SENESCO TECHNOLOGIES INC
Form S-1
July 17, 2013

As filed with the Securities and Exchange Commission on July 17, 2013

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

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SENESCO TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

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Delaware	2834	**84-1368850**
(State or other jurisdiction of incorporation or organization)	*(Primary Standard Industrial Classification Code Number)*	*(I.R.S. Employer Identification Number)*

721 Route 202/206, Suite 130

Bridgewater, NJ 08807

(908) 864-4444

(Address, including zip code and telephone number, including area code, of registrant's principal executive offices)

Leslie J. Browne, Ph.D.

Chief Executive Officer

Senesco Technologies, Inc.

721 Route 202/206, Suite 130

Bridgewater, NJ 08807

(908) 864-4444

(Name, address, including zip code and telephone number, including area code, of agent for service)

Copies to:

Joel Brooks

Chief Financial Officer

Senesco Technologies, Inc.

721 Route 202/206, Suite 130

Bridgewater, NJ 08807

(908) 864-4444

Emilio Ragosa	**Robert Charron**
Morgan, Lewis & Bockius LLP	**Ellenoff Grossman & Schole LLP**
502 Carnegie Center	**150 East 42nd Street**
Princeton, NJ 08540	**New York, New York 10170**
(609) 919-6633	**(212) 931-8704**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ¨

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

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 the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer ¨	Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company x

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CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Shares, $0.01 par value per share		
Total	$ 15,000,000	$ 2,046

(1) Estimated solely for purpose of calculating registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended (the “Securities Act”).

(2) Calculated pursuant to Rule 457(o) under the Securities Act based on an estimate of the proposed maximum offering price.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is declared effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated July 17, 2013

Prospectus

Shares

SENESCO TECHNOLOGIES, INC.

Common Shares

We are offering up to common shares, par value $0.01 per share. Our common shares currently trade on the OTCQB Marketplace, operated by the OTC Markets Group, under the symbol “SNTI.” The last reported sale price of our common shares on the OTCQB Marketplace on July 16, 2013 was $0.02 per share. We intend to list our common shares on the and expect that, after the pricing of this offering, our common shares will trade on the under the symbol “ .”

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page 5.

	Per Share	**Total**
Public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to us	$	$

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(1) See "Underwriting" in this prospectus for a description of compensation payable to the underwriters.

We have granted to the underwriters an option to purchase up to additional common shares to cover over-allotments, if any, exercisable at any time until 30 days after the date of this prospectus. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $ and the total proceeds to us, before expenses, will be $.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the common shares on or about , 2013.

Chardan Capital Markets Dawson James Securities

The date of this prospectus is , 2013.

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Neither we nor any of the underwriters has authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor any of the underwriters is making an offer to sell or seeking offers to buy these securities in any jurisdiction where, or to any person to whom, the offer or sale is not permitted. The information in this prospectus is accurate only as of its date regardless of the time of delivery of this prospectus or of any sale of our common shares. Our business, financial condition, results of operations and future growth prospects may have changed since those dates.

For investors outside the United States: neither we nor any of the underwriters has done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus outside of the United States.

This prospectus includes estimates, statistics and other industry and market data that we obtained from industry publications, research, surveys and studies conducted by third parties and publicly available information. Such data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty. This prospectus also includes data based on our own internal estimates. We caution you not to give undue weight to such projections, assumptions and estimates.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in our securities and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus. You should read the entire prospectus carefully, especially the section entitled "Risk Factors" and our consolidated financial statements and related notes, before deciding to buy our securities. Unless otherwise stated, all references to "us," "our," "we," "Senesco," the "Company" and similar designations refer to Senesco Technologies, Inc. and subsidiary Senesco, Inc.

Company Overview

Senesco Technologies, Inc., a Delaware corporation, is a development stage company. We do not expect to generate significant revenues for several years, during which time we will engage in significant research and development efforts. Our human therapeutic research program, which has consisted of clinical, pre-clinical in-vitro and in-vivo experiments designed to assess the role and method of action of the Factor 5A genes in human diseases, is performed by approximately 12 third party researchers at our direction, at the University of Waterloo and other commercial research facilities. We have developed a therapeutic candidate, SNS01-T, for the potential treatment of multiple myeloma. We have also been granted orphan drug status for SNS01-T by the FDA for the potential treatment of multiple myeloma, diffuse large B-cell lymphoma, or DLBCL, and mantle cell lymphoma, or MCL. We initiated a Phase 1b/2a clinical study with SNS01-T for treatment of multiple myeloma in September 2011 and have recently expanded it to include treatment for DLBCL and MCL. We are currently sponsoring the study at Mayo Clinic in Rochester, MN, the University of Arkansas for Medical Sciences in Little Rock, the Mary Babb Randolph Cancer Center in Morgantown, WV, and the John Theurer Cancer Center at Hackensack University Medical Center in Hackensack, NJ. We may consider other human diseases in order to determine the role of eIF5A and SNS01-T.

Additionally, we have nine active agricultural license agreements to develop and commercialize our technology in banana plants, corn, soy, cotton, rice, canola, trees, alfalfa, and turf grass. The licenses provide for upfront payments, milestone payments and royalty payments to us upon commercial introduction.

Consistent with our commercialization strategy, we may license our technology for human health applications or for additional crops, as the opportunities may arise, that may result in additional license fees, revenues from contract research and other related revenues. Successful future operations will depend on our and our partners' ability to transform our research and development activities into a commercially feasible technology.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are described in more detail in the "Risk Factors" section of this prospectus immediately following this prospectus summary. These risks include the following:

- We have not experienced positive cash flow from our operations, and the ability to achieve positive cash flow from operations will depend on increasing sales of our products, which may not be achievable.

- Our business is subject to continuing regulatory compliance by the FDA and other authorities, which is costly and could result in negative effects on our business.

- Failure to protect our intellectual property rights could result in costly and time consuming litigation and our loss of any potential competitive advantage.

- The price of our common shares could be highly volatile due to a number of factors, which could lead to losses by investors and costly securities litigation.

Corporate Information

We were incorporated under the laws of Delaware in 1999. Our principal executive offices are located at 721 Route 202/206, Suite 130, Bridgewater, NJ 08807 and our telephone number is (908) 864-4444. Our website address is www.senesco.com. We have included our website address in this prospectus solely as an inactive textual reference. The information contained on, or that can be accessed through, our website is not part of this prospectus.

The Offering

Common shares offered by us	shares (or shares if the underwriters' over-allotment option is exercised in full)
Common shares outstanding after this offering	shares (or shares if the underwriters' over-allotment option is exercised in full)
Use of proceeds	We estimate that the net proceeds to us from the sale of common shares in this offering will be approximately $ million, or approximately $ million if the underwriters exercise their over-allotment option in full, in each case assuming a public offering price of $ per common share and after deducting estimated underwriting fees and offering expenses payable by us. We intend to use the net proceeds from this offering to continue our product commercialization and marketing efforts, development of product pipeline, including product line extension, and for general working capital purposes. See "Use of Proceeds."
Current trading on OTCQB Marketplace	Our common shares currently trade on the OTCQB Marketplace under the symbol "SNTI."
Anticipated Listing	In connection with this offering we intend to list our common shares on the under the symbol " ."
Risk factors	You should read the "Risk Factors" section of this prospectus for a discussion of factors to consider carefully before deciding to invest in our common shares.

(1) The number of our common shares outstanding after this offering is based on 227,206,174 common shares outstanding as of June 30, 2013, and excludes:

- 23,174,770 common shares issuable upon the exercise of options outstanding as of June 30, 2013 at a weighted average exercise price of $0.35 per share;
- 28,315,612 common shares issuable upon the exercise of warrants outstanding as of June 30, 2013 at an exercise price of $0.36 per share;
- 26,666,667 common shares issuable upon the conversion of 800 shares of Series A Convertible Preferred Stock; and

- 4,630,353 additional common shares available for future issuance as of June 30, 2013 under our Senesco Technologies, Inc. 2008 Stock Incentive Plan.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options and warrants or conversion of the outstanding Series A Convertible Preferred Stock described above.

Summary Consolidated Financial Data

The summary financial data below as of and for the years ended June 30, 2012, 2011 and 2010 have been derived from our audited consolidated financial statements. Our audited consolidated financial statements as of June 30, 2012 and 2011 and for the years ended June 30, 2012 and 2011 are included elsewhere in this prospectus. Our audited consolidated financial statements as of June 30, 2010 and for the year ended June 30, 2010 are not included in this prospectus. The summary unaudited financial data as of March 31, 2013 and 2012 and for the nine months ended March 31, 2013 and 2012 have been derived from our consolidated financial statements included elsewhere in this prospectus. You should read the summary financial data together with "Capitalization," "Management's Discussion and Analysis of Financial Condition" and "Results of Operations" and our financial statements and the related notes included elsewhere in this prospectus. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period.

	Nine months ended March 31, (Unaudited)		Years ended June 30,		
Statement of operations data:	2013	2012	2012	2011	2010
	(in thousands, except share and per share data)				
Licensing Revenue	$-	$200	$200	$-	$140
Operating expenses:					
Research and development	1,597	1,926	2,566	3,720	2,638
General and administrative	1,993	2,119	2,724	2,611	2,349
Total Operating Expenses	3,590	4,045	5,290	6,331	4,987
Loss from operations	(3,590)	(3,845)	(5,090)	(6,331)	(4,847)
Total other non-operating income (expense)	(602)	218	24	(938)	(8,537)
Net Loss	(4,192)	(3,627)	(5,066)	(7,269)	(13,384)
Net loss available to common stockholders	$(4,990)	$(5,083)	$(6,692)	$(9,907)	$(19,623)
Weighted average basic and diluted common shares outstanding	122,864,373	83,000,064	85,703,291	69,332,477	29,112,976
Loss Per Common Share – basic and diluted	$(0.04)	$(0.06)	$(0.08)	$(0.14)	$(0.67)

	Nine months ended March 31, (Unaudited)		Years ended June 30,		
Balance sheets data:	2013	2012	2012	2011	2010
	(in thousands)				
Cash and Cash equivalents	$1,581	$3,207	$2,001	$3,610	$8,026
Total assets	$6,891	$8,635	$6,955	$8,597	$13,912
Total liabilities	$3,580	$4,036	$3,502	$4,080	$5,931
Total stockholders' equity	$3,311	$4,599	$3,453	$4,517	$7,981

	Nine months ended March 31, (Unaudited)		Years ended June 30,		
Statements of cash flows data:	2013	2012	2012	2011	2010
	(in thousands)				
Net cash used for operating activities	$(2,956)	$(3,278)	$(4,386)	$(5,391)	$(4,743)
Net cash (used for) provided by investing activities	(395)	(344)	(450)	(686)	240
Net cash provided by financing activities	$2,931	$3,219	$3,228	$1,661	$12,148

RISK FACTORS

Investing in our common shares involves a high degree of risk. Before you decide to invest in our securities, you should consider carefully the risks described below, as well as the other information contained in this prospectus. The risks described below are not the only ones facing us. Additional risks not presently known to us or that we currently deemed immaterial may also impair our business operations.

If any of the following risks actually occurs, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common shares could decline, and you may lose all or part of your investment.

Risk Related To Company

Recurring losses and negative cash flows from operations raise substantial doubt about our ability to continue as a going concern and we may not be able to continue as a going concern.

Our recurring losses from operations and negative cash flows from operations raise substantial doubt about our ability to continue as a going concern and as a result, our independent registered public accounting firm included an explanatory paragraph in its report on our consolidated financial statements for the fiscal year ended June 30, 2012 with respect to this uncertainty. Substantial doubt about our ability to continue as a going concern may create negative reactions to the price of the common shares of our stock and we may have a more difficult time obtaining financing.

We have prepared our financial statements on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts of liabilities that might be necessary should we be unable to continue in existence.

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 $72,430,508 at March 31, 2013. 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 November 2013. After giving effect to the net proceeds of this offering, we will have sufficient cash to maintain our present operations for at least the next 12 months.

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 March 31, 2013, we had a cash balance of $1,581,037 and working capital of $74,922. Using our available reserves as of March 31, 2013, we believe that we can operate according to our current business plan through November 2013. After giving effect to the net proceeds of this offering, we will have sufficient cash to maintain our present operations for at least the next 12 months.

To date, we have generated minimal revenues and anticipate that our operating costs will exceed any revenues generated over the next several years. Therefore, we will be required to raise additional capital in the future in order to operate in accordance with our current business plan, and this funding may not be available on favorable terms, if at all. If we are unable to raise additional funds, we will need to do one or more of the following:

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

In addition, in connection with any funding, if we need to issue more equity securities than our certificate of incorporation currently authorizes we will 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 June 30, 2013, we had 113,332,828 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 maintain 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 March 31, 2013, we have been issued twenty-seven (27) patents by the PTO and seventy-two (72) patents from foreign countries. We have also filed numerous patent applications for our technology in the United States and in several foreign countries, which technology is vital to our primary business, as well as several continuations in part on these patent applications. Our success depends in part upon the grant of patents from our pending patent applications.

Although we believe that our technology is unique and that it will not violate or infringe upon the proprietary rights of any third party, we cannot assure you that these claims will not be made or if made, could be successfully defended against. If we do not obtain and maintain patent protection, we may face increased competition in the United States and internationally, which would have a material adverse effect on our business.

Since patent applications in the United States are maintained in secrecy until patents are issued, and since publication of discoveries in the scientific and patent literature tend to lag behind actual discoveries by several months, we cannot be certain that we were the first creator of the inventions covered by our pending patent applications or that we were the first to file patent applications for these inventions.

In addition, among other things, we cannot assure you that:

- our patent applications will result in the issuance of patents;
- any patents issued or licensed to us will be free from challenge and if challenged, would be held to be valid;
- any patents issued or licensed to us will provide commercially significant protection for our technology, products and processes;
-

other companies will not independently develop substantially equivalent proprietary information which is not covered by our patent rights;

- other companies will not obtain access to our know-how;
- other companies will not be granted patents that may prevent the commercialization of our technology; or
- we will not incur licensing fees and the payment of significant other fees or royalties to third parties for the use of their intellectual property in order to enable us to conduct our business.

Our competitors may allege that we are infringing upon their intellectual property rights, forcing us to incur substantial costs and expenses in resulting litigation, the outcome of which would be uncertain.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. We are like most biotechnology companies in that our patent protection is highly uncertain and involves complex legal and technical questions for which legal principles are not yet firmly established. In addition, if issued, our patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products, or provide us with any competitive advantage.

The PTO and the courts have not established a consistent policy regarding the breadth of claims allowed in biotechnology patents. The allowance of broader claims may increase the incidence and cost of patent interference proceedings and the risk of infringement litigation. On the other hand, the allowance of narrower claims may limit the scope and value of our proprietary rights.

The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have encountered significant problems and costs in protecting their proprietary rights in these foreign countries.

We could become involved in infringement actions to enforce and/or protect our patents. Regardless of the outcome, patent litigation is expensive and time consuming and would distract our management from other activities. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we could because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of any patent litigation could limit our ability to continue our operations.

If our technology infringes the intellectual property of our competitors or other third parties, we may be required to pay license fees or damages.

The current patent landscape surrounding siRNA technology is unclear due to the recent proliferation of siRNA-related patent litigation and grants of third-party patents encompassing this technology. 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.

