



**Avivagen Inc.**

**ANNUAL INFORMATION FORM**

**FOR THE PERIOD ENDED APRIL 30, 2014**

**DATED: July 4, 2014**

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## GENERAL MATTERS

In this Annual Information Form, unless otherwise indicated, all dollar amounts are expressed in Canadian dollars and references to “\$” are to Canadian dollars. Avivagen Inc. sells its products both in Canadian and US dollars, and incurs expenses in various currencies.

Unless otherwise indicated or if the context requires otherwise, “**Avivagen**”, the “**Corporation**”, “**we**”, “**us**” and “**our**” refer to Avivagen Inc. As an issuer traded on the TSX Venture Exchange, the Corporation is not required to file an annual information form but is doing so voluntarily with the intention of enhancing its corporate disclosure and thereby improving its access to capital markets. Accordingly, the information contained in this Annual Information Form is stated as at April 30, 2014, unless otherwise stated, instead of the end of our fiscal year (October 31).

The industry and other statistical data presented in this Annual Information Form, except where otherwise noted, have been compiled from sources and participants which, although not independently verified by the Corporation, are believed by the Corporation to be reliable sources of information. References in this Annual Information Form to research reports or articles should not be construed as depicting the complete findings of the entire referenced report or article and such report or article is expressly not incorporated by reference into this Annual Information Form.

## FORWARD-LOOKING INFORMATION

This Annual Information Form may contain or incorporate by reference information that constitutes “forward-looking information” or “forward-looking statements” (collectively, “**forward-looking information**”) within the meaning of the applicable securities legislation which involves known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Corporation, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking information. When used in this Annual Information Form, such information uses words such as “may”, “will”, “expect”, “believe”, “plan”, “intend” and other similar terminology. This forward-looking information reflects current expectations regarding future events and operating performance and speaks only as of the date of this Annual Information Form. Forward-looking information involves significant risks and uncertainties, should not be read as a guarantee of future performance or results, and will not necessarily be an accurate indication of whether or not such results will be achieved and accordingly undue reliance should not be placed on such statements. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking information, including, but not limited to, the following:

- The ability to obtain necessary funding on favorable terms or at all;
- The ability to make sales to commercial customers at acceptable gross margins;
- Outcomes from ongoing and planned product trials and research and development;
- Obtaining or maintaining regulatory permissions in major commercial markets, such as Asia;
- The enforceability of the Corporation’s patents in major commercial markets;
- The return of conditions persisting during the global financial crisis and economic downturn;
- Competition for, among other things, sales, financial capital and skilled personnel;
- Changes in laws and regulations relating to the animal health industry; and
- The other factors discussed under the heading entitled “Risk Factors”.

Although the forward-looking information contained in this Annual Information Form is based upon what management of the Corporation believes are reasonable assumptions, the Corporation cannot assure readers that actual results will be consistent with the forward-looking information.

In particular, this Annual Information Form contains, or incorporates by reference, forward-looking information pertaining to such items as the following:

- Results and expectations concerning various projects of the Corporation such as product trials sponsored by Avivagen or its potential customers, in Asia or elsewhere;
- Ability to formalize distribution and customer relationships in new markets;
- Maintaining security of product supply and product intellectual property;
- Expectations regarding the ability to raise capital, debt or other forms of financing that may be required to maintain operations;
- Adhering to program funding commitments, operational expenditure programs and related covenants; and
- Expectations that the Corporation may broaden its business to include other products and technologies.

With respect to forward-looking information contained in this Annual Information Form, the Corporation has made assumptions regarding, among other things:

- The Corporation's ability to generate sufficient cash flow from operations and to access credit facilities or capital markets to meet its current or future obligations and commitments;
- The regulatory frameworks relating to animal health products, human foodstuffs, corporate taxes, environmental regulations, legal, operational and sales matters in the countries in which the Corporation conducts or will conduct its business; and
- The Corporation's ability to obtain and retain qualified staff, advisors and consultants to conduct its operations, such as executive leadership, financial reporting, technical staff, intellectual property and other functions, all in a timely and cost-efficient manner.

