31, 2011.

We expect cash-based general and administrative expenses to remain relatively unchanged over the next twelve months.

Research and Development Expenses

	Six Months Ended December 31,			
	2011	2010	Change	%
	(in thousands, except % values)			
Payroll	$82	$95	$ (13)	(13.7)%
Research contract with the University of Waterloo	290	315	(25)	(7.9)%
Other research and development	991	1,894	(903)	(47.7)%
	1,363	2,304	(941)	(40.8)%
Stock-based compensation	23	31	(8)	(25.8)%
Total research and development	$1,386	$2,335	$ (949)	(40.6)%

- Payroll for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily as a result of a bonus that was paid to the VP-Research during the six months ended December 31, 2010. There were no bonuses paid during the six months ended December 31, 2011.

- The cost associated with the research contract with the University of Waterloo for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily due to a reduction in amount being funded for agricultural research, effective March 1, 2011.

- Other research and development costs for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily due to a decrease in the costs incurred in connection with our development of SNS01-T for multiple myeloma. Specifically, during the six months ended December 31, 2010, we incurred significant costs related to our pivotal toxicology study and other preclinical work that we did not incur during the six months ended December 31, 2011. This was partially offset by costs incurred related to the performance of the Phase 1b/2a clinical trial for multiple myeloma which were not incurred during the six months ended December 31, 2010.

- Stock-based compensation for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily due to a lower black-sholes value of the options vesting.

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

	Six Months Ended December 31,					
	2011	%		2010	%	
	(in thousands, except % values)					
Agricultural	$ 224	16	%	$ 285	12	%
Human therapeutic	1,162	84	%	2,050	88	%
Total research and development	$ 1,386	100	%	$ 2,335	100	%

- Agricultural research expenses for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily due to a reduction in the funding for agricultural research at the University of Waterloo.

- Human therapeutic research expenses for the six months ended December 31, 2011 was lower than for the six months ended December 31, 2010, primarily as a result of the timing of certain aspects of the development of our drug candidate, SNS01-T, for treating multiple myeloma. Specifically, during the six months ended December 31, 2010, we incurred costs related to our pivotal toxicology studies and other pre-clinical work that we did not incur during the six months ended December 31, 2011. This was partially offset by costs incurred related to the performance of the Phase 1b/2a clinical trial for multiple myeloma which were not incurred during the six months ended December 31, 2010.

We expect our human therapeutic research program to increase as a percentage of the total research and development expenses as we continue our current research projects and begin new human therapeutic initiatives, in particular as they relate to the clinical development of our drug candidate, SNS01-T, for treating multiple myeloma and other cancers. Additionally, effective January 1, 2012, we will no longer incur development costs in connection with the Rahan Meristem banana project as we converted the joint collaboration agreement into a license agreement.

Other non-operating income and expense

Fair value – warrant liability

On December 31, 2011, the amount of the warrant liability was adjusted to $478,948 from $711,259 at June 30, 2011.

On December 31, 2010, the amount of the warrant liability was adjusted to $902,675 from $2,493,794 at June 30, 2010.

Off Balance-Sheet Arrangements

We do not have any off balance-sheet arrangements.

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, we do not believe that we have any material exposure to interest rate risk arising from our investments.

Item 4. 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 Securities Exchange Act of 1934) as of December 31, 2011. 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 Securities and Exchange Commission's, or SEC, 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 Securities Exchange Act of 1934) occurred during the three month period ended December 31, 2011 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 $64,351,449 at December 31, 2011. 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 will 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 through August 2012. However, we have the ability to raise additional capital through our ATM facility, utilize our unused line of credit and, if necessary, delay certain costs.

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.

Materials necessary to manufacture some of our compounds currently under development may not be available on commercially reasonable terms, or at all, which may delay our development and commercialization of these compounds.