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.; Ceres, Inc., Archer Daniels Midland 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.; Janssen Biotech, Inc.; Novartis AG; and Pharmacyclics, Inc. Many of these competitors have substantially greater financial, marketing, sales, distribution and technical resources than us and have more experience in research and development, clinical trials, regulatory matters, manufacturing and marketing. We anticipate increased competition in the future as new companies enter the market and new technologies become available. Our technology may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors, which will prevent or limit our ability to generate revenues from the commercialization of our technology.

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

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

- the 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.

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.

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, 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

Until our common stock is listed on a qualified national securities exchange or our common stock price exceeds $5 per share, our common stock will be considered a "penny stock" and will not qualify for exemption from the "penny stock" restrictions, which may make it more difficult for you to sell your shares.

Prior to this offering, our common shares have traded on the OTCQB Marketplace at a price of less than $5.00 per share and, as a result, is considered as a “penny stock” by the SEC and subject to rules adopted by the SEC regulating broker-dealer practices in connection with transactions in “penny stocks.” The SEC has adopted regulations which generally define a “penny stock” to be any equity security that is not listed on a qualified 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. For any transaction involving a penny stock, unless exempt, these rules require delivery, prior to any transaction in a penny stock, of a disclosure schedule relating to the penny stock market. Disclosure is also required to be made about current quotations for the securities and commissions payable to both the broker-dealer and the registered representative. Finally, broker-dealers must send monthly statements to purchasers of penny stocks disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks. As a result of our common shares being subject to the rules on penny stocks, the liquidity of our common shares may be adversely affected.

In connection with this offering, we have applied to list our common shares on . To the extent that our listing application is approved and our common shares continue to be listed on , and we meet certain minimum financial metrics, our common shares will no longer be considered as a “penny stock.”

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

As of June 30, 2013, our executive officers and directors together beneficially own approximately 16% of the outstanding shares of our common stock, assuming the exercise of options and warrants which are currently exercisable or will become exercisable within 60 days of June 30, 2013, 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 June 30, 2013, we had 227,206,174 shares of our common stock issued and outstanding and 800 shares of convertible preferred stock outstanding which can convert into 26,666,667 shares of common stock. All of such shares are registered pursuant to registration statements on Form S-3 or 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 26,081,023 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 currently quoted on the OTCQB Marketplace and our common stock currently has a limited trading market. 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 June 30, 2013, our common stock traded between $0.09 and $0.02 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 June 30, 2013, we have outstanding 800 shares of convertible preferred stock which may convert into 26,666,667 shares of our common stock and warrants to purchase 28,315,612 shares of our common stock. In addition, as of June 30, 2013, we have reserved 26,081,023 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 and common stock agreements, we are required to reserve an additional 76,673,597 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.

Risks Related to This Offering

Our management team will have broad discretion over the use of the net proceeds from this offering.

Our management will use their discretion to direct the net proceeds from this offering. We intend to use the net proceeds, together with cash on hand, for general corporate purposes. General corporate purposes may include sales and marketing activities, clinical studies, research and development, capital expenditures, future acquisitions, working capital and repayment of debt. Our management's judgments may not result in positive returns on your investment and you will not have an opportunity to evaluate the economic, financial or other information upon which our management bases its decisions.

Investors in this offering will experience immediate and substantial dilution.

The public offering price of the securities offered pursuant to this prospectus supplement is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of common stock in this offering, you will incur immediate and substantial dilution in the pro forma net tangible book value per share of common stock from the price per share that you pay for the common stock. If the holders of outstanding options or warrants exercise those options or warrants at prices below the public offering price, you will incur further dilution.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

From time to time, in reports filed with the Securities and Exchange Commission (including this registration statement), in press releases, and in other communications to stockholders or the investment community, we may provide forward-looking statements concerning possible or anticipated future results of operations or business developments. These statements are based on our management's current expectations or predictions of future conditions, events or results based on various assumptions and our management's estimates of trends and economic factors in the markets in which we are active, as well as our business plans. Words such as "expects", "anticipates", "intends", "plans", "believes", "seeks", "estimates", "projects", "forecasts", "may", "should", variations of such words and sim expressions are intended to identify such forward-looking statements. The forward-looking statements may include, without limitation, statements regarding product development, product potential, regulatory environment, sales and marketing strategies, capital resources or operating performance. The forward-looking statements are subject to risks and uncertainties, which may cause results to differ materially from those set forth in the statements. Forward-looking statements in this registration statement should be evaluated together with the many uncertainties that affect our business and our market, particularly those discussed in the risk factors and cautionary statements in our filings with the Securities and Exchange Commission, including as described in "Risk Factors" included in this registration statement. Forward-looking statements are not guarantees of future performance, and actual results may differ materially from those projected. The forward-looking statements are representative only as of the date they are made, and we assume no responsibility to update any forward-looking statements, whether as a result of new information, future events or otherwise.

You should read this prospectus and the documents that we reference in this prospectus and have been filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any issuance or sale of our common shares. Except as required by law, we do not assume any obligation to update any forward-looking statements.

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of common shares in this offering will be approximately $ million, or approximately $ million if the underwriters exercise their over-allotment option in full, assuming a public offering price of $ per share and after deducting estimated underwriting fees and offering expenses payable by us. Each $0.01 increase or decrease in the assumed public offering price would increase or decrease, respectively, the net proceeds to us by approximately $, assuming the number of shares offered by us, as set forth above, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses.

We intend to use the net proceeds from this offering for continued development of product pipeline, including product line extension, and for general working capital purposes. We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures.

Therefore, investors will be relying on the judgment of our management, who will have broad discretion regarding the application of the proceeds of this offering. The amounts and timing of our actual expenditures will depend upon numerous factors, including the amount of cash generated by our operations, our cash needs, the rate of adoption of our products by the medical community and efficiency of our product development. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

Pending the application of the net proceeds, we intend to invest the net proceeds in investment-grade, interest-bearing securities. Our management has broad discretion over how these proceeds are used and could spend the proceeds in ways with which you may not agree, and the proceeds may not be invested in a manner that yields a favorable or any return.

DIVIDEND POLICY

We currently intend to retain earnings, if any, to finance the growth and development of our business, and we do not expect to pay any cash dividends to our stockholders in the foreseeable future.

COMMON SHARE PRICE RANGE

Prior to this offering, our common shares have been traded on the OTCQB Marketplace under the symbol SNTI.

The following table sets forth, for each of the calendar periods indicated, the quarterly high and low closing bid prices for our common shares quoted on the OTCQB Marketplace or the NYSE MKT, as applicable. The prices in the table represent prices between dealers and do not include adjustments for retail mark-up, markdown or commission and may not represent actual transactions.

	Fiscal Year Ended June 30, 2014		Fiscal Year Ended June 30, 2013		Fiscal Year Ended June 30, 2012	
	High	Low	High	Low	High	Low
First Quarter (through July 15, 2013)	$ 0.02	$ 0.02	$ 0.32	$ 0.17	$ 0.31	$ 0.24
Second Quarter			$ 0.23	$ 0.12	$ 0.29	$ 0.16
Third Quarter			$ 0.17	$ 0.08	$ 0.28	$ 0.21
Fourth Quarter			$ 0.09	$ 0.02	$ 0.31	$ 0.16

The last reported sale price for our common shares on July 15, 2013 was $0.02 per share. As of June 28, 2013, there were approximately 240 registered holders of record of our common shares, based upon information received from our stock transfer agent. However, this number does not include beneficial owners whose shares were held of record by nominees or broker dealers. We believe that there are a significantly larger number of beneficial owners of our common shares than the number of record holders. In connection with this offering, we intend to a list our shares on under the symbol “ .”

CAPITALIZATION

The following table describes our capitalization as of March 31, 2013:

- on an actual basis; and
- on an as adjusted basis to give effect to the sale of of our shares in this offering at an assumed public offering price of $ per share, after deducting estimated underwriting discounts and commissions and offering expenses.

You should read this capitalization table together with our consolidated financial statements and the related notes appearing at the end of this prospectus and the "Use of Proceeds," "Summary Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections and other financial information included in this prospectus.

	As of March 31, 2013	
	Actual	As Adjusted
	(in thousands, except share and per share data)	
Long-term debt	361	-
Stockholders' equity (deficit):		
Series A Convertible Preferred Stock, $0.01 par value; 5,000,000 shares authorized, 10,297 shares issued and 995 shares outstanding	-	
Common Stock, $.01 par value; 50,000,000 shares authorized, 146,975,283 shares issued and outstanding	1,470	
Additional paid-in capital	74,272	
Accumulated deficit	(72,431)	
Total stockholders' equity	3,311	
Total capitalization	3,672	$_____

The number of our common shares outstanding after this offering is based on 227,206,174 common shares outstanding as of June 30, 2013, and excludes:

- 23,174,770 common shares issuable upon the exercise of options outstanding as of June 30, 2013 at a weighted average exercise price of $.035 per share;

- 28,315,612 common shares issuable upon the exercise of warrants outstanding as of June 30, 2013 at an exercise price of $0.36 per share

- 26.666.667 common shares issuable upon the conversion of 800 shares of Series A Convertible Preferred Stock; and

- 4,630,353 additional common shares available for future issuance as of June 30, 2013 under our Senesco Technologies, Inc. 2008 Stock Incentive Plan.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options or the warrants described above.

DILUTION

Our net tangible book value as of March 31, 2013, as adjusted for an offering completed on May 8, 2013, was approximately $853,805, or $0.004 per common share. Net tangible book value per share is determined by dividing our total tangible assets less total liabilities by the actual number of outstanding shares of our common shares. After giving effect to our issuance of shares at the assumed public offering price of $ per share, and after deducting estimated underwriting discounts and commissions and offering expenses payable by us, our net tangible book value as of March 31, 2013, as adjusted for an offering completed on May 8, 2013, would have been $ million or $ per common share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to new investors in this offering. The following table illustrates this per share dilution:

Assumed public offering price per share	$
Net tangible book value per share as of March 31, 2013, as adjusted	$0.004
Increase per share attributable to new investors	$
Pro forma net tangible book value per share after this offering	
Dilution per share to new investors	$

Dilution per share to new investors is determined by subtracting pro forma net tangible book value per share after this offering from the assumed public offering price per share paid by a new investor. If any shares are issued in connection with outstanding options or the underwriters' over-allotment option, you will experience further dilution. A $ increase or decrease in the assumed public offering price would increase or decrease, respectively, the pro forma as adjusted net tangible book value as of March 31, 2013 by $ million, or $ per common share, and the dilution per share to new investors by $ per share, assuming the number of shares offered by us, as set forth above, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITIONS AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes, and the financial and other information included elsewhere in this prospectus. Among other things, those financial statements include more detailed information regarding the basis of presentation for the following information. The financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP, and are presented in U.S. dollars.

This discussion contains forward-looking statements that involve risks and uncertainties based on assumptions about our future business. Our actual results may differ from those contained in the forward-looking statements and such differences may be material as a result of a number of factors. Please read "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements."

Overview

Senesco Technologies, Inc., a Delaware corporation, is a development stage company. We do not expect to generate significant revenues for several years, during which time we will engage in significant research and development efforts. Our human therapeutic research program, which has consisted of clinical, pre-clinical in-vitro and in-vivo experiments designed to assess the role and method of action of the Factor 5A genes in human diseases, is performed by approximately 12 third party researchers at our direction, at the University of Waterloo and other commercial research facilities. We have developed a therapeutic candidate, SNS01-T, for the potential treatment of multiple myeloma. We have also been granted orphan drug status for SNS01-T by the FDA for the potential treatment of multiple myeloma, diffuse large B-cell lymphoma ("DLBCL") and mantle cell lymphoma ("MCL"). We initiated a Phase 1b/2a clinical study with SNS01-T for treatment of multiple myeloma in September 2011 and have recently expanded it to include treatment for DLBCL and MCL. We are currently sponsoring the study at Mayo Clinic in Rochester, MN, the University of Arkansas for Medical Sciences in Little Rock, the Mary Babb Randolph Cancer Center in Morgantown, WV, and the John Theurer Cancer Center at Hackensack University Medical Center in Hackensack, NJ. We may consider other human diseases in order to determine the role of eIF5A and SNS01-T.

Additionally, we have nine active agricultural license agreements to develop and commercialize our technology in banana plants, corn, soy, cotton, rice, canola, trees, alfalfa, and turf grass. The licenses provide for upfront payments, milestone payments and royalty payments to us upon commercial introduction.

Consistent with our commercialization strategy, we may license our technology for human health applications or for additional crops, as the opportunities may arise, that may result in additional license fees, revenues from contract

research and other related revenues. Successful future operations will depend on our and our partners' ability to transform our research and development activities into a commercially feasible technology.

Critical Accounting Policies and Estimates

The discussion and analysis of the Company's financial condition and results of operations is based upon the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and reported amount of expenses during the period reported. Management bases its estimates and judgments on historical experience, observance of trends in the industry, information provided by outside sources and on various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in Note 2 to the consolidated financial statements contained in this registration statement. The most significant estimates include allowance for doubtful accounts, valuation of goodwill, effective interest rate on the note payable, and the provision for income taxes.

Results of Operations

Comparison of nine months ended March 31, 2013 and 2012

The net loss for the nine months ended March 31, 2013 was $4,191,922. The net loss for the nine months ended March 31, 2012 was $3,627,213. Such a change represents an increase in net loss of $564,709, or 15.6%. This increase in net loss was primarily the result of an increase in other non-operating expenses and a decrease in revenue, which was partially offset by a decrease in general and administrative expenses and research and development costs.

Revenue

There was no revenue during the nine months ended March 31, 2013.

Total revenue in the amount of $200,000 for the nine months ended March 31, 2012 consisted of a milestone payment in connection with an agricultural license agreement.

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

	Nine Months Ended March 31, 2013	2012	Change	%
	(in thousands, except % values)			
Payroll and benefits	$445	$447	$ (2)	(0.5)%
Investor relations	175	164	11	6.7 %
Professional fees	382	429	(47)	(11.0)%
Cash Director fees	48	29	19	65.5 %
Depreciation and amortization	202	185	17	9.2 %
Other general and administrative	262	296	(34)	(11.5)%
	1,514	1,550	(36)	(2.3)%
Stock-based compensation	479	569	(90)	(15.8)%
Total general and administrative	$1,993	$2,119	$ (126)	(6.0)%

- Payroll and benefits for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily as a result of a 401K contribution made during the nine months ended March 31, 2012. There was no 401K contribution during the nine months ended March 31, 2013. This was partially offset by salary increases effective July 1, 2012.

- Investor relations fees for the nine months ended March 31, 2013 was higher than for the nine months ended March 31, 2012, primarily as a result of a new investor relations program started in January 2013

- Professional fees for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily due to a reversal of an estimated legal accrual during the nine months ended March 31, 2013.

- Cash director fees for the nine months ended March 31, 2013 were higher than for the nine months ended March 31, 2012, primarily as a result of more meetings being held during the nine months ended March 31, 2013.

- Depreciation and amortization for the nine months ended March 31, 2013 was higher than for the nine months ended March 31, 2012, primarily as a result of an increase in amortization of patent costs.

- Other general and administrative expenses for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily due to a decrease in conference costs, state taxes and office supplies.