Information relating to assets, liabilities, revenues, expenses, capital, equity, commitments and contingencies are deemed to be forward-looking information, as it involves the implied assessment, based on certain estimates and assumptions, about the operations described herein.

Readers are cautioned that the foregoing lists of factors are not exhaustive. The forward-looking information contained in this Annual Information Form is expressly qualified by this cautionary statement. The Corporation does not undertake any obligation to publicly update or revise any forward-looking information, other than as required by applicable securities laws.

## **CORPORATE STRUCTURE**

### **Name, Address and Incorporation**

The legal name of the Corporation is Avivagen Inc. The registered and head office of the Corporation is located at 100 Sussex Dr., Ottawa, Ontario, Canada K1A 0R6. The Corporation also has facilities at the National Research Council of Canada Centre, 550 University Ave., Charlottetown, PEI, Canada C1A 4P3.

Avivagen Inc. is a development stage biotechnology corporation located in Ottawa, Ontario, Canada that was federally incorporated under the *Canada Business Corporations Act* on August 4, 2005, through the amalgamation of Occell Inc., a privately held company founded in April 1997, and Triumph Acquisition Corporation Inc., a TSX Venture Exchange capital pool corporation founded in August 2003. The common shares of the Corporation began trading on the TSX Venture Exchange under the symbol "CFR" on August 5, 2005. On May 25, 2012, the Corporation amended the articles of the Corporation to change its name from Chemaphor Inc. to Avivagen Inc., and on May 30, 2012 the shares began trading under the new ticker symbol "VIV".

The Corporation, including its wholly-owned subsidiary (7552882 Canada Inc., which was subsequently renamed Avivagen Animal Health Inc. and has been inactive since 2013), is focused on bringing forward products based on its unique, proprietary fully-oxidized carotenoid technologies (OxC-beta - fully-oxidized beta-carotene, or other fully-oxidized carotenoids), to assist in optimizing health and daily quality of life in companion and feed animals.

## **DESCRIPTION OF THE BUSINESS**

### *Corporate Objectives*

Avivagen's objective is to create economic value for its shareholders by way of executing its business model – making a positive overall contribution to society by creating and selling safe, effective and economically-useful products that its customers freely choose to buy. Currently it is the Corporation's objective to become profitable by way of the creation and sale of products within the companion animal (pet) and livestock animal fields.

### *Business Model*

Avivagen's business model centers on the commercialization of its technology and related products that it believes have profit potential within the companion and livestock animal fields (See "Technology – Fully Oxidized Carotenoids" and "Product (all sections)"). The business is not expected to be cyclical or seasonal. The Corporation has developed and maintains capabilities in several necessary scientific and commercial disciplines. Avivagen's commercialization and product life cycle of its current technology is outlined below and the company believes the related process skills may be applied to other products or technologies:

1. Discovering or identifying something novel and potentially useful.
2. Validating the properties and usefulness of the discovery.
3. Securing intellectual property via patenting (or in-licensing) the inventions.
4. Determining the potential commercial uses for the invention in targeted experiments.
5. Identifying the regulatory requirements to be met before sales of a product can begin.
6. Arranging for scalable production of the active product ingredients.
7. Developing final product formats and arranging for commercial manufacturing.
8. Arranging for necessary trials, product approvals, marketing and distribution.
9. Managing human resources, finances and administrative issues relating to these processes.
10. Repeating one or more of these steps for new product applications or other inventions.

Avivagen maintains chemistry and biology laboratories and offices in Ottawa, Ontario, Canada and Charlottetown, P.E.I., Canada. These facilities are currently sufficient to accomplish the business processes outlined above, and the Corporation does not currently intend to build or acquire further manufacturing or selling infrastructures.

To date, Avivagen has been focused on ensuring the commercial success of its internally-discovered technology

Avivagen plans to also apply its skill sets to the evaluation of other products and technologies in its fields of expertise of chemistry, biology and animal health. As new opportunities are identified, and Avivagen has the human and financial resources to advance them, Avivagen intends to broaden its business to include other products and technologies.