Some of the materials necessary for the manufacture of our compounds under development may, from time to time, be available either in limited quantities, or from a limited number of manufacturers, or both. Our contract manufacturers need to obtain these materials for our clinical trials and, potentially, for commercial distribution when and if we obtain marketing approval for these compounds. Suppliers may not sell us these materials at the time we need them or on commercially reasonable terms. If we are unable to obtain the materials needed to conduct our clinical trials, product testing and potential regulatory approval could be delayed, adversely affecting our ability to develop the product candidates. Similarly, if we are unable to obtain critical manufacturing materials after regulatory approval has been obtained for a product candidate, the commercial launch of that product candidate could be delayed or there could be a shortage in supply, which could materially affect our ability to generate revenues from that product candidate. If suppliers increase the price of manufacturing materials, the price for one or more of our products may increase, which may make our products less competitive in the marketplace. If it becomes necessary to change suppliers for any of these materials or if any of our suppliers experience a shutdown or disruption at the facilities used to produce these materials, due to technical, regulatory or other reasons, it could harm our ability to manufacture our products.

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 therapeutic 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 the failure 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 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 December 31, 2011, we had a cash balance of $1,552,898 and a working capital deficit of $235,129. Using our available reserves as of December 31, 2011 and the net proceeds of the public offering on January 6, 2012, we believe that we can operate according to our current business plan through August 2012. However, we have the ability to raise additional capital through our ATM facility, utilize our unused line of credit and, if necessary, delay certain costs.

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.

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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 December 31, 2011, we had 151,258,135 shares of common stock authorized but unissued and unreserved, which may be issued from time to time by our board of directors. 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 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 December 31, 2011, we have been issued twenty-four (24) patents by the PTO and seventy-eight (78) 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.

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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 five (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 therapeutic 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.

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Competition in the human therapeutic 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 therapeutic 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: Celgene, Inc.; Takeda/Millennium; ONYX Pharmaceuticals, Inc.; Amgen Inc.; Centocor, Inc.; Novartis AG; and Genta Incorporated. 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 United States Department of Agriculture, or 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 United States Environmental Protection Agency, or 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.

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Use of our technology, if developed for human therapeutic applications, is also 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 United States, any products resulting from the application of our human therapeutic 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 agricultural 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 performing clinical trials in connection with our human therapeutic applications, which is subject to FDA approval. Additionally, federal, state and foreign regulations relating to crop protection products and human therapeutic 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 therapeutic 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 therapeutic applications may be unsuccessful, which could delay or prevent regulatory approval.

Preclinical studies may reveal that our human therapeutic technology is ineffective or harmful, and/or may be unsuccessful in demonstrating efficacy and safety of our human therapeutic 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. Any delay in receiving approval for any applicable IND from the FDA would result in a delay in the commencement of the related clinical trial. Additionally, we could be required to perform additional preclinical studies prior to the FDA approving any applicable IND. 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 of our human therapeutic applications.

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 therapeutic 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 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 milestones 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.

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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 face potential product liability exposure far in excess of our limited insurance coverage.

We may be held liable if any product we or our collaborators develop causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Regardless of merit or eventual outcome, product liability claims could result in decreased demand for our product candidates, injury to our reputation, withdrawal of patients from our clinical trials, substantial monetary awards to trial participants and the inability to commercialize any products that we may develop. These claims might be made directly by consumers, health care providers, pharmaceutical companies or others selling or testing our products. We have obtained limited product liability insurance coverage for our clinical trials; however, our insurance may not reimburse us or may not be sufficient to reimburse us for expenses or losses we may suffer. Moreover, if insurance coverage becomes more expensive, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If we obtain marketing approval for any of our product candidates, we intend to expand our insurance coverage to include the sale of commercial products, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. On occasion, juries have awarded large judgments in class action lawsuits for claims based on drugs that had unanticipated side effects. In addition, the pharmaceutical and biotechnology industries, in general, have been subject to significant medical malpractice litigation. A successful product liability claim or series of claims brought against us could harm our reputation and business and would decrease our cash reserves.

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, Delaware law and stock plans 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, 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.