- Stock-based compensation for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily due to a lower Black-Scholes value of options vesting during the nine months ended March 31, 2013 due to options that were forfeited prior to vesting.

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

Research and Development Expenses

	Nine Months Ended March 31,			
	2013	2012	Change	%
	(in thousands, except % values)			
Payroll	$130	$125	$ 5	4.0 %
Research contract with the University of Waterloo	470	429	41	9.6 %
Other research and development	924	1,332	(408)	(30.6)%
	1,524	1,886	(362)	(19.2)%
Stock-based compensation	73	40	33	82.5 %
Total research and development	$1,597	$1,926	$ (329)	(17.1)%

- Payroll for the nine months ended March 31, 2013 was higher than for the nine months ended March 31, 2012, primarily as a result of a salary increases effective July 1, 2012.

- The cost associated with the research contract with the University of Waterloo for the nine months ended March 31, 2013 was higher than for the nine months ended March 31, 2012, primarily due to an increase in amount being funded for human health research.

- Other research and development costs for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily due to a decrease in the costs in connection with agricultural research programs and formulation studies.

- Stock-based compensation for the nine months ended March 31, 2013 was higher than for the nine months ended March 31, 2012, primarily due to a higher Black-Scholes value of the options vesting.

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

	Nine Months Ended March 31,					
	2013	%		2012	%	
	(in thousands, except % values)					
Agricultural	$41	3	%	$240	12	%
Human therapeutic	1,556	97	%	1,686	88	%
Total research and development	$1,597	100	%	$1,926	100	%

- Agricultural research expenses for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, primarily due to a reduction in the funding for agricultural research at the University of Waterloo and the amendment to the Rahan Meristem agreement for the development of bananas. Effective January 1, 2012, we amended the Rahan Meristem agreement whereby we no longer incur costs related to such development.

- Human therapeutic research expenses for the nine months ended March 31, 2013 was lower than for the nine months ended March 31, 2012, 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 nine months ended March 31, 2012, we incurred costs related to the formulation of SNS01-T, which we did not incur during the nine months ended March 31, 2013.

We do not expect our human therapeutic research program to substantially change as a percentage of the total research and development expenses.

Other non-operating income and expense

Fair value – warrant liability

The amounts represent the change in the fair value of the warrant liability for the nine months ended March 31, 2013 and 2012.

Comparison of the Years Ended June 30, 2012 and 2011

Revenue

During the fiscal year ended June 30, 2012, we earned revenue in the amount of $200,000, which consisted of a milestone payment in connection with an agricultural license agreement.

We did not earn any revenue during the fiscal year ended June 30, 2011.

We anticipate that we will receive future milestone payments in connection with our current agricultural development and license agreements. Additionally, we anticipate that 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 we are a development stage biotechnology company with no history of receiving development milestone payments or royalties, and the timing and outcome of our experiments, the timing of signing new partners and the timing of our partners moving through the development process into commercialization is difficult to accurately predict.

Operating expenses

	Fiscal Year Ended June 30,			
	2012	2011	Change	%
General and administrative	$2,724,144	$2,610,222	$113,922	4 %

Research and development	2,566,247	3,720,394	(1,154,147)	(31)%
Total operating expenses	$5,290,391	$6,330,616	$(1,040,225)	(16)%

We expect operating expenses to increase over the next 12 months as we anticipate that research and development expenses will increase as we continue to expand our research and development activities.

General and administrative expenses

General and administrative expenses consist of the following:

	Fiscal Year ended June 30,	
	2012	2011
Stock-based compensation	$ 721,197	$ 709,207
Payroll and benefits	588,407	568,597
Investor relations	203,871	260.455
Professional fees	518,473	425,640
Depreciation and amortization	258,023	143,274
Other general and administrative expenses	434,173	503,049
Total general and administrative expenses	$ 2,724,144	$ 2,610,222

Stock-based compensation for the fiscal years ended June 30, 2012 and June 30, 2011 consisted of the amortized portion of the Black-Scholes value of options, restricted stock units and warrants granted to directors, employees and consultants. During the fiscal years ended June 30, 2012 and 2011, the following options and warrants were granted to such individuals:

	June 30, 2012	June 30, 2011
Options	5,274,428	4,579,142
Warrants	None	305,000

Stock-based compensation for the fiscal year ended June 30, 2012 was higher than the fiscal year ended June 30, 2011 primarily due to the greater number of options and warrants granted.

- Payroll and benefits for the fiscal year ended June 30, 2012 was higher than for the fiscal year ended June 30, 2011 primarily as a result of a 401K contribution made during the fiscal year ended June 30, 2012 and salary increases effective July 1, 2011. There was no 401K contribution during the fiscal year ended June 30, 2011.

- Investor relations fees for the fiscal year ended June 30, 2012 was lower than for the fiscal year ended June 30, 2011 primarily as a result of lower consultant fees.

- Professional fees for the fiscal year ended June 30, 2012 was higher than for the fiscal year ended June 30, 2011 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 fiscal year ended June 30, 2011 but were not available during the fiscal year ended June 30, 2012. Accounting fees increased primarily due to the use of a consultant to prepare a valuation of the Company's intangible assets.

- Depreciation and amortization for the fiscal year ended June 30, 2012 was higher than for the fiscal year ended June 30, 2011 primarily as a result of an increase in amortization of patent costs.

- Other general and administrative expenses for the fiscal year ended June 30, 2012 was lower than for the fiscal year ended June 30, 2011 primarily due to a decrease in consultant costs, rent and telecom, which was partially offset by an increase in insurance costs.

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

Research and development expenses

	Fiscal Year Ended June 30,			
	2012	2011	Change	%
Stock-based compensation	$44,807	$41,159	$3,648	9 %
Payroll	167,834	176,646	(8,812)	(5)%
Research contract with the University of Waterloo	573,368	622,872	(49,504)	(8)%
Other research and development	1,780,238	2,879,717	(1,099,479)	(38)%
Total research and development	$2,566,247	$3,720,394	$(1,154,147)	(31)%

- Stock-based compensation for the fiscal year ended June 30, 2012 was higher than the fiscal year ended June 30, 2011 primarily because the number of options granted during the fiscal year ended June 30, 2012 was higher than the fiscal year ended June 30, 2011.

- Payroll for the fiscal year ended June 30, 2012 was lower than for the fiscal year ended June 30, 2011 primarily as a result of a bonus that was paid to the VP-Research during the fiscal year ended June 30, 2011. There were no bonuses paid during the fiscal year ended June 30, 2012.

- The cost associated with the research contract with the University of Waterloo for the fiscal year ended June 30, 2012 were lower than for the fiscal year ended June 30, 2011 primarily due to a reduction in the amount being funded for agricultural research, effective, March 1, 2011.

- Other research and development costs for the fiscal year ended June 30, 2012 was lower than for the fiscal year ended June 30, 2011 primarily due to a decrease in the costs incurred in connection with our development of SNS01-T for multiple myeloma. Specifically, during the fiscal year ended June 30, 2011, we incurred significant costs related to our filing and follow-up of our investigational new drug application, pivotal toxicology study and other preclinical work that we did not incur during the fiscal year ended June 30, 2012. 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 fiscal year ended June 30, 2011.

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

	Fiscal Year ended June 30,					
	2012	%		2011	%	
Agricultural research programs	$279,736	11	%	$467,141	13	%
Human therapeutic research programs	2,286,511	89	%	3,253,253	87	%
Total research and development expenses	$2,566,247	100	%	$3,720,394	100	%

- Agricultural research expenses for the fiscal year ended June 30, 2012 were lower than for the fiscal year ended June 30, 2011 primarily due to a reduction in the funding for agricultural research at the University of Waterloo and a reduction in the funding for banana field trials due to the conversion of the joint collaboration agreement with Rahan Meristem into a license agreement in December 2011.

- Human therapeutic research expenses for the fiscal year ended June 30, 2012 were lower than for the fiscal year ended June 30, 2011 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 fiscal year ended June 30, 2011, we incurred costs related to our filing and follow-up of our investigational new drug application, pivotal toxicology studies and other pre-clinical work that we did not incur during the fiscal year ended June 30, 2012. 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 fiscal year ended June 30, 2011.

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.

Other non-operating income and expense

Grant income

We did not receive any grant income during the fiscal year ended June 30, 2012.

We received grant income under the Qualified Therapeutic Discovery Project in the amount of $244,479 during the fiscal year ended June 30, 2011. The funds were granted in connection with our program for the use of our lead

therapeutic candidate, SNS01-T, in multiple myeloma.

Fair value – warrant liability

The amounts represent the change in the fair value of the warrant liability for the fiscal years ended June 30, 2012 and 2011.

Other noncash expense or income

During the fiscal year ended June 30, 2011, the exercise price of 4,088,540 warrants was adjusted from $0.50 to $0.32 in exchange for those warrant holders giving up their right to future adjustments to the exercise price. This resulted in a charge to stock-based compensation of $115,869.

Write-off of patents abandoned

During the fiscal years ended June 30, 2012 and June 30, 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. Therefore, we wrote-off the net book value of those patents and patents pending in the amounts of $321,137 and $1,588,087, respectively.

Effect of Inflation

Inflation has not had a significant impact on our operations or cash flows.

Liquidity and Capital Resources

For the nine months ended March 31, 2013, net cash of $2,956,298 was used in operating activities primarily due to a net loss of $4,191,922, which was reduced by non-cash expenses, net of non-cash income, of $1,267,554. Cash used in operating activities was increased by changes in operating assets and liabilities in the amount of $31,930.

The $31,930 change in operating assets and liabilities was primarily the result of an increase in prepaid expenses in the amount of $163,979, which was partially offset by an increase in accounts payable and accrued expenses in the amount of $132,049 due to the timing of expenses and payments.

During the nine months ended March 31, 2013, cash used for investing activities amounted to $394,945, which was primarily related to patent costs incurred.

Cash provided by financing activities during the nine months ended March 31, 2013 amounted to $2,930,955 primarily related to the placement of common stock and warrants.

As of March 31, 2013, our cash balance totaled $1,581,037, and we had working capital of $74,922.

In January 2013, we received net proceeds in the amount of $2,848,798 from the issuance of common stock and warrants.

In May 2013, we received net proceeds in the amount of approximately $1,125,000 from the issuance of common stock.

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 at March 31, 2013 and the net proceeds from the issuance of common stock in May 2013, we will be able to fund our operations through November 2013. 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.

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

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

BUSINESS

General

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 and non-Hodgkin B-cell lymphomas. SNS01-T utilizes our Factor 5A technology and comprises 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 small 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, by silencing the eIF5A gene, reduces expression of the hypusine form of Factor 5A that supports cell survival and proliferation. The silencing of the eIF5A gene by an eIF5A 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 with 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, mantle cell lymphoma and diffuse large B-cell lymphoma.

We are conducting a Phase 1b/2a clinical study with SNS01-T in multiple myeloma, diffuse large B cell lymphoma (DLBCL) and mantle cell lymphoma (MCL) patients. The clinical study is an open-label, multiple-dose, dose-escalation study, which is evaluating 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 up to a four-week safety data review period before escalating to a higher dose level in the next cohort.

While the primary objective of this study is to evaluate safety and tolerability, the effect of SNS01-T on tumor response and time to relapse or progression will be assessed using multiple well-established metrics including measurement of monoclonal protein in multiple myeloma and CT imaging in MCL and DLBCL .

We have selected Mayo Clinic, University of Arkansas for Medical Sciences, the Randolph Cancer Center at West Virginia University and the John Theurer Cancer Center at Hackensack University Medical Center as our clinical sites. During the quarter ended March 31, 2013, the agreement with the Company's contract research organization was amended to reflect the additional costs involved with adding the three additional clinical sites.

The study is open and we have completed our first and second cohorts. The results of the first and second cohort showed that SNS01-T was safe and well tolerated and met the criteria for Stable Disease in 2 of the 6 evaluable patients. We are now recruiting patients for the third cohort.

We have 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. We have demonstrated that a high level of tumor eradication in a mouse model of human multiple myeloma was achieved with a combination of SNS01-T and lenalidomide. While SNS01-T alone performed well by completely eliminating tumors in 40% of the animals, complete tumor eradication was achieved in five out of six or 83% of the treated animals that received SNS01-T combined with the optimal study dose of lenalidomide. This effect lasted throughout 6 weeks of observation after the end of treatment. Neither dose of lenalidomide used alone eliminated tumors in any of the treated mice. Most recently, we have demonstrated the benefits of combining SNS01-T with bortezomib. In a mouse model of human multiple myeloma, SNS01-T as a monotherapy achieved 59% tumor growth inhibition, which exceeded that of bortezomib alone at either the 0.2 mg/kg dose (22% inhibition) or at the 0.5 mg/kg dose (39% inhibition). However, the combination of SNS01-T with 0.5 mg/kg of bortezomib resulted in 89% tumor inhibition, which was significantly more effective than either SNS01-T or bortezomib alone.

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.

Human Therapeutic Target Markets

We believe that our eIF5A platform technology may have broad applicability in the human therapeutic field, by either inducing or inhibiting apoptosis. Inducing apoptosis may be useful in treating certain forms of cancer where tumor cells do not respond to immune system signals to undergo apoptosis. Inhibiting apoptosis may be useful in preventing or treating a wide range of inflammatory and ischemic diseases attributed to premature apoptosis, including diabetes, diabetic retinopathy and lung inflammation.

We have advanced our research in multiple myeloma and are conducting a Phase 1b/2a clinical trial, and may select additional human therapeutic indications to investigate in clinical trials. We believe that the success of our future operations will likely depend on our ability to transform our research and development activities into commercial applications.

Human Therapeutic Research Program

Our human therapeutic research program, which consists of pre-clinical *in-vitro* and *in-vivo* experiments designed to assess the role and mode of action of Factor 5A in human diseases and a phase 1a/2b clinical trial, is being performed by approximately eleven (11) third party researchers, at our direction, at Criterium, the University of Waterloo and other facilities. Additionally, we outsource certain projects, such as our clinical trial, to other third party research organizations.

Our research and development expenses incurred on human therapeutic applications were approximately $2,286,511, or 89%, of our total research and development expenses for the year ended June 30, 2012.

Our research and development expenses incurred on human therapeutic applications were approximately $3,253,253, or 87%, of our total research and development expenses for the year ended June 30, 2011.

Our research and development expenses incurred on human therapeutic applications were approximately $2,083,787, or 79%, of our total research and development expenses for the year ended June 30, 2010.

Since inception, the proportion of our research and development expenses on human therapeutic applications has increased, as compared to our research and development expenses on agricultural applications. This change is primarily due to the fact that our research focus on human therapeutics has increased and some of our research costs for plant applications have shifted to our license partners.

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

- Multiple Myeloma. Continue a Phase 1b/2a clinical trial. In connection with the clinical trial, we have engaged Criterium to manage the operational aspects of the Phase 1b/2a clinical study. We have also entered into an agreement with Mayo Clinic, University of Arkansas and University of West Virginia to be our clinical sites. The study opened in September 2011 and we are currently treating patients. We estimate that the study will be completed on or about March 31, 2014.

- Mantle Cell Lymphoma. We expect to evaluate SNS01-T in mantle cell lymphoma.