### *Three Year History of the Business*

Over the past three years Avivagen has been working to transform itself from a more research-oriented to a fully commercial entity. In so doing it has been developing commercial product presentations of its

technology exploring where it believes they are most effective and potentially successful in the marketplace. That process has involved a number of important steps, which are outlined below:

After executing a Development Agreement for supply of its proprietary OxC-beta™ ingredient in 2009, the Company completed development of a first commercial product variant, Oximunol™ Chewable Tablets for dogs in 2010. In February of 2012, Teva Animal Health Inc. agreed to become the exclusive U.S. distributor for Oximunol™ Chewable Tablets in the United States. In September, 2012, Teva Animal Health was superseded as United States distributor when it was acquired by Bayer Animal Health (See “Product – Commercial Presentations”).

Also in 2012, The Company changed its name to Avivagen Inc., formally recognizing the completion of the transition from research stage to one of later stage development and commercialization.

In March of 2013, Avivagen engaged a new Chief Executive Officer, Mr. Cameron Groome, who continues the firm’s focus on realizing the potential of OxC-beta™ for its various commercial applications (See “Product – Potential Applications”).

A second pet-oriented product, Vivamune™ Health Chews for dogs and cats, was made available in the United States in the summer of 2013. This product is intended as a direct-to-consumer item and is currently available on-line (See “Product – Commercial Presentations”).

In June of 2013, Avivagen announced the first commercial sale of its OxC-beta™ product for livestock, with that sale made in the Kingdom of Thailand.

Over the course of the calendar year 2013, Avivagen converted \$0.8 million worth of legacy liabilities into equity and also raised a further \$4.2 million from the issuance of shares and warrants via private placements.

In February 2014, Avivagen announced the recruitment of a new independent Chairman of its Board of Directors, Mr. Kym Anthony. Mr. Anthony has extensive experience in capital markets, agriculture and life sciences and invested in the Company concurrent with his appointment.

In March of 2014, Avivagen announced two company sponsored livestock trials of OxC-beta™ in Asia; for a poultry application in Korea and a swine application in Vietnam. The Company concurrently disclosed interest from feed and livestock producers in the region to run their own trials and its intention to pursue such additional trials. Also in March of 2014, Avivagen’s CEO provided an update to shareholders in which he characterized his first year in office as one of positioning work. He also indicated that management was pursuing the goal of building sustained revenues, supporting further livestock trials and evaluating potential new animal health technologies for in-licensing.

#### *Technology – Fully Oxidized Carotenoids*

In order to understand the nature and relevance of Avivagen’s technology, some background on the field of carotenoids may be helpful to the non-specialized reader. Carotenoids are a family of over 600 highly pigmented compounds that occur naturally in the plant world and exhibit various biological functions. Unlike plants, animals generally cannot produce carotenoids and therefore must obtain them from their diet. Typical dietary carotenoids include beta-carotene (the most abundant), lutein, lycopene, astaxanthin and numerous others in minor amounts. Carotenoids are used commercially, with canthaxanthin and annatto being approved as food additive colorants while beta-carotene, lutein and lycopene may be more familiar to consumers as human health supplements.

In the plant world, carotenoids play an important role as antioxidants, quenching a potentially destructive form of oxygen generated during photosynthesis. In animals it has been postulated and is popularly believed that carotenoids, and beta-carotene in particular, also behave as antioxidants – by helping to remove “free radicals” or “reactive oxygen species” (ROS) that could cause cell damage and disease.

The impetus for proposing that carotenoids have an antioxidant role in animals originated largely as a result of human epidemiological studies that showed populations consuming higher levels of carotenoid-containing fruits and vegetables, and beta-carotene in particular, are better protected against chronic diseases of aging, such as cancer and heart disease. However, subsequent large-scale, long-term clinical trials with beta-carotene supplements did not support a direct beneficial effect and in one trial involving chronic smokers, there even was a significant increase in cancer mortalities.

Over the past number of years, Avivagen's scientists have developed novel ideas about how beta-carotene and other carotenoids can function in an alternative manner. These ideas provide the basis for the underlying Avivagen oxidized carotenoid technology and also resolve the contradiction between the apparent benefit of dietary beta-carotene from fruits and vegetables and the lack of benefit of beta-carotene supplements in clinical trials.