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 do not meet the NYSE Amex continued listing standards. If our common stock is delisted from the NYSE Amex, 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 requires us to meet minimum financial requirements in order to maintain our listing. Currently, we do not meet the $6,000,000 minimum net worth continued listing requirement of the NYSE Amex Exchange and have received a notice of noncompliance from the NYSE Amex Exchange. We submitted a plan of compliance on November 17, 2011 to the NYSE Amex Exchange discussing how we intend to regain compliance with the continued listing requirements. The NYSE Amex Exchange has accepted our plan and granted us an extension until July 20, 2012 to regain compliance with the NYSE Amex's continuing listing standards, however, if we are unable to meet the plan, it is possible that we will be delisted. If we are delisted from the NYSE Amex, 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, 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 was to be traded on the OTC Bulletin Board, the Securities Exchange Act of 1934, as amended, and related SEC rules would impose additional sales practice requirements on broker-dealers that sell our securities. These rules may adversely affect the ability of stockholders to sell our common stock and otherwise negatively affect the liquidity, trading market and price of our common stock.

We believe that the listing of our common stock on a recognized national trading market, such as the NYSE Amex, 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 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 December 31, 2011, our executive officers and directors together beneficially own approximately 32.7% of the outstanding shares of our common stock, assuming the conversion of preferred stock and exercise of options and warrants which are currently exercisable or will become exercisable within 60 days of December 31, 2011, 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 December 31, 2011, we had 80,864,443 shares of our common stock issued and outstanding and 4,845 shares of convertible preferred stock outstanding which can convert into 17,944,444 shares of common stock. Approximately 34,164,431 shares of such shares are registered pursuant to registration statements on Form S-3 and 64,644,456 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 23,005,003 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 and currently has a limited trading market. The NYSE Amex requires us to meet minimum financial requirements in order to maintain our listing. Currently, we do not meet the continued listing requirements of the NYSE Amex. If we do not regain compliance with 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 quarter ended December 31, 2011, our common stock traded between $0.16 and $0.29 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 December 31, 2011, we have outstanding 4,845 shares of convertible preferred stock which may convert into 17,944,444 shares of our common stock and warrants to purchase 54,059,032 shares of our common stock. In

addition, as of December 31, 2011, we have reserved 25,016,603 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. Furthermore, in connection with the preferred stock agreements, we are required to reserve an additional 20,857,343 shares of common stock. 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
3.1	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Senesco Technologies, Inc. filed with the State of Delaware on December 22, 2011. (filed herewith)
10.1 +	Amended and Restated Agreement by and between Rahan Meristem (1998) LTD., Senesco Technologies, Inc. and Senesco, Inc. dated December 22, 2011. (filed herewith)
10.2	Form of Warrant. (Incorporated by reference to Exhibit 4.1 of Senesco Technologies, Inc. current report on Form 8-K filed on January 9, 2012)
10.3	Form of Securities Purchase Agreement. (Incorporated by reference to Exhibit 10.1 of Senesco Technologies, Inc. current report on Form 8-K filed on January 9, 2012)
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)
101.1	Financial Statements from the Quarterly Report on Form 10-Q of Senesco Technologies, Inc. for the quarter ended December 31, 2011, filed on February 14, 2012, formatted in XBRL: (i) the Condensed Consolidated Balance Sheets; (ii) the Condensed Consolidated Statements of Operations; (iii) the

Condensed Consolidated Statements of Stockholder's Equity; (iv) the Condensed Consolidated Statements of Cash Flows and (v) the Notes to Condensed Consolidated Financial Statements. (filed herewith)

Exhibit No.	Description

+ Portions of this Exhibit have been redacted pursuant to a confidential treatment request filed with the SEC.

SIGNATURES

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

SENESCO TECHNOLOGIES, INC.

DATE: February 14, 2012 By: /s/ Leslie J. Browne
Leslie J. Browne, Ph.D., President
and Chief Executive Officer
(Principal Executive Officer)

DATE: February 14, 2012 By: /s/ Joel Brooks
Joel Brooks, Chief Financial Officer, Secretary and Treasurer
(Principal Financial and Accounting Officer)