- Diffuse Large B-Cell Lymphoma. We expect to evaluate SNS01-T in diffuse large B-Cell lymphoma.

- We may consider cancers in other tissues by modifying the structure of SNS01-T to be able to target other tumor types, e.g., liver cancer.

- Other. We may consider other human diseases in which Factor 5A, siRNA against Factor 5A and SNS01-T may have a therapeutic effect.

In order to pursue the above research initiatives, as well as other research initiatives that may arise, we completed private placements of convertible preferred stock and warrants on April 1, 2010 and June 2, 2010. In December 2010, we initiated an at-the-market, or ATM, offering for the issuance of up to $5,500,000 of common stock and completed a public placement of common stock and warrants in January 2012, March 2012 and January 2013. Additionally, we completed a public placement of common stock in May 2013. However, it will be necessary for us to raise a significant amount of additional working capital in the future. If we are unable to raise the necessary funds, we may be required to significantly curtail the future development of some of our research initiatives and we will be unable to pursue other possible research initiatives.

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

Human Therapeutic Suppliers

The materials for our lead therapeutic candidate, SNS01-T, for multiple myeloma consist of three parts: a pDNA expressing human eIF5A^{K50R}; a siRNA, whose sequence corresponds to an untranslated region of native eIF5A mRNA; and linear PEI which enables self-assembly of the nucleic acids into nanoparticles. We have entered into supply agreements for the components as follows:

On June 27, 2008, we entered into a supply agreement with VGXI, Inc., or VGXI, under which VGXI will supply us with the plasmid portion of the Company's combination therapy, hereinafter referred to as the VGXI Product. The agreement has an initial term that commenced on the date of the agreement and runs for a period of five (5) years. The agreement shall, upon mutual agreement, renew for consecutive one (1) year periods thereafter. Our financial obligation under the agreement is dependent upon the amount of VGXI Product ordered by the Company.

On June 30, 2008, we entered into a supply agreement with Polyplus-transfection, or POLYPLUS, under which POLYPLUS will supply the Company with its "in vivo-jetPEI", hereinafter referred to as the POLYPLUS Product, which is used in the formulation and systemic delivery of the Company's combination therapy. The agreement has an initial term which commenced on the date of the agreement and runs until the eighth anniversary of the first sale of our product containing the POLYPLUS Product. The agreement shall automatically renew for consecutive one (1) year periods thereafter, except if terminated by either party upon six (6) months written notice prior to the initial or any subsequent renewal term. The Company's financial obligation under the agreement is dependent upon the amount of POLYPLUS Product ordered by the Company.

On September 4, 2008, we entered into a supply agreement with Avecia Biotechnology, Inc., or AVECIA, under which AVECIA will supply the Company with the siRNA portion of the Company's combination therapy consisting of the Factor 5A gene and siRNA against Factor 5A, hereinafter referred to as the siRNA Product. The agreement had a term which commenced on the date of the agreement and terminated on the later of the completion of all services to be provided under the agreement or 30 days following delivery of the final shipment of the siRNA Product.

Human Therapeutic Competition

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

- Entering into strategic alliances, including licensing technology to major marketing and distribution partners; or
- Developing in-house production and marketing capabilities.

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

There are many large companies and development stage companies working in the field of apoptosis and multiple myeloma research including Celgene, Inc., Takeda/Millennium, ONYX Pharmaceuticals, Inc., Amgen Inc., Janssen Biotech, Inc., Novartis AG, and Pharmacyclics, Inc.

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

Agricultural Applications

Our agricultural research focuses on the discovery and development of certain gene technologies, which are designed to confer positive traits on fruits, flowers, vegetables, forestry species and agronomic crops.

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 Target Markets

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

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

Agricultural Development and License Agreements

Effective December 22, 2011, we re-structured our 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 our 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 us 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 our technology without any future payments by us for the costs of development and commercialization. If a product, which incorporates our 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.

On February 8, 2012, we entered into a research and development agreement with BioCorp Ventures, LLC ("BCV"), a division of technology incubator US Equity Holdings, to use our proprietary eukaryotic translation initiation Factor 5A (eIF5A) technology platform for sustainable energy applications (the "Agreement"). BCV, a newly formed start-up company, will have a license to evaluate our technology for the development of plants and plant products suitable for use in the production of biofuel and biofuel feedstock, including all species of algae and all species in the genus *Miscanthus* (perennial grasses). Biofuels derived from these organisms include biodiesel and bioethanol. The companies will continue ongoing research and development as BCV works on commercializing the technology. BCV will be fully responsible for further assessing the potential of our technology for all biofuel applications and determining the route to the commercialization of biofuel products. Through our significant know-how at the University of Waterloo, we will be responsible for technology transfer and providing technical advice to facilitate BCV's operations. After the initial evaluation phase, the Agreement provides annual license maintenance payments to us and royalty payments in the mid-single digits if a product is commercialized by BCV. As part of the Agreement, after the initial evaluation phase, we will have a 15% equity interest in BCV and the right to appoint one member to BCV's advisory board. In February 2013, BCV was in breach of the Agreement. Specifically, BCV did not make the payment required or issue our equity interest to us on the due date. On March 1, 2013, we sent BCV a notice of breach. As such breach had not been cured by April 1, 2013, the Agreement was terminated in its entirety. In May 2013, we entered into a new Biofuels Evaluation and License Agreement with BCV under the same terms and conditions as the previous Biofuels Evaluation and License Agreement, except that the evaluation period was amended and the amount of the milestone payments were increased.

As of June 30, 2013, we have nine (9) active license agreements with established agricultural biotechnology companies.

Agricultural Research Program

Our agricultural research and development is performed by one (1) researcher, at our direction, at the University of Waterloo, where the technology was developed. Additional agricultural research and development is performed by our license or joint collaboration partners.

The discoverer of our technology, John E. Thompson, Ph.D., is the Associate Vice President, Research and former Dean of Science at the University of Waterloo in Ontario, Canada, and is our Executive Vice President and Chief Scientific Officer. Dr. Thompson is also one of our directors and owns 0.6% of the outstanding shares of our common stock, $0.01 par value, as of June 30, 2013.

On September 1, 1998, we entered into, and have extended through August 31, 2013, a research and development agreement with the University of Waterloo and Dr. Thompson as the principal inventor. The Research and Development Agreement provides that the University of Waterloo will perform research and development under our direction, and we will pay for the cost of this work and make certain payments to the University of Waterloo. In return

for payments made under the Research and Development Agreements, we have all rights to the intellectual property derived from the research.

Agricultural Competition

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

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

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

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

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

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.

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
Biofuels	BioCorp Ventures	Initial Evaluation

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-seven (27) issued patents from the United States Patent and Trademark Office, or PTO, and seventy-two (72) issued patents from foreign countries. Of our ninety-nine (99) domestic and foreign issued patents, sixty-two (62) are for the use of our technology in agricultural applications and thirty-seven (37) relate to human therapeutics applications.

In addition to our ninety-nine (99) 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.

During our 2012 and 2011 fiscal years, 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.

Government Regulation

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

In addition, our ongoing preclinical research with cell lines and lab animal models of human disease is not currently subject to the FDA requirements that govern clinical trials. However, use of our technology, SNS01-T, for human therapeutic applications, is subject to FDA regulation. Generally, the FDA must approve any drug or biologic product before it can be marketed in the United States. In addition, prior to being sold outside of the U.S., any products resulting from the application of our human 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 need to perform extensive preclinical testing which could take several years and may require substantial expenditures.

Our current activities in human therapeutics related to our clinical trial in multiple myeloma, requires approval by the FDA. We have an open IND with the FDA for use of SNS01-T for the treatment of multiple myeloma and are subject to additional reporting to and monitoring by the FDA. 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.

Employees

In addition to the twelve (12) scientists and monitors performing funded research for us at our CRO, the University of Waterloo, and other commercial research facilities, we have four (4) employees and three (3) consultants, four (4) of

whom are executive officers and who are involved in our management. We do not anticipate hiring any additional employees over the next 12 months.

The officers are assisted by a Scientific Advisory Board that consists of prominent experts in the fields of plant and human cell biology as follows:

- Alan Bennett, Ph.D., who serves as the Chairman of the Scientific Advisory Board, is the Associate Vice Chancellor of the Office of Technology Transfer at the University of California. His research interests include the molecular biology of tomato fruit development and ripening, the molecular basis of membrane transport, and cell wall disassembly.

- Charles A. Dinarello, M.D., who serves as a member of the Scientific Advisory Board, is a Professor of Medicine at the University of Colorado School of Medicine, a member of the U.S. National Academy of Sciences and the author of over 500 published research articles. In addition to his active academic research career, Dr. Dinarello has held advisory positions with two branches of the National Institutes of Health and positions on the Board of Governors of both the Weizmann Institute and Ben Gurion University.

- James E. Mier, M.D., who serves as a member of the Scientific Advisory Board, is an Associate Professor of Medicine at Beth Israel Deaconess Medical Center, a teaching hospital of Harvard Medical School. He is also a practicing physician in the Division of Hematology-Oncology at Beth Israel. Dr. Mier's research is funded by the NIH and he is a member of numerous professional societies.

Furthermore, pursuant to the Research and Development Agreements, a substantial amount of our research and development activities are conducted at the University of Waterloo under the supervision of Dr. Thompson, our Executive Vice President and Chief Scientific Officer. We utilize the University's research staff including graduate and post-graduate researchers.

We may also contract research to additional university laboratories or to other companies in order to advance the development of our technology.

Properties

Effective May 19, 2011, Senesco leases office space in Bridgewater, New Jersey for a current monthly rental fee of $5,703, subject to certain escalations for our proportionate share of increases, over the base year of 2011, in the building's operating costs. The lease expired on May 31, 2013 but was extended, at our option, for one additional year through May 31, 2014. The space is in good condition, and we believe it will adequately serve as our headquarters over the term of the lease. We also believe that this office space is adequately insured by the lessor.

Legal Proceedings

We are not currently a party to any legal proceedings; however, we may become involved in various claims and legal actions arising in the ordinary course of business.

MANAGEMENT

Executive Officers and Directors

Executive Officers

The following table identifies our current executive officers:

Name	Age	Capacities in Which Served	In Current Position Since
Leslie J. Browne, Ph.D.	63	President, Chief Executive Officer and Director	May 2010
John E. Thompson, Ph.D.	71	Executive Vice President and Chief Scientific Officer, Director	July 2004
Joel P. Brooks	54	Chief Financial Officer, Treasurer and Secretary	December 2000
Richard Dondero	63	Vice President of Research and Development	July 2004

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Leslie J. Browne, Ph.D. was appointed our President and Chief Executive Officer in May 2010 and has been our director since March 2011. Dr. Browne has over 30 years of experience in the pharmaceutical industry. Prior to joining Senesco in May 2010, he served from October 2008 to May 2010 as President and CEO, and is currently chair, of Phrixus Pharmaceuticals, Inc., a private biotech working on muscular dystrophy and heart failure. He recently served from January 2007 to January 2009 as chair of the New Jersey Technology Council, where he continues as a member of the board. He also served from April 2007 to January 2009 as an independent director of Genelabs Technologies, which was sold to GSK, and from September 2004 to May 2008 as President, CEO and Director of Pharmacopeia, a Nasdaq listed company, where he transformed the company from a discovery contract research organization to a clinical development stage biopharmaceutical company with multiple internal development programs. Prior to joining Pharmacopeia, Dr. Browne was the Chief Operating Officer at Iconix Pharmaceuticals, Inc., a privately-held chemogenomics company from October 2001 to July 2004. Before Iconix, Dr. Browne held key positions at Berlex/Schering AG from 1990 to 2000, including Corporate Vice President, Berlex Laboratories, Inc. and President of Schering Berlin Venture Corporation. In 1979, Dr. Browne began his industrial career at Ciba-Geigy, now Novartis, where he invented fadrozole, for the treatment of breast cancer and was closely involved in the discoveries of Femaraâ and Diovanâ, which became major products for Novartis. Dr. Browne received his Bachelor of Science degree in Chemistry in 1972 from the University of Strathclyde, Glasgow Scotland. He received his Ph.D. in Organic Chemistry in 1978 from the University of Michigan and his postdoctoral training as a National Institutes of Health Postdoctoral Fellow at Harvard University from January 1978 to April 1979. Dr. Browne is an experienced executive with former CEO experience and senior executive level experience at large multinational, as well as

development stage, life sciences companies. He also has corporate governance experience through service on boards of other companies and organizations. Dr. Browne's educational background also provides him with the tools necessary to understand the science underlying our technology and how it relates to human health and agricultural applications.

John E. Thompson, Ph.D. has been our director since October 2001. Dr. Thompson was appointed our President and Chief Executive Officer in January 1999, and he continued in that capacity until September 1999 when he was appointed Executive Vice President of Research and Development. In July 2004, Dr. Thompson became our Executive Vice President and Chief Scientific Officer. Dr. Thompson is the inventor of the technology that we develop. Since July 2001, he has been the Associate Vice President, Research and, from July 1990 to June 2001, he was the Dean of Science at the University of Waterloo in Waterloo, Ontario, Canada. Dr. Thompson has a Ph.D. in Biology from the University of Alberta, Edmonton, and he is a Fellow of the Royal Society of Canada. Dr. Thompson is also the recipient of a Lady Davis Visiting Fellowship, the Sigma Xi Award for Excellence in Research, the CSPP Gold Medal and the Technion Visiting Fellowship. Dr. Thompson has an in-depth knowledge and understanding of the science underlying our technology and how it relates to human health and agricultural applications.

Joel P. Brooks was appointed our Chief Financial Officer and Treasurer in December 2000. Mr. Brooks was appointed our Secretary in May 2010. From September 1998 until November 2000, Mr. Brooks was the Chief Financial Officer of Blades Board and Skate, LLC, a retail establishment specializing in the action sports industry. Mr. Brooks was Chief Financial Officer from 1997 until 1998 and Controller from 1994 until 1997 of Cable and Company Worldwide, Inc. He also held the position of Controller at USA Detergents, Inc. from 1992 until 1994, and held various positions at several public accounting firms from 1983 through 1992. Mr. Brooks is also a director and chairman of the audit committee of USA Technologies, Inc. Mr. Brooks received his Bachelor of Science degree in Commerce with a major in Accounting from Rider University in February 1983.

Richard Dondero was appointed our Vice President of Research and Development in July 2004. From July 2002 until July 2004, Mr. Dondero was a Group Leader in the Proteomics Reagent Manufacturing division of Molecular Staging, Inc., a biotech firm engaged in the measurement and discovery of new biomarkers. From 1985 through June 2001, Mr. Dondero served in several roles of increasing responsibility through Vice President of Operations and Product Development at Cistron Biotechnology, Inc. From 1977 through 1985, Mr. Dondero served as a senior scientist at Johnson and Johnson, and from 1975 through 1977, as a scientist at Becton Dickinson. Mr. Dondero received his Bachelor of Arts degree from New Jersey State University in 1972 and his Master of Science degree from Seton Hall University in 1976.

At the Company’s 2012 annual meeting of stockholders (the “Annual Meeting”), Leslie J. Browne, Ph.D. and John E. Thompson, Ph.D. were nominated for re-election to Senesco’s Board of Directors (the “Board”) and the Senesco stockholders approved their election.