The Avivagen ideas centered on an overlooked aspect of carotenoid behaviour, which was that carotenoids might serve as sources of multiple and different compounds when they are oxidized. Abundant evidence existed that carotenoid oxidation products were present in fruits and vegetables and therefore inevitably are ingested in the diet. This contrasted with carotenoid supplements for which manufacturers (well aware of the susceptibility of their products to oxidation) go to considerable lengths to protect them against such reactions.

Avivagen recognized the unexploited possibility that carotenoid oxidation products themselves could be biologically active. So Avivagen began studying both the chemistry and biology of carotenoid oxidation.

Avivagen began by re-examining the spontaneous oxidation of carotenoids and discovered that complete oxidation results in unexpected and unrecognized reaction products: in addition to the expected smaller breakdown products of oxidation, much larger amounts of compounds even bigger than the original carotenoids are created. Avivagen believes this was a novel and unexpected finding that can be imagined as occurring by oxygen chopping beta-carotene molecules into pieces that can then recombine into larger pieces in random fashion.

Later on, Avivagen established that the resulting "Fully-oxidized Carotenoid" product contains naturally-occurring compounds that have biological activities. Most notably, Avivagen has determined that these compounds have multiple capabilities expressed depending upon the particular situation, and include helping the immune system to recognize and react to pathogenic bacteria; exhibiting anti-inflammatory activities and supporting the presence of an increased proportion of beneficial bacteria in the digestive tract (See "Product – Supporting Research Data").

Avivagen has evidence the activities of its Fully-oxidized carotenoids extends to the entire carotenoid family, whether obtained from natural-sources or synthetic production.

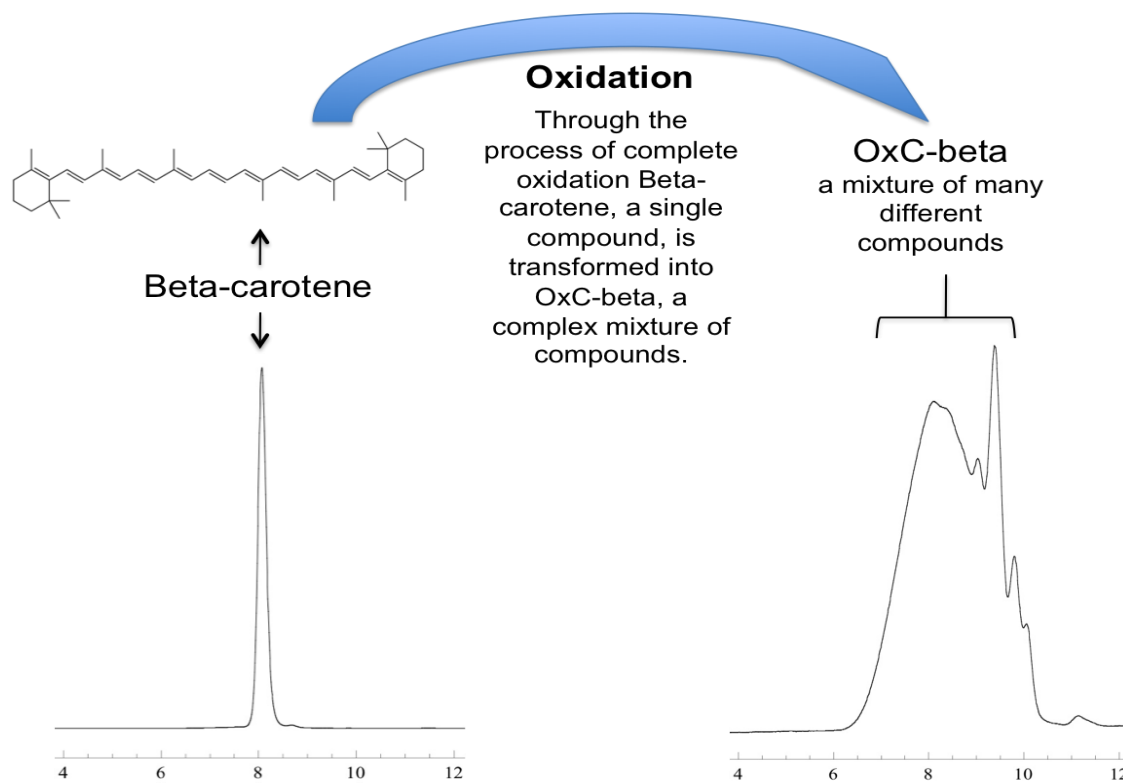
Avivagen's initial strategy for securing and exploiting the commercial value of its discoveries and products involves two steps. The first priority has been to secure appropriate intellectual property protection. The second priority has been to conduct the further experiments necessary for peer-reviewed scientific publications and submitting manuscripts to appropriate journals.