Directors

Each elected director was to hold office for a term of one year and until their successors are duly elected and qualified (except in the case of earlier death, resignation or removal). The following table lists the names, age and positions of the individuals who serve on the Board of Directors of the Company as of June 30, 2013,

Name	Age	Served as a Director Since	Position with Senesco
Harlan W. Waksal, M.D.	59	2008	Chairman of the Board and Director
David Rector	66	2002	Lead Director
Jack Van Hulst	73	2007	Director
John N. Braca	55	2003	Director
Christopher Forbes	62	1999	Director
Warren J. Isabelle	61	2009	Director

Thomas C. Quick	57	1999	Director
Rudolf Stalder	72	1999	Director
Leslie J. Browne, Ph.D.	63	2011	President, Chief Executive Officer and Director
John E. Thompson, Ph.D.	71	2001	Executive Vice President, Chief Scientific Officer and Director

The principal occupations and business experience, for at least the past five (5) years, of each director is as follows:

Harlan W. Waksal, M.D. has been our chairman of the board of directors since June 2009 and a director since October 2008. From July 2003 to present, Dr. Waksal has been the President and Sole Proprietor of Waksal Consulting L.L.C., which provides strategic business and clinical development counsel to biotechnology companies. From July 2011 to present, he has served as the Executive Vice-President, Business and Scientific Affairs of Acasti Pharma, Inc., which is a subsidiary of Neptune Technologies & Bioresources, Inc. Dr. Waksal co-founded the biotechnology company ImClone Systems Inc. in 1984. From March 1987 through July 2003, Dr. Waksal had served in various senior roles for ImClone Systems Inc. as follows: March 1987 through April 1994 – President; April 1994 through May 2002 – Executive Vice President and Chief Operating Officer; May 2002 through July 2003 – President, Chief Executive Officer and Chief Operating Officer. He also served as a director of ImClone Systems Inc. from March 1987 through January 2005. From January 2005 to February 2010, he served on the Board of Trustees of and as Chair of the New Jersey Region of the Weizmann Institute of Science. Dr. Waksal is currently a member of the Board of Trustees of Oberlin College, the Board of Directors of Neptune Technologies and is on the Advisory Board of Northern Rivers Funds. Dr. Waksal received a Bachelor of Arts in Biology from Oberlin College and an M.D. from Tufts University School of Medicine. Dr. Waksal is knowledgeable in science, drug development, regulatory and clinical affairs. In addition, he ran and operated a public biotechnology company and is familiar with the issues of corporate governance.

John N. Braca has been our director since October 2003. Mr. Braca has also served as a director and board observer for other healthcare, technology and biotechnology companies over the course of his career. From August 2010 through March 2013, Mr. Braca had been the executive director controller for Iroko Pharmaceuticals, a privately-held global pharmaceutical company based in Philadelphia. From April 2006 through July 2010, Mr. Braca was the managing director of Fountainhead Venture Group, a healthcare information technology venture fund based in the Philadelphia area, and has been working with both investors and developing companies to establish exit and business development opportunities. From May 2005 through March 2006, Mr. Braca was a consultant and advisor to GlaxoSmithKline management in their research operations. From 1997 to April 2005, Mr. Braca was a general partner and director of business investments for S.R. One, Limited, or S.R. One, the venture capital subsidiary of GlaxoSmithKline. In addition, from January 2000 to July 2003, Mr. Braca was a general partner of Euclid SR Partners Corporation, an independent venture capital partnership. Prior to joining S.R. One, Mr. Braca held various finance and operating positions of increasing responsibility within several subsidiaries and business units of GlaxoSmithKline. Mr. Braca is a licensed Certified Public Accountant in the state of Pennsylvania and is affiliated with the American Institute of Certified Public Accountants and the Pennsylvania Institute of Certified Public Accountants. Mr. Braca received a Bachelor of Science in Accounting from Villanova University and a Master of Business Administration in Marketing from Saint Joseph's University. Mr. Braca's financial background, operating experience with both large pharmaceutical companies and developing biotechnology companies, provides the board with practical experience for issues facing the Company. In addition, Mr. Braca also has a strong corporate governance background through his experience with other company boards.

Christopher Forbes has been our director since January 1999. From September 2011 to present, Mr. Forbes has been the Vice Chairman of Forbes Media LLC and Forbes Family Holdings, and Vice President of Forbes Management Co. Inc. From 1989 through September 2011, Mr. Forbes had been Vice Chairman of Forbes, Inc. From 1981 to 1989, Mr. Forbes was Corporate Secretary at Forbes. Prior to 1981, he held the position of Vice President and Associate Publisher. Mr. Forbes is the Chairman of the American Friends of the Louvre. He is also a member of the board of advisors of The Princeton University Art Museum. Mr. Forbes received a Bachelor of Arts degree in Art History from Princeton University in 1972. In 1986, he was awarded the honorary degree of Doctor of Humane Letters by New Hampshire College and in 2003 was appointed a Chevalier of the Legion of Honor by the French Government and in July 2012 was promoted to the rank of Officer. Mr. Forbes's knowledge regarding corporate operations as well as his business acumen, provide the board with experience in running a corporation and addressing the issues that face a growing company, such as ours.

Warren J. Isabelle has been our director since June 2009. Mr. Isabelle is a founder and principal of Ironwood Investment Management L.L.C., located in Boston, MA. Mr. Isabelle founded Ironwood Investment Management L.L.C in August 1997. From 1983 until 1997, Mr. Isabelle was with Pioneer Management Corporation where he served most recently as Director of Research and Head of U.S. Equities. Since January 2004, Mr. Isabelle has also served as a member of the Public Board and Vice-Chairman of the Investment Committee of the University of Massachusetts Foundation. Additionally, since 2012, Mr. Isabelle has served as a member of the Investment Committee of the UMass Memorial Heathcare Foundation. From 1998 through 2009, Mr. Isabelle was Chairman of the ICM Series Mutual Funds Trust. Mr. Isabelle is a Chartered Financial Analyst and member of the CFA institute and the American Chemical Society. Mr. Isabelle received a Bachelor of Science degree in chemistry from Lowell Technological Institute, a Master of Science degree in Polymer Science and Engineering from the University of Massachusetts, and a MBA from the Wharton School, University of Pennsylvania. Mr. Isabelle's experience as an investment analyst and portfolio manager provides the Company with valuable insight into the biotechnology industry

and the publicly-traded capital markets.

Thomas C. Quick has been our director since February 1999. Since 2003, Mr. Quick has been the President of First Palm Beach Properties, Inc. From 2001 through 2003, Mr. Quick was the Vice Chairman of Quick & Reilly/Fleet Securities, Inc., successor to The Quick & Reilly Group, Inc., a holding company for four (4) major financial services businesses. From 1996 until 2001, Mr. Quick was the President and Chief Operating Officer and a director of Quick & Reilly/Fleet Securities, Inc. From 1985 to 1996, he was President of Quick & Reilly, Inc., a Quick & Reilly subsidiary and a national discount brokerage firm. Mr. Quick serves as a member of the board of directors and compensation committee of B.F. Enterprises. He is also a member of the board of directors of Best Buddies, The American Ireland Fund and Venetian Heritage, Inc. He is a trustee of the National Corporate Theater Fund, Cold Spring Harbor Laboratories, Hospice of Palm Beach County Foundation, the Palm Beach Zoo and the Inter-City Scholarship Foundation of New York City. Mr. Quick is a graduate of Fairfield University. As a result of his professional and other experiences, Mr. Quick has a deep understanding of corporate operations and strategy, and operations in both the US and internationally. Mr. Quick also has significant corporate governance experience through his service on other company boards.

David Rector has been our director since February 2002. Mr. Rector also serves as a director and member of the compensation and audit committee of the Dallas Gold and Silver Exchange (formerly Superior Galleries, Inc.) Mr. Rector also serves on the board of directors of Standard Drilling, Valor Gold Corp., and American Strategic Minerals Corp. Since 1985, Mr. Rector has been the Principal of The David Stephen Group, which provides enterprise consulting services to emerging and developing companies in a variety of industries. Since January 2013 through present, Mr. Rector has served as interim Chief Executive Officer of Valor Gold Corp. Since October 2007 through present, Mr. Rector has served as President and CEO of Standard Drilling, Inc. From February 2012 through December 2012, Mr. Rector had served as the VP Finance & Administration of Pershing Gold Corp. From May 2011 through February 2012, Mr. Rector served as the President of Sagebrush Gold, Ltd. From October 2009 through August 2011, Mr. Rector had served as President and CEO of Li3 Energy, Inc. From July 2009 through May 2011, Mr. Rector had served as President and CEO of Nevada Gold Holdings, Inc. From September 2008 through November 2010, Mr. Rector served as President and CEO Universal Gold Mining Corp. From May 2004 through December 2006, Mr. Rector had served in senior management positions with Nanoscience Technologies, Inc., a development stage company engaged in the development of DNA Nanotechnology. From 1983 until 1985, Mr. Rector served as President and General Manager of Sunset Designs, Inc., a domestic and international manufacturer and marketer of consumer product craft kits, and a wholly-owned subsidiary of Reckitt & Coleman N.A. From 1980 until 1983, Mr. Rector served as the Director of Marketing of Sunset Designs. From 1971 until 1980, Mr. Rector served in progressive roles in the financial and product marketing departments of Crown Zellerbach Corporation, a multi-billion dollar pulp and paper industry corporation. Mr. Rector received a Bachelor of Science degree in Business/Finance from Murray State University in 1969. As a result of these professional and other experiences, Mr. Rector has a deep business understanding of developing companies. Mr. Rector also brings corporate governance experience through his service on other company boards.

Rudolf Stalder has been our director since February 1999 and was appointed as our Chairman and Chief Executive Officer on January 10, 2000. On October 4, 2001, Mr. Stalder resigned as our Chief Executive Officer. On June 8, 2009, Mr. Stalder resigned as our Chairman. Mr. Stalder is a former member of the executive boards of Credit Suisse Group and Credit Suisse First Boston and former Chief Executive Officer of the Americas Region of Credit Suisse Private Banking. Mr. Stalder joined Credit Suisse in 1980 as a founding member and Deputy Head of the Multinational Services Group. In 1986, he became Executive Vice President. He was named to Credit Suisse's Executive Board in 1989. In 1990, he became Head of the Commercial Banking Division and a Member of the

Executive Committee. From 1991 to 1995, Mr. Stalder was Chief Financial Officer of Credit Suisse First Boston and a Member of the Executive Boards of Credit Suisse Group and Credit Suisse First Boston. He became head of the Americas Region of Credit Suisse Private Banking in 1995 and retired in 1998. Prior to moving to the United States, Mr. Stalder was a member of the Board of Directors for several Swiss subsidiaries of major corporations including AEG, Bayer, BTR, Hoechst, Saint Gobain, Solvay and Sony. He is a fellow of the World Economic Forum. He currently serves on the board of the Greater Bridgeport Symphony. He was a member of the Leadership Committee of the Consolidated Corporate Fund of Lincoln Center for the Performing Arts, Board of The American Ballet Theatre and a Trustee of Carnegie Hall. From 1991 through 1998, Mr. Stalder was Chairman of the New York Chapter of the Swiss-American Chamber of Commerce. He continues to serve as an advisory board member of the American-Swiss Foundation. Mr. Stalder received a diploma in advanced finance management at the International Management Development Institute in Lausanne, Switzerland in 1976. He completed the International Senior Managers Program at Harvard University in 1985. Mr. Stalder is an experienced executive with former CEO experience and senior executive level experience at large multinational companies. He also has corporate governance experience through service on other public company boards.

Jack Van Hulst has been our director since January 2007. Mr. Van Hulst was appointed as our President and Chief Executive Officer effective November 16, 2009. Mr. Van Hulst was further appointed as our Secretary effective February 1, 2010. Mr. Van Hulst resigned as our President and Chief Executive Officer and Secretary effective May 25, 2010. Since June 2010, Mr. Van Hulst has been the operating partner of SK Capital Partners. Mr. Van Hulst also serves as a director and member of the compensation and audit committees of HiTech Pharmacal, Inc. He has more than 42 years of international experience in the pharmaceutical industry. He began his career in 1968 at Organon, which was subsequently acquired by AKZO, N.V., the multinational human and animal healthcare company, where he was based in Europe and the US and responsible for establishing AKZO's position in the US in the manufacturing and sales and marketing of fine chemicals. Mr. Van Hulst later became President of AKZO's US Pharmaceutical Generic Drug Business and was responsible for establishing AKZO in the US generic drug industry. From 1989 to 1999, Mr. Van Hulst successively owned and led two generic pharmaceutical companies, improving their operations and then selling them to a private equity group and a pharmaceutical company. From 1999 to 2005, he was Executive Vice President at Puerto Rico-based MOVA Pharmaceutical Corporation, a contract manufacturer to the pharmaceutical industry that recently merged with Canadian-based Patheon. Mr. Van Hulst received a Masters degree in law from the University in Utrecht, Netherlands in 1968. Mr. Van Hulst possesses management experience as a result of his prior positions. Mr. Van Hulst spent years holding a number of management roles at other pharmaceutical companies and this experience assists the Company in working though the similar issues that it may face in its own operations.

Leslie J. Browne, Ph.D. Dr. Browne's biographical information is provided above under "Executive Officers."

John E. Thompson, Ph.D. Dr. Thompson's biographical information is provided above under "Executive Officers."

Director Independence

The Company is not a listed issuer and so is not subject to the director independence requirements of any exchange or interdealer quotation system. In connection with this offering, we intend to apply to list our common shares on the and will be subject to certain rules of such exchange. Although we are not currently subject to director independence requirements, we have, nevertheless,, in determining whether our directors and director nominees are independent, we use the definition of independence provided under Section 803 of the NYSE MKT Company Guide. Under this definition of independence, a director will, among other things, qualify as an "independent director" if, in the determination of our board, that person does not have a relationship that would interfere with his or her exercise of independent judgment in carrying out the responsibilities of a director. Our board has determined that each of Messrs. Stalder, Braca, Forbes, Isabelle, Quick and Rector is an "independent director" under Section 803 of the NYSE MKT Company Guide. Messrs. Browne, Thompson and Van Hulst would not be considered independent because they currently serve or have served as Executive Officers of the Company. Mr. Waksal would not be considered independent because he has personally guaranteed a line of credit from JMP Securities LLC to the Company.

Board Committees

The standing committees of our Board of Directors include an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. Messrs. Rector (Lead Director), Braca and Stalder are the members of the Audit Committee. Messrs. Rector (Lead Director), and Braca are members of the Compensation Committee. Messrs. Stalder, Forbes and Quick are members of the Nominating and Corporate Governance Committee. The Charters of each of the Audit Committee, the Compensation, and Nominating and Corporate Governance Committee can be found on our website under “Investor Relations.”

Audit Committee

Our Audit Committee was established in July 1999. On March 11, 2011, our board adopted an Amended and Restated Audit Committee Charter. The primary responsibilities of the Audit Committee include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of certain reports from our independent registered public accounting firm;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;

- discussing our risk management policies;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our independent registered public accounting firm and management; and
- preparing the audit committee report required by SEC rules.

The Audit Committee is currently comprised of John N. Braca, David Rector and Rudolf Stalder. Mr. Braca currently serves as the chairman of the Audit Committee. The NYSE MKT currently requires an Audit Committee comprised solely of independent directors. Messrs. Braca, Rector and Stalder are "independent" members of the Company's board as defined in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and Section 803 of the NYSE MKT Company Guide. In addition, our board of directors has determined that Mr. Braca satisfies the definition of an audit committee "financial expert" as set forth in Item 407(d) (5) of Regulation S-K promulgated by the SEC.

Compensation Committee

The Compensation Committee was established in July 1999, pursuant to the Compensation Committee Charter. The Compensation Committee generally makes recommendations concerning salaries and incentive compensation for our management and employees. The primary responsibilities of the Compensation Committee, as more fully set forth in the Compensation Committee Charter adopted in July 1999 and amended and restated on March 11, 2011, include:

- annually reviewing and approving, or recommending for approval by our board, the corporate goals and objectives relevant to executive officer compensation;
- reviewing and approving, or recommending for approval by our board, the salaries and incentive compensation of our executive officers;
- preparing the Compensation Committee report, including the Compensation Discussion and Analysis;
- retaining, appointing, determining compensation and oversight of any independent compensation consultants or other advisors deemed necessary;
- working with the Audit Committee to review and minimize risks related to compensation;
- administering our 2008 Incentive Compensation Plan, or similar stock plan adopted by our stockholders; and
- reviewing and making recommendations to our board with respect to director compensation.

The Compensation Committee is currently comprised of David Rector and John. N. Braca. Mr. Rector currently serves as the chairman of the Compensation Committee. All members of the Compensation Committee are considered independent pursuant to Section 803 of the NYSE MKT Company Guide.

Nominating and Corporate Governance Committee

The primary responsibilities of our Nominating and Corporate Governance Committee, as more fully set forth in the Nominating and Corporate Governance Committee Charter and Corporate Governance Guidelines adopted on October 15, 2004, and amended and restated on March 11, 2011 include:

- identifying individuals qualified to become our board members;
- evaluating and recommending to our board the persons to be nominated for election as directors at any meeting of stockholders and to each of our board's committees;
- reviewing and making recommendations to our board with respect to management succession planning;
- developing and recommending to our board a set of corporate governance principles applicable to Senesco; and
- overseeing the evaluation of our board.

Our Nominating and Corporate Governance Committee was formed on September 29, 2004, and it is currently comprised of Messrs. Stalder, Forbes and Quick. Mr. Forbes currently serves as the chairman of the Nominating and Corporate Governance Committee. All members of our Nominating and Corporate Governance Committee are independent, as independence for nominating and corporate governance committee members is defined under Section 803 of the NYSE MKT company Guide.

EXECUTIVE COMPENSATION

Executive Compensation

Summary Compensation Table

The following table sets forth information concerning compensation for services rendered in all capacities during the fiscal years ended June 30, 2012, June 30, 2011 and June 30, 2010 awarded to, earned by or paid to: (i) our Chief Executive Officer; (ii) our Chief Financial Officer; and (iii) each of our two other executive officers whose total compensation for Fiscal 2012 was in excess of $100,000, collectively referred to herein as the named executive officers. No other executive officers who would have otherwise been includable in such table on the basis of total compensation for Fiscal 2012 have been excluded by reason of their termination of employment or change in executive status during that year.

Name and Principal Position	Year (1)	Salary ($)(2)	Bonus ($)(3)	Stock Awards ($) (4)	Option Awards ($) (5)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($) (6)	Total ($)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Leslie J. Browne, Ph.D. (7)	2012	$266,322	-	-	$151,515	-	-	$ 9,800	$427,637
(President and Chief	2011	$250,468	-	-	$154,425	-	-	-	$404,893
Executive Officer)	2010	$27,885	-	-	$440,000	-	-	-	$467,885
Joel Brooks	2012	$172,682	-	-	$86,580	-	-	-	$259,262
(Chief Financial Officer ,	2011	$165,976	-	$2,600	$90,525	-	-	-	$259,101
Secretary and Treasurer)	2010	$163,306	$15,000	-	$66,000	-	-	-	$244,306
Richard Dondero	2012	$155,775	-	-	$86,580	-	-	-	$242,355
(Vice-President of	2011	$148,827	-	-	$90,525	-	-	-	$239,352
Research)	2010	$146,677	$15,000	-	$66,000	-	-	-	$227,677
John E. Thompson Ph.D.	2012	$67,500	-	-	$86,580	-	-	-	$154,080
	2011	$65,000	-	-	$90,525	-	-	-	$155,525

(Executive Vice-President and Chief Scientific Officer)	2010	$65,000	-	-	-	-	-	-	$65,000

(1) Our fiscal year ends on June 30.

(2) The dollar amount shown includes amounts deferred in connection with our 401(k) plan, a qualified plan under Section 401(k) of the Internal Revenue Code.

(3) The bonus earned for the fiscal year ended June 30, 2010 was declared and paid in October 2010.

(4) The dollar amounts shown are the grant date fair value of restricted stock units awarded to each named executive officer in each year. The fair values of the restricted stock units awarded were calculated based on the fair market value of the underlying shares of common stock on the respective grant dates in accordance with FASB ASC Topic 718 and were not adjusted to take into account any estimated forfeitures. For a discussion of valuation assumptions used in the calculations, see Notes 2 and 10 of Notes to Consolidated Financial Statements included in Part II, Item 8 of our 2012 Form 10-K.

(5) The dollar amounts shown are the grant date fair value of stock options granted to each named executive officer, in accordance with FASB ASC Topic 718 based on the probable outcome of the attainment of one or more pre-established performance objectives. For a discussion of valuation assumptions used in the calculations, see Notes 2 and 10 of Notes to Consolidated Financial Statements included in Part II, Item 8 of our 2012 Form 10-K.

In October 2012, the Committee determined that the performance metrics had not been fully met and a percentage of the options granted in 2012 were forfeited as follows: Leslie J. Browne, Ph.D.; 55%; Joel Brooks and Richard Dondero, 60%; John E. Thompson, Ph.D., 30%. The grant date fair values used to calculate compensation costs were not adjusted to take into account the effect of the forfeitures.

(6) Represents a company contribution to the 401(k) plan.

(7) Dr. Browne was appointed President and Chief Executive Officer on May 25, 2010.

Outstanding Equity Awards at Fiscal Year End

The following table summarizes the equity awards we have made to our named executive officers which are outstanding as of June 30, 2012.

	Option Awards						Stock Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexer-cisable		Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)		Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)
(a)	(b)	(c)		(d)		(e)	(f)	(g)	(h)	(i)	(j)
Leslie J. Browne, Ph.D.	-	-		819,000	(1)(3)	$ 0.23	09/30/2021	-	-	-	-
	286,978	-		438,022	(1)	$ 0.26	11/17/2020	-	-	-	-
	520,833	-		479,167	(1)	$ 0.55	05/25/2020	-	-	-	-
Joel P. Brooks	-	-		468,000	(1)(3)	$ 0.23	9/30/2021	-	-	-	-
	168,228	-		256,772	(1)	$ 0.26	11/17/2020	-	-	-	-
	240,000	60,000	(2)	-		$ 0.29	02/19/2020	-	-	-	-
	12,500	-		-		$ 1.65	10/09/2012	-	-	-	-
	20,000	-		-		$ 2.16	06/19/2013	-	-	-	-
	15,000	-		-		$ 3.15	12/16/2013	-	-	-	-
	20,000	-		-		$ 3.45	12/16/2014	-	-	-	-
	25,000	-		-		$ 1.40	12/14/2015	-	-	-	-
	25,000	-		-		$ 1.08	12/14/2016	-	-	-	-
Richard Dondero	-	-		468,000	(1)(3)	$ 0.23	09/30/2021	-	-	-	-
	168,228	-		256,772	(1)	$ 0.26	11/17/2020	-	-	-	-
	240,000	60,000	(2)	-		$ 0.29	02/19/2020	-	-	-	-

	10,000	-	-		$ 3.45	12/16/2014	-	-	-	-
	25,000	-	-		$ 1.40	12/14/2015	-	-	-	-
	25,000	-	-		$ 1.08	12/14/2016	-	-	-	-
	71,924	-	-		$ 0.99	12/13/2017	-	-	-	-
	60,000	-	-		$ 0.99	12/13/2017	-	-	-	-
	76,000	-	-		$ 0.60	11/19/2018	-	-	-	-
John E. Thompson Ph.D.	-	-	468,000	(1)(3)	$ 0.23	09/30/2021	-	-	-	-
	168,228	-	256,772	(1)	$ 0.26	11/17/2020	-	-	-	-
	20,000	-	-		$ 2.35	01/07/2013	-	-	-	-
	20,000	-	-		$ 3.15	12/16/2013	-	-	-	-
	55,000	-	-		$ 3.45	12/16/2014	-	-	-	-
	20,000	-	-		$ 1.40	12/14/2015	-	-	-	-
	25,000	-	-		$ 1.08	12/14/2016	-	-	-	-
	52,676	-	-		$ 0.99	12/13/2017	-	-	-	-
	50,000	-	-		$ 0.99	12/13/2017	-	-	-	-
	48,000	-	-		$ 0.60	11/19/2018	-	-	-	-

(1) One-quarter of such options will vest on the first anniversary of the date of grant with one-thirty-sixth of the balance vesting each month thereafter.

(2) Options will vest on June 30, 2013.

(3) Such amounts consist of performance based options which vest upon the achievement of certain milestones under our long-term incentive plan, as well as the executive officer’s continued service. In October 2012, the Committee determined that the performance metrics had not been fully met. Therefore, a percentage of the options granted in 2012 were forfeited as follows:

	Original Grant	Percentage Forfeited		Options Forfeited	Options Retained
Leslie J. Browne, Ph.D.	819,000	55	%	450,450	368,550
Joel Brooks	468,000	60	%	280,800	187,200
Richard Dondero	468,000	60	%	280,800	187,200
John E. Thompson, Ph.D.	468,000	30	%	140,400	327,600

The equity awards outstanding as of June 30, 2012 were not adjusted to take into account the effect of the forfeitures.

Employment Contracts, Termination of Employment, and Change-in-Control Arrangements

None of our named executive officers have a current employment agreement with us. However, on October 9, 2012, our board of directors approved a Retention Policy for officers (the "Policy) that provides for the payment of severance benefits in the event that an officer is terminated without cause or resigns for good reason in connection with a change of control transaction, as follows:

(i) A lump sum cash payment in an amount equal to the sum of (A) the officer's target bonus for the calendar year in which the officer's termination occurs, plus (B) a multiple of the officer's annual base salary, based on the officer's position as follows: CEO, 2x base salary; CFO, 1.5x base salary; VP R&D, 1.5x base salary; VP Clinical, 1.5x base salary; all other officers, 1x base salary;

(ii) Reimbursement of the officer's cost to continue health care coverage for the following period: CEO, 2 years; CFO, 1.5 years; VP R&D, 1.5 years; VP Clinical, 1.5 years; all other officers, 1 year; and

(iii) Each of the officer's outstanding equity awards shall become fully vested and to the extent applicable, exercisable, as of the effective date of the officer's termination without cause or resignation for good reason and each such option outstanding following the effective date of the change in control shall remain exercisable until the expiration of the maximum option term.

Notwithstanding the foregoing, if the aggregate compensation set forth in clauses (i) and (ii) above to be paid to all officers exceeds 10% of the value of the transaction, then the Board shall have the discretion to reduce such compensation pro-rata to the extent the Board determines is necessary or advisable in order to consummate the change of control transaction.

The Policy also provides our Board with discretion to grant a termination package in the event an officer is terminated without cause or resigns for good reason in the absence of a change in control.

Pension Benefits

We adopted the Senesco Technologies, Inc. 401K plan in 2000. All employees are eligible to participate after three months of employment, and enrollment is available any time during employment. Participating employees may make annual pretax contributions to their accounts up to a maximum amount as limited by law. While we have the option to make discretionary contributions to the 401K plan, there have been no company contributions. Employee contributions are fully vested at all times.

Director Compensation

We use a combination of cash and equity-based compensation to attract and retain qualified individuals to serve on our board, as described below. We provide reimbursement to directors for reasonable and necessary expenses incurred in connection with attendance at meetings of the board of directors and other Senesco business.

Dr. Thompson has received compensation for providing research and development management services to us and does not receive any additional compensation for his services as a board member. See “Certain Relationships and Related Transactions” which sets forth the details of the compensation arrangement with Dr. Thompson.

Cash Compensation

We pay our non-employee directors cash compensation, paid in quarterly increments as consideration for their service on our board for each fiscal year as follows:

Annual (Base) Retainer	$10,000
Per Scheduled Board Meeting Fee	$1,500 (1)
Per Committee Meeting Fee	$750 (2)
Additional Annual Retainer:	
Chairman of the Board	$5,000
Audit Committee Chair	$3,500
Compensation Committee Chair	$3,500
Nominating and Corporate Governance Committee Chair	$1,500
Non-Chair Committee Member Additional Retainer (All Committees)	$1,000
Maximum Per Diem For All Meetings	$2,000

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(1) $750 for telephonic meetings (less than 30 minutes: $375).

(2) $375 for telephonic meetings.

Equity Election Program

A director may elect to receive, in lieu of such cash retainer and meeting fees, either (i) restricted stock units, or RSU's, covering that number of shares having a fair market value on the grant date equal to such cash award or (ii) a number of option shares equal to twice the number of RSU's that would have been received, with an exercise price per share equal to the fair market value of our common stock on the option grant date. Such election must be timely made and applies for the entire year. The RSU's or options are granted quarterly, effective two (2) days following the filing of our quarterly reports on Form 10-Q for that quarter, and are fully vested as of the grant date.

In Fiscal 2012, all of the directors elected to receive options in lieu of cash, except for Messrs. Braca and Rector, who elected to receive their retainer fees in cash and their meeting fees in options, and Mr. Isabelle, who elected to receive his fees in cash. Accordingly, on November 16, 2011, February 16, 2012, and May 16, 2012, each of these non-employee directors received options to purchase shares of our common stock pursuant to the provisions of the 2008 Stock Plan and their equity elections. The dollar amount of the fees paid in equity pursuant to such program by each director for Fiscal 2012 was as follows:

Director	$ Amount of Fees Paid in Equity
Harlan W. Waksal, M.D.	$ 25,000
Rudolf Stalder	$ 19,500
Christopher Forbes	$ 16,750
Thomas C. Quick	$ 13,250
John N. Braca	$ 11,250
David Rector	$ 11,250
Jack Van Hulst	$ 13,750
Warren J. Isabelle	-

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The following table sets forth information relating to the options granted to the directors during Fiscal 2012 pursuant to the equity election program.