Avivagen's first publication relates to its novel chemistry discoveries and was issued by the Canadian Journal of Chemistry on February 3, 2014 (Canadian Journal of Chemistry Volume 92(4): pages 305-316 (2014). Document identifier: [dx.doi.org/10.1139/cjc-2013-0494](https://doi.org/10.1139/cjc-2013-0494)). This paper lays the groundwork for submission of a series of manuscripts to peer-reviewed journals concerning further chemical, biological and *in vivo* discoveries that may support Avivagen's business objectives, build scientific recognition, and encourage further research and commercial studies.

*Product – Oxidized Beta Carotene (OxC-beta™)*

The best known and most readily available carotenoid is beta-carotene – the orange pigment found in carrots and the carotenoid after which the class is named. Because beta-carotene is both widely available and the least expensive carotenoid, Avivagen has chosen it as the starting material for its first commercial active ingredient, fully-oxidized beta-carotene, known as OxC-beta™.

OxC-beta™ is a novel, and proprietary blend of compounds formed by the spontaneous total oxidation of beta-carotene. It is important to note that OxC-beta™ contains no vitamin A or residual beta-carotene – so it doesn't have their activities or potential toxicity. This makes the modes of action of OxC-beta™ unique and distinct from those of beta-carotene or vitamin A. The differences between beta-carotene and OxC-beta can be illustrated by a technique to analyze compounds by molecular weight called Gel Permeation Chromatography (GPC). The GPC analysis presented below shows beta carotene to be a single compound with a molecular weight of 537 versus the OxC-beta™ range of 140 to 10,000.



Beta-Carotene

- Un-oxidized beta carotene
- A single compound
- Dark orange pigment
- A source of vitamin A (via enzymatic cleavage pathway)
- Antioxidant activity
- Multiple associated activities not easily explained

OxC-beta™

- Fully oxidized beta-carotene
- Mixture of many compounds
- Not a pigment
- Multiple potential bioactive compounds
- No direct antioxidant activity
- Explains the multiple activities traditionally ascribed to beta-carotene

### *Product – Potential Applications*

From its research studies (See “Product – Supporting Research Data”) Avivagen believes that OxC-beta™ has the ability to prepare (prime) the cellular (innate) immune system to more quickly and effectively respond to exposure to bacteria while at the same time limiting the scope of an inflammatory reaction. Avivagen believes this to be a unique combination of activities that has broad potential health applications.

Additionally, OxC-beta™ has shown that it is biologically active in multiple species, including laboratory animals, fin fish, chickens, pigs, cattle and dogs. These properties may open both companion animal and livestock applications for the product and it has been Avivagen’s intention to develop products in both those markets (See “Product – Supporting Research Data”).

Applications for OxC-beta™ in companion animals include species such as dogs, cats, horses and ornamental fish - essentially all species that are kept in or around the home and not intended to become human foodstuffs.

In turn, there are multiple livestock species in which OxC-beta™ might be used. These include both terrestrial and aquatic livestock species, of which the major commercial types include the following:

- Farmed crustaceans – such as shrimp and crab
- Farmed warm water fish – such as tilapia and catfish
- Farmed cold water fish – such as salmon and trout
- Poultry – of the breeder, layer and broiler classes
- Swine – as raised for pork
- Cattle – in both dairy and beef cattle animals

Biologically, the Corporation believes that OxC-beta™ will demonstrate similar health benefits in humans as in other animals. However, it will require commitment of financial and human resources to commercialize an OxC-beta™ product directed to humans. At the present time, Avivagen believes it to be a better business decision to focus on the large animal health markets rather than committing capital to the potentially longer regulatory pathway of human health applications.