Director	Option Grant Date	Exercise Price	# of Shares	Grant Date Fair Value
Rudolf Stalder	05/16/2012	$ 0.21	40,244	$ 6,278
	02/16/2012	$ 0.24	40,626	$ 7,638
	11/16/2011	$ 0.20	105,000	$ 16,485
Christopher Forbes	05/16/2012	$ 0.23	35,366	$ 4,350
	02/16/2012	$ 0.26	36,458	$ 4,703
	11/16/2011	$ 0.22	87,500	$ 9,625
Thomas C. Quick	05/16/2012	$ 0.21	34,146	$ 5,327
	02/16/2012	$ 0.24	29,166	$ 5,483
	11/16/2011	$ 0.20	62,500	$ 9,813
John N. Braca	05/16/2012	$ 0.21	10,976	$ 1,712
	02/16/2012	$ 0.24	15,626	$ 2,938
	11/16/2011	$ 0.20	82,500	$ 12,953
David Rector	05/16/2012	$ 0.21	10,976	$ 1,712
	02/16/2012	$ 0.24	15,626	$ 2,938
	11/16/2011	$ 0.20	82,500	$ 12,953
Jack Van Hulst	05/16/2012	$ 0.21	31,708	$ 4,946
	02/16/2012	$ 0.24	20,834	$ 3,917
	11/16/2011	$ 0.20	80,000	$ 12,560
Harlan W. Waksal, M.D.	05/16/2012	$ 0.21	46,342	$ 7,229
	02/16/2012	$ 0.24	45,834	$ 8,617
	11/16/2011	$ 0.20	147,500	$ 23,158
Warren J. Isabelle	-	-	-	-

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Contractual Relationships

Service Agreements

Christopher Forbes, our director, is Vice Chairman of Forbes Media LLC, Vice Chairman of Forbes Family Holdings, Inc. and Vice President of Forbes Management Co., Inc. Mr. Forbes was also Vice Chairman of Forbes Inc. Forbes, Inc. and Forbes Management Company, Inc. have provided and will continue to provide us with introductions to strategic alliance partners and, from time to time, use of its office space. In recognition of these services, during Fiscal 2011, we granted to Forbes, Inc. a warrant to purchase shares of our common stock, and during Fiscal 2012, we granted to Forbes Management Company, Inc. an option to purchase shares of our common stock. The awards to the Forbes entities are described in the table below.

Date of Grant	# of Warrant / Option Shares	Exercise Price	Value of Services on Date of Grant	# of Warrant Shares Vested
November 17, 2010	5,000	$ 0.26	$ 1,300	3,334
September 30, 2011	10,000	$ 0.23	$ 1,780	6,666

The exercise price of the warrant granted to Forbes, Inc. and option granted to Forbes Management Company, Inc. represented the fair market value of our common stock on the respective dates of grant.

Research and Development Agreements

Effective September 1, 1998, we entered into a three-year research and development agreement, which has been extended for successive periods through August 31, 2013, with John E. Thompson, Ph.D. and the University of Waterloo in Waterloo, Ontario, Canada, referred to as the University. Dr. Thompson is our director and officer and beneficially owns approximately 0.9% of our common stock. Dr. Thompson is the Associate Vice President, Research and former Dean of Science of the University. Dr. Thompson and the University will provide research and development under our direction. Research and development expenses under this agreement for the years ended June 30, 2012 and 2011 aggregated US $573,368 and US $622,872, respectively. Effective September 1, 2012, we, Dr. Thompson and the University extended the agreement for an additional one-year period through August 31, 2013 in the amount of CAN $611,500. As of August 31, 2012, such amount represented approximately US $612,000.

Consulting Agreement

Effective May 1, 1999, we entered into a three-year consulting agreement, which has been extended for successive periods through June 30, 2013, for research and development with Dr. Thompson. This agreement provided for monthly payments of $3,000 through June 2004. However, effective January 1, 2003, 2006, 2007 and 2011, the agreement was amended to increase the monthly payments from $3,000 to $5,000, from $5,000 to $5,200, from $5,200 to $5,417, and from $5,417 to $5,625, respectively.

Debt / Equity Transactions

Line of Credit

On February 17, 2010, we entered into a credit agreement with JMP Securities LLC. The agreement provides us with, subject to certain restrictions, including the existence of suitable collateral, up to a $3.0 million line of credit upon which we 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 June 30, 2012), 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 of our assets, but it is secured by certain assets of a member of our board of directors, Harlan W. Waksal, M.D., which security interest is currently held by JMP Securities. The balance outstanding as of June 30, 2012 was $2,199,108.

January 2012 Transaction with Christopher Forbes and Harlan W. Waksal, M.D.

On January 6, 2012, in connection with a public placement of our common stock, we entered into securities purchase agreements with, among others, certain of our directors, Christopher Forbes and Harlan Waksal, pursuant to which such directors purchased an aggregate of 1,153,846 shares of our common stock at a purchase price of $0.26 per share, for an approximate aggregate value of $300,000.

Conversion of Preferred Stock

On August 8, 2012, in connection with a warrant exchange, certain of our directors, Christopher Forbes and Harlan Waksal, converted their 1,200 shares of Series B preferred stock into 4,615,385 shares of our common stock, as determined pursuant to the terms set forth in the Certificate of Designation of Preferences, Rights and Limitations of 10% Series B Convertible Preferred Stock. The aggregate value of such shares of common stock was approximately $1,292,308 on the date of conversion based upon the closing price of $0.28 per share on August 8, 2012. Such conversions were not made pursuant to warrant exchange agreements and therefore such directors did not receive any additional Common Stock. Following this conversion, no shares of Series B Preferred Stock remain outstanding.

Review and Approval of Related Person Transactions

Our Audit Committee Charter requires that our Audit Committee review and approve or ratify transactions involving us and any executive officer, director, director nominee, 5% stockholder and certain of their immediate family members, also referred to herein as a related person. The policy and procedures cover any transaction involving a related person, also referred to herein as a related person transaction, in which the related person has a material interest and which does not fall under an explicitly stated exception set forth in the applicable disclosure rules of the SEC.

A related person transaction will be considered approved or ratified if it is authorized by the Audit Committee after full disclosure of the related person's interest in the transaction. In considering related person transactions, the Audit Committee will consider any information considered material to investors and the following factors:

- the related person's interest in the transaction;
- the approximate dollar value of the transaction;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that we could have reached with an unrelated third party; and
- the purpose and potential benefit to us of the transaction.

PRINCIPAL STOCKHOLDERS

The following table sets forth, as of June 30, 2013, certain information with respect to the beneficial ownership of our common shares (the only voting class outstanding), (i) by each director, (ii) by each of the named executive officers and (iii) by all officers and directors as a group.

Name of Beneficial Owner	Shares Beneficially Owned Before Offering (1)	Percentage of Outstanding Shares Beneficially Owned Before Offering (1)	Shares Beneficially Owned After Offering	Percentage of Outstanding Shares Beneficially Owned After Offering
Paul E. Klaver 134 Columbia Street W Unit 18 Waterloo, Ontario N2L 3K8	21,531,857	9.3 %		%
Harlan W. Waksal, M.D.	5,798,263	2.5 %		%
John N. Braca	1,614,207	0.7 %		%
Jack Van Hulst	1,533,233	0.7 %		%
Christopher Forbes	17,617,733	7.6 %		%
Warren J. Isabelle	490,792	0.2 %		%
Thomas C. Quick	2,096,767	0.9 %		%
David Rector	1,913,592	0.8 %		%
Rudolf Stalder	3,034,727	1.3 %		
John E. Thompson, Ph.D.	1,316,212	0.6 %		
Joel P. Brooks	866,517	0.4 %		
Richard Dondero	998,566	0.4 %		
Leslie J. Browne, Ph.D.	1,621,685	0.7 %		%
All directors and executive officers as a group (12 persons) (2)(3)	38,902,294	15.7 %		%

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(1) Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In general, a person is deemed to be the beneficial owner of (i) any of our common shares over which such person has sole or shared voting power or investment power, plus (ii) any shares which such person has the right to acquire beneficial ownership of within 60 days, whether through the exercise of options, warrants or otherwise. The percentage of ownership set forth above is based on 227,206,174 common shares outstanding as of June 30, 2013. Our common shares issuable upon the exercise of stock options exercisable currently or within 60 days of June 30, 2013 are deemed outstanding and to be beneficially owned by the person holding such option for purposes of computing such person's percentage ownership, but are not deemed outstanding for the purpose of computing the percentage ownership of any other person.

(2)

These shares include 675,176 shares of common stock and 101,175 shares of common stock issuable pursuant to warrants issued to Thomas C. Quick Charitable Foundation, of which Mr. Quick is the sole trustee.

(3) The shares include 572,000 shares of common stock held by 2091794 Ontario, Ltd., of which Dr. Thompson is the sole owner.

DESCRIPTION OF COMMON SHARES

General

The following description does not purport to be complete and is subject in all respects to applicable Delaware law and to the provisions of the Senesco Amended and Restated Certificate of Incorporation and bylaws, as amended to the date of this prospectus. Our stockholders are urged to read the Amended and Restated Certificate of Incorporation and bylaws for a more complete description of these provisions and other information that may be important to our stockholders.

Capital Stock

Our authorized capital stock consists of 505,000,000 shares, par value $0.01 per share, which includes 500,000,000 shares of authorized common stock, par value $0.01 per share and 5,000,000 shares of authorized preferred stock, par value $0.01 per share. The authorized capital stock is divisible into the classes and series, has the designation, voting rights, and other rights and preferences and is subject to the restrictions that our Board of Directors may from time to time establish. The holders of our common shares: (1) have equal ratable rights to dividends from funds legally available therefor, when, as and if declared by our Board of Directors; (2) are entitled to share ratably in all assets available for distribution to holders our common shares upon liquidation, dissolution or winding up of its affairs; (3) do not have preemptive, subscription or conversion rights and there are no redemption or sinking fund provisions applicable thereto; and (4) are entitled to one vote per share on all matters which stockholders may vote on at all meetings of stockholders.

All shares of our common shares now outstanding are fully paid and nonassessable. The holders of our common shares do not have cumulative voting rights, which means that the holders of more than 50% of the outstanding shares voting for the election of directors can elect all of our directors to be elected, if they so choose. In such event, the holders of the remaining shares will not be able to elect any directors.

After consummation of this offering, we expect to have common shares outstanding.

American Stock Transfer and Trust is the transfer agent for our common shares.

Delaware Law and Certain Certificate of Incorporation and By-Law Provisions

The provisions of Delaware law and of our certificate of incorporation and by-laws discussed below could discourage or make it more difficult to accomplish a proxy contest or other change in our management or the acquisition of control by a holder of a substantial amount of our voting stock. It is possible that these provisions could make it more difficult to accomplish, or could deter, transactions that stockholders may otherwise consider to be in their best interests or the best interests of Senesco.

- *Business Combinations*. We are subject to the provisions of Section 203 of the General Corporation Law of Delaware. Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to specified exceptions, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation's voting stock.

Limitation of Liability; Indemnification. Our certificate of incorporation contains provisions permitted under the General Corporation Law of Delaware relating to the liability of directors. The provisions eliminate, to the extent legally permissible, a director's liability for monetary damages for a breach of fiduciary duty, except in circumstances involving wrongful acts, such as the breach of a director's duty of loyalty or acts or omissions that involve intentional misconduct or a knowing violation of law. The limitation of liability described above does not alter the liability of

- our directors and officers under federal securities laws. Furthermore, our certificate of incorporation contains provisions to indemnify our directors and officers to the fullest extent permitted by the General Corporation Law of Delaware. These provisions do not limit or eliminate our right or the right of any stockholder of ours to seek non-monetary relief, such as an injunction or rescission in the event of a breach by a director or an officer of his duty of care to us. We believe that these provisions assist us in attracting and retaining qualified individuals to serve as directors.

Trading

Our common shares currently trade on the OTCQB Marketplace under the symbol “SNTI” In connection with this offering, we intend to list our common shares on the under the symbol “ .”

Transfer Agent and Registrar

The transfer agent and registrar for our common shares is American Stock Transfer and Trust.

UNDERWRITING

We and the underwriters for the offering named below have entered into an underwriting agreement with respect to the shares of common stock being offered. Subject to the terms and conditions of the underwriting agreement, each underwriter has agreed to purchase from us the number of common shares set forth opposite its name below.

Underwriters	Number of Shares
Chardan Capital Markets	
Dawson James Securities	
Total	

The underwriters are offering the common shares subject to each underwriter’s acceptance of the shares of common stock from us and subject to prior sale. The underwriting agreement provides that the obligation of each underwriter to pay for and accept delivery of the shares of common stock offered by this prospectus is subject to the approval of certain legal matters by its counsel and to certain other conditions. Each underwriter is obligated to take and pay for all of the shares of common stock if any such shares are taken. However, the underwriters are not required to take or pay for the shares of common stock covered by the underwriters’ over-allotment option described below.

Over-Allotment Option

We have granted the underwriters an option, exercisable for days from the date of this prospectus, to purchase up to an aggregate of additional shares of common stock to cover over-allotments, if any, at the public

offering price set forth on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus.

Fees and Expenses

Upon the completion of the offering, we will pay the underwriters a cash transaction fee equal to 7% of the gross proceeds to us from the sale of the securities in the offering, as well as warrants to purchase a number of shares of our common stock equal to 4% of the aggregate number of shares of common stock issuable upon conversion of the convertible preferred stock issued in the offering. We and the underwriters will mutually agree upon the terms of the warrants, except that the warrants will comply with all applicable FINRA rules.

The following table shows the underwriting discounts and commissions payable to the underwriters by us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' over-allotment option to purchase additional shares.

	Per Common Share	Total Without Exercise of Over-Allotment Option	Total With Exercise of Over-Allotment Option
Public offering price			
Underwriting fees and expenses payable by us			

We estimate that expenses payable by us in connection with this offering (including the reimbursement of the underwriters' expenses described in this paragraph), other than the underwriting fees referred to above, will be approximately $. We have agreed to reimburse the underwriters for certain out-of-pocket expenses on a non-accountable basis equal to 1.5% of the gross proceeds to us from the sale of the securities in the offering, not to exceed $150,000.

Indemnification

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, and liabilities arising from breaches of representations and warranties contained in the underwriting agreement, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

Lock-up Agreements

We, our officers and directors and our significant stockholders have agreed, subject to limited exceptions, for a period of days after the date of the underwriting agreement, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of, directly or indirectly any shares of common stock or any securities convertible into or exchangeable for our common stock either owned as of the date of the underwriting agreement or thereafter acquired without the prior written consent of the underwriters. This -day period may be extended if (1) during the last 17 days of the -day period, we issue an earnings release or material news or a material event regarding us occurs or (2) prior to the expiration of the -day period, we announce that we will release earnings results during the 16-day period beginning on the last day of the -day period, then the period of such extension will be 18 days, beginning on the issuance of the earnings release or the occurrence of the material news or material event. The underwriters may, in their sole discretion and at any time or from time to time before the termination of the lock-up period, without notice, release all or any portion of the securities subject to lock-up agreements.

Electronic Distribution

This prospectus in electronic format may be made available on websites or through other online services maintained by the underwriters or by their affiliates. Other than this prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by any underwriter is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the underwriters in their capacity as underwriters, and should not be relied upon by investors.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering the underwriters may engage in stabilizing transactions, over-allotment transactions and syndicate covering transactions in accordance with Regulation M under the Exchange Act:

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.

- Over-allotment involves sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. The underwriters may close out any covered short position by either exercising their over-allotment option and/or purchasing shares in the open market.

- Syndicate covering transactions involve purchases of shares of the common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. If the underwriters sell more shares than could be covered by the over-allotment option, a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriters make any representations that the underwriters will engage in these stabilizing transactions or that any transaction, once commenced, will not be discontinued without notice.