### *Product – Supporting Research Data*

Research in support of potential OxC-beta™ applications occurred in two phases. The initial “discovery” phase research was focused on understanding OxC-beta™ modes of action. The second “applied” phase of research is aimed at evaluating potential OxC-beta™ benefits in commercially relevant species of companion animals and livestock.

Discovery phase research used various types of cultured cell lines to evaluate potential OxC-beta™ effects on the immune system. Results show that OxC-beta™ has an ability to modulate immunity. The immune modulating activities could be characterized into two categories: 1) priming of innate immune defenses and 2) limiting of inflammation or by indirect or direct anti-inflammatory activity.

The innate immune system acts as the first responder during an infection and makes use of a series of non-specific mechanisms to detect and defend the host from foreign pathogens. Central to the innate immune system’s ability detect pathogens, are a family of receptors known as pattern recognition receptors (PRRs). Each PRR is responsible for recognizing a molecular pattern that is common to a particular group of pathogens and pathogen-PRR binding triggers an immune response.

Avivagen has demonstrated that OxC-beta™ treatment significantly increases the expression of certain PRRs, namely toll-like receptor subtypes-2 and -4 (TLR-2 and TLR-4), on multiple cell types. As these receptors each play a role in detecting different classes of bacterial pathogens, increasing their levels in

the host's cells likely results in heightened surveillance against bacterial pathogens. Further studies revealed that OxC-beta™ may also enhance innate immune responsiveness as evidenced by its ability to increase cell-signaling protein production (cytokines) and immune cell destruction of pathogens (by ingestion). Taken together, these results suggest a priming of innate immune defenses to more quickly and efficiently detect, respond to, and clear bacterial infections. The *in vitro* results showing OxC-beta™-induced increase in PRR expression were validated in a mouse trial, which demonstrated that mice receiving daily oral treatments of OxC-beta™ for two or four weeks had increased TLR-4 expression in the small intestine.

Evidence supporting the ability for OxC-beta™ to limit the scope of an inflammatory reaction is provided by *in vitro* cell culture and *in vivo* mouse experiments showing that OxC-beta™ treatment led to decreases in the expression of certain cell signaling and cellular mediators of inflammation (e.g., chemokines and neutrophils). Such inflammatory mediators play an essential role in coordinating the immune response but their excessive or prolonged production can result in too much inflammation. By reducing, but not abolishing, the expression of these mediators, OxC-beta™ may limit the scope of an inflammatory reaction and promote proper resolution of the inflammatory response. The results suggest potential anti-inflammatory usages for OxC-beta™.

Guided by the results of its “discovery” research Avivagen is now conducting a second phase of “applied” research with the goal of evaluating the ability OxC-beta™ to provide health benefits in commercially relevant animal species. As yet unpublished research conducted by the Corporation has shown that OxC-beta™ appears to provide relevant health benefits in several species:

- In dogs, the potential for OxC-beta™ to benefit the overall health and well-being of companion canines was evaluated in two clinical trials. The studies were conducted by Avivagen and involved dogs recruited from the general public in Prince Edward Island, Canada. Trial-1 was a blinded, randomized study with 46 dogs of all ages randomly assigned to either an OxC-beta™ or placebo group for a period of 6-months. Trial-2 was a double-blind randomized study involving 70 dogs aged 7-years or older, assigned to the OxC-beta™ or placebo groups and conducted over 8-months. For both of these daily-dosing trials, owners completed questionnaires at the beginning and end of the study evaluating their dog's level of anxiety, activity, enjoyment of physical activity, appetite, and coat quality. Results indicate that dogs fed the OxC-beta™ supplements showed significant improvements in coat quality and a decrease in shedding. The results were also suggestive of improvements in mobility and interest in activities for the OxC-beta™ supplemented groups.
- In broiler chickens, the ability for OxC-beta™ to improve measures of production efficiency has been accessed in three separate trials. The first two trials were conducted, under contract, by Maple Leaf Agresearch Services in Canada. Those trials used totals of 1,600 and 2,500 birds respectively to evaluate the effect of various doses of OxC-beta™ on growth performance and the efficiency of feed conversion into body weight. The third trial was conducted at the Scottish Avian Research Centre and employed a total of 4,655 birds to independently confirm OxC-beta™ effects on broiler growth and feed conversion efficiency. Across the three studies it was found that use of OxC-beta™ at rates at or above 2 parts-per-million in feed consistently and statistically benefited measures of broiler performance.
- Poultry fed diets containing OxC-beta™ have also shown performance benefits despite the potentially deleterious effects of infection with the gut pathogen *Clostridium perfringens*. This study was also conducted by Maple Leaf Agresearch Services in Canada. The trial involved an oral challenge with the pathogen to induce subclinical gut disease (necrotic enteritis or “NE”) in the broilers. NE disease causes significant economic loss to the global broiler industry each year and its subclinical form is characterized by reduced growth rates and loss of feed conversion efficiency. Results from this trial demonstrated that supplementation with OxC-beta™ led to significant improvements in final body weights and feed conversion efficiency relative to