Listing and Transfer Agent

We intend to list our common shares on the under the symbol “ .” The transfer agent of our common shares is American Stock Transfer and Trust.

Other

The underwriters and/or their affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees.

LEGAL MATTERS

Certain legal matters in connection with the securities offered hereby will be passed upon for us by Morgan, Lewis & Bockius LLP, Princeton, New Jersey. Certain legal matters in connection with this offering will be passed upon for the underwriters by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The financial statements of the Company as of June 30, 2012 and 2011, and for the years ended June 30, 2012 and 2011 included in this prospectus and registration statement, have been included in reliance of the reports on McGladrey LLP, an independent registered public accounting firm, given on the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement under the Securities Act of 1933 that registers the distribution of the common shares offered under this prospectus. The registration statement contains additional relevant information about us and the common shares. The rules and regulations of the SEC allow us to omit from this prospectus certain information included in the registration statement. Statements contained in this prospectus as to the contents of any documents that we have filed as an exhibit to the registration statement are qualified in their entirety by reference to the exhibits for a complete statement of their terms and conditions.

In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy this information and the registration statement at the SEC public reference room located at 100 F Street, N.E., Washington D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. Any information we file with the SEC is also available on the SEC's website at http://www.sec.gov. We also maintain a website at http://www.senesco.com/sec.php through which you can access our SEC filings. We have included our website address in this prospectus solely as an inactive textual reference. The information contained on, or that can be accessed through, our website is not part of this prospectus.

SENESCO TECHNOLOGIES, INC.

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Audited Consolidated Financial Statements

Unaudited Condensed Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC.

AND SUBSIDIARY

(a development stage company)

CONSOLIDATED FINANCIAL STATEMENTS

JUNE 30, 2012

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SENESCO TECHNOLOGIES, INC AND SUBSIDIARY

(a development stage company)

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders

Senesco Technologies, Inc.

We have audited the accompanying consolidated balance sheets of Senesco Technologies, Inc. and Subsidiary (a development stage company) as of June 30, 2012 and June 30, 2011, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended June 30, 2012 and cumulative amounts from July 1, 1998 (inception) to June 30, 2012. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Senesco Technologies, Inc. and Subsidiary as of June 30, 2012 and June 30, 2011, and the results of their operations and their cash flows for each of the three years in the period ended June 30, 2012 and cumulative amounts from July 1, 1998 (inception) to June 30, 2012, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses from operations, generated minimal revenues, and continues to incur significant expenses that exceed revenue streams. This raises substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ McGladrey LLP

New York, New York

September 28, 2012

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2012	June 30, 2011
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$2,001,325	$3,609,954
Prepaid research services and supplies and expenses	1,548,524	1,446,064
Total Current Assets	3,549,849	5,056,018
Equipment, furniture and fixtures, net	5,857	3,782
Intangibles, net	3,393,992	3,524,731
Deferred income tax assets, net	-	-
Security deposit	5,171	12,358
TOTAL ASSETS	$6,954,869	$8,596,889
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$594,514	$559,525
Accrued expenses	369,695	509,806
Line of credit	2,199,108	2,199,108
Total Current Liabilities	3,163,317	3,268,439
Warrant liabilities	238,796	711,259
Grant payable	99,728	99,728
TOTAL LIABILITIES	3,501,841	4,079,426
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value, authorized 5,000,000 shares		
Series A 10,297 shares issued and 3,379 and 3,690 shares outstanding, respectively (liquidation preference of $3,463,475 and $3,782,250 at June 30, 2012 and June 30, 2011, respectively)	34	37
Series B 1,200 shares issued and outstanding (liquidation preference of $1,230,000 and $1,230,000 at June 30, 2012 and June 30, 2011, respectively)	12	12

Common stock, $0.01 par value, authorized 350,000,000 shares, issued and outstanding 94,112,483 and 77,769,677, respectively	941,125	777,697
Capital in excess of par	69,952,152	64,488,152
Deficit accumulated during the development stage	(67,440,295)	(60,748,435)
Total Stockholders' Equity	3,453,028	4,517,463
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$6,954,869	$8,596,889

See Notes to Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	Fiscal Year Ended June 30,			Cumulative Amounts from
	2012	2011	2010	Inception
Revenue	$200,000	$-	$140,000	$1,790,000
Operating expenses:				
General and administrative	2,724,144	2,610,222	2,349,116	31,614,677
Research and development	2,566,247	3,720,394	2,637,407	21,235,605
Total operating expenses	5,290,391	6,330,616	4,986,523	52,850,282
Loss from operations	(5,090,391)	(6,330,616)	(4,846,523)	(51,060,282)
Other non-operating income (expense)				
Grant income	-	244,479	-	244,479
Fair value – warrant liability	472,463	609,239	2,516,661	8,330,130
Sale of state income tax loss – net	-	-	-	586,442
Other noncash (expense) income, net	-	(115,869)	-	205,390
Loss on extinguishment of debt	-	-	(361,877)	(361,877)
Write-off of patents abandoned	(321,137)	(1,588,087)	-	(1,909,224)
Amortization of debt discount and financing costs	-	-	(10,081,107)	(11,227,870)
Interest expense – convertible notes	-	-	(586,532)	(2,027,930)
Interest (expense) income - net	(127,068)	(88,122)	(24,135)	283,988
Net loss	(5,066,133)	(7,268,976)	(13,383,513)	(56,936,754)
Preferred dividends	(1,625,727)	(2,638,300)	(6,239,514)	(10,503,541)
Loss applicable to common shares	$(6,691,860)	$(9,907,276)	$(19,623,027)	$(67,440,295)
Basic and diluted net loss per common share	$(0.08)	$(0.14)	$(0.67)	

Basic and diluted weighted-average number of common shares outstanding	85,703,291	69,332,477	29,112,976

See Notes to Consolidated Financial Statements

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2012

	Preferred Stock		Common Stock		Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Stockholders' Equity (Deficiency)
	Shares	Amount	Shares	Amount			
Common stock outstanding	-	$ -	2,000,462	$20,005	$ (20,005)	$ -	$ -
Contribution of capital	-	-	-	-	85,179	-	85,179
Issuance of common stock in reverse merger on January 22, 1999 at $0.01 per share	-	-	3,400,000	34,000	(34,000)	-	-
Issuance of common stock for cash on May 21, 1999 at $2.63437 per share	-	-	759,194	7,592	1,988,390	-	1,995,982
Issuance of common stock for placement fees on May 21, 1999 at $0.01 per share	-	-	53,144	531	(531)	-	-
Net loss	-	-	-	-	-	(1,168,995)	(1,168,995)
Balance at June 30, 1999	-	-	6,212,800	62,128	2,019,033	(1,168,995)	912,166
Issuance of common stock for cash on January 26, 2000 at $2.867647 per share	-	-	17,436	174	49,826	-	50,000
Issuance of common stock for cash on January 31, 2000 at $2.87875 per share	-	-	34,737	347	99,653	-	100,000

Issuance of common stock for cash on February 4, 2000 at $2.924582 per share	-	-	85,191	852	249,148	-	250,000
Issuance of common stock for cash on March 15, 2000 at $2.527875 per share	-	-	51,428	514	129,486	-	130,000
Issuance of common stock for cash on June 22, 2000 at $1.50 per share	-	-	1,471,700	14,718	2,192,833	-	2,207,551
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2000	-	-	-	-	(260,595)	-	(260,595)
Fair market value of options and warrants vested during the year ended June 30, 2000	-	-	-	-	1,475,927	-	1,475,927
Net loss	-	-	-	-	-	(3,346,491)	(3,346,491)
Balance at June 30, 2000	-	-	7,873,292	78,733	5,955,311	(4,515,486)	1,518,558
Fair market value of options and warrants vested during the year ended June 30, 2001	-	-	-	-	308,619	-	308,619
Net loss	-	-	-	-	-	(2,033,890)	(2,033,890)
Balance at June 30, 2001	-	-	7,873,292	78,733	6,263,930	(6,549,376)	(206,713)

continued

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2012

	Preferred Stock		Common Stock		Capital in Excess	Deficit Accumulated During the Development	Stockholders' Equity
	Shares	Amount	Shares	Amount	of Par Value	Stage	(Deficiency)
Issuance of common stock and warrants for cash from November 30, 2001 through April 17, 2002 at $1.75 per unit	-	$ -	3,701,430	$37,014	$ 6,440,486	$-	$6,477,500
Issuance of common stock and warrants associated with bridge loan conversion on December 3, 2001	-	-	305,323	3,053	531,263	-	534,316
Commissions, legal and bank fees associated with issuances during the year ended June 30, 2002	-	-	-	-	(846,444)	-	(846,444)
Fair market value of options and warrants vested during the year ended June 30, 2002	-	-	-	-	1,848,726	-	1,848,726
Net loss	-	-	-	-	-	(3,021,709)	(3,021,709)
Balance at June 30, 2002	-	-	11,880,045	118,800	14,237,961	(9,571,085)	4,785,676
Fair market value of options and warrants vested during the year ended June 30, 2003	-	-	-	-	848,842	-	848,842

Net loss	-	-	-	-	-	(2,778,004)	(2,778,004)
Balance at June 30, 2003	-	-	11,880,045	118,800	15,086,803	(12,349,089)	2,856,514
Issuance of common stock and warrants for cash from January 15, 2004 through February 12, 2004 at $2.37 per unit	-	-	1,536,922	15,369	3,627,131	-	3,642,500
Allocation of proceeds to warrants	-	-	-	-	(2,099,090)	-	(2,099,090)
Reclassification of warrants	-	-	-	-	1,913,463	-	1,913,463
Commissions, legal and bank fees associated with issuances for the year ended June 30, 2004	-	-	-	-	(378,624)	-	(378,624)
Fair market value of options and warrants vested during the year ended June 30, 2004	-	-	-	-	1,826,514	-	1,826,514
Options and warrants exercised during the year ended June 30, 2004 at exercise prices ranging from $1.00 to $3.25	-	-	370,283	3,704	692,945	-	696,649
Net loss	-	-	-	-	-	(3,726,951)	(3,726,951)
Balance at June 30, 2004	-	-	13,787,250	137,873	20,669,142	(16,076,040)	4,730,975

continued

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2012

	Preferred Stock		Common Stock		Capital in Excess	Deficit Accumulated During the Development	Stockholders' Equity
	Shares	Amount	Shares	Amount	of Par Value	Stage	(Deficiency)
Issuance of common stock and warrants for cash on May 9, 2005 at $2.11 per unit	-	$ -	1,595,651	$15,957	$ 3,350,872	$-	$3,366,829
Allocation of proceeds to warrants	-	-	-	-	(1,715,347)	-	(1,715,347)
Reclassification of warrants	-	-	-	-	1,579,715	-	1,579,715
Commissions, legal and bank fees associated with the issuance on May 9, 2005	-	-	-	-	(428,863)	-	(428,863)
Options and warrants exercised during the year ended June 30, 2005 at exercise prices ranging from $1.50 to $3.25	-	-	84,487	844	60,281	-	61,125
Fair market value of options and warrants vested during the year ended June 30, 2005	-	-	-	-	974,235	-	974,235
Net loss	-	-	-	-	-	(2,978,918)	(2,978,918)
Balance at June 30, 2005	-	-	15,467,388	154,674	24,490,035	(19,054,958)	5,589,751

Warrants exercised during the year ended June 30, 2006 at an exercise price of $0.01	-	-	10,000	100	-	-	100
Fair market value of options and warrants vested during the year ended June 30, 2006	-	-	-	-	677,000	-	677,000
Net loss	-	-	-	-	-	(3,314,885)	(3,314,885)
Balance at June 30, 2006	-	-	15,477,388	154,774	25,167,035	(22,369,843)	2,951,966
Issuance of common stock and warrants for cash on October 10, 2006 at $1.135 per unit	-	-	1,986,306	19,863	2,229,628	-	2,249,491
Commissions, legal and bank fees associated with the issuance on October 10, 2006	-	-	-	-	(230,483)	-	(230,483)
Warrants exercised during the year ended June 30, 2007 at an exercise price of $0.01	-	-	10,000	100	-	-	100
Fair market value of options and warrants vested during the year ended June 30, 2007	-	-	-	-	970,162	-	970,162
Net loss	-	-	-	-	-	(3,251,697)	(3,251,697)
Balance at June 30, 2007	-	-	17,473,694	174,737	28,136,342	(25,621,540)	2,689,539

continued

SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2012

	Preferred Stock		Common Stock		Capital in Excess	Deficit Accumulated During the Development	Stockholders' Equity
	Shares	Amount	Shares	Amount	of Par Value	Stage	(Deficiency)
Fair market value of options and warrants vested during the year ended June 30, 2008	-	$ -	-	$-	$ 1,536,968	$-	$ 1,536,968
Allocation of proceeds, net of fees paid to holder, from the issuance of convertible notes and warrants on September 21, 2007, October 16, 2007, December 20, 2007, and June 30, 2008	-	-	-	-	9,340,000	-	9,340,000
Convertible notes converted into common stock during the year ended June 30, 2008	-	-	555,556	5,556	430,952	-	436,508
Issuance of common stock in lieu of cash payment for interest during the year ended June 30, 2008	-	-	345,867	3,458	430,696	-	434,154
Net loss	-	-	-	-	-	(4,601,490)	(4,601,490)
Balance at June 30, 2008	-	-	18,375,117	183,751	39,874,958	(30,223,030)	9,835,679
Fair market value of options and warrants vested during	-	-	-	-	506,847	-	506,847

the year ended June 30, 2009							
Warrants exercised during the year ended June 30, 2009 at an exercise price of $0.01	-	-	2,395	24	(24)	-	-
Issuance of common stock in lieu of cash payment for interest during the year ended June 30, 2009	-	-	1,271,831	12,718	994,526	-	1,007,244
Convertible notes converted into common stock during the year ended June 30, 2009	-	-	50,000	500	44,433	-	44,933
Issuance of common stock in connection with Short-Term Incentive Plan during the year ended June 30, 2009	-	-	112,700	1,127	(1,127)	-	-
Net loss	-	-	-	-	-	(5,726,869)	(5,726,869)
Balance at June 30, 2009	-	-	19,812,043	198,120	41,419,613	(35,949,899)	5,667,834

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SENESCO TECHNOLOGIES, INC. AND SUBSIDIARY

(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

Period from July 1, 1998 (date of inception) to June 30, 2012

	Preferred Stock Shares	Preferred Stock Amount	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Deficit Accumulated During the Development Stage	Stockholders' Equity (Deficiency)
Cumulative effect of change in accounting principle-implementation of FASB ASC Topic 815-40	-	$ -	-	$-	$ (7,931,875)	$ 4,731,767	$ (3,200,108)
Issuance of common stock and warrants for cash on July 9, 2009 and September 30, 2009 at $0.90 per unit	-	-	1,700,000	17,000	1,513,000	-	1,530,000
Issuance of common stock and warrants for satisfaction of accounts payable on September 30, 2009	-	-	194,444	1,944	259,588	-	261,532
Legal and regulatory fees associated with the issuances on July 9, 2009 and September 30, 2009	-	-	-	-	(180,862)	-	(180,862)
Issuance of preferred stock and warrants for cash on April 1, 2010 and June 2, 2010	11,497	115	-	-	11,496,885	-	11,497,000
Deemed dividend							