controls. In addition, OxC-beta's effects on broiler growth and feed performance were comparable to those of the positive control group supplemented with the common antibiotic feed additive, bacitracin.

- Piglets fed diets containing 10 ppm OxC-beta™ showed very meaningful improvements in feed conversion ratios and average daily weight gain (ADG). This study was conducted by Dr. Dan Hurnik, Industry Chair for Swine Research at the Atlantic Swine Research Partnership of the University of Prince Edward Island. The study consisted of two placebo controlled replica trials using piglets fed OxC-beta™ for four weeks. Results indicate that supplementation of the feed with 10 ppm OxC-beta™ significantly improved feed conversion and ADG versus control animals.
- In beef cattle, a calf model of bovine respiratory disease (BRD) demonstrated the potential for OxC-beta™ to promote proper resolution of the overzealous inflammatory reaction that is a common and damaging complication of BRD. This study was conducted by Dr. Andre Buret at the University of Calgary. Analysis of samples taken from the lungs indicates that calves in the OxC-beta™ group had significantly higher markers of healthy resolution of the inflammation relative to control animals. The university researchers that conducted this work have submitted its results for publication.
- In Rainbow trout fed diets containing OxC-beta™, an immune priming effect was observed, with increases in two key infection-fighting activities of white blood cells. This study was conducted by Dr. John Lumsden at the Ontario Veterinary College of the University of Guelph. These results in fish are consistent with the earlier studies showing OxC-beta™ immune modulating action in mammalian species and are believed to be suggestive of efficacy for aquaculture applications.

Such prior proof-of-concept research was intended to investigate the properties of OxC-beta™ and to lead to confirmatory and registration studies in support of domestic and international sales of OxC-beta™ for a series of livestock applications. Several such further studies are now ongoing, two of which are sponsored by Avivagen, namely:

- With the National Institute of Animal Sciences for Vietnam, the conduct of a trial of OxC-beta™ as a non-antibiotic growth promoter for swine. Its testing of OxC-beta will include five study arms: three feeding-levels of OxC-beta, a negative control and a commercial antibiotic growth promoter (AGP) control. The trial was designed by Professor La Van Kinh of the National Institute of Animal Sciences for Vietnam, Professor William Riley of Jinan University of Guangzhou, China and Avivagen executives. The trial, which will be conducted by Professor Kinh at the Institute and is expected to be completed before the end of calendar 2014, is intended to support registrations for this usage.
- With Chonbuk National University of the Republic of Korea (South Korea), the conduct of a trial of OxC-beta™ for the prevention of Necrotic Enteritis in Broiler Chickens. It will have five study arms: testing two clinically and commercially relevant dosages of OxC-beta™ against two commercial Antibiotic Growth Promoters (AGPs) and a negative control group. The trial will first reconfirm the optimal dose level of OxC-beta™ in this challenge model and then conduct two parallel repeats of greater statistical-significance. The trial was designed by Professor Jang Hyung-Kwan, of the College of Veterinary Medicine of Chonbuk National University of Korea, Professor William Riley of Jinan University of Guangzhou, China and Avivagen executives. The trial will be conducted by Professor Jang at Chonbuk and the full protocol is intended to conclude in the first quarter of calendar 2015.

Avivagen is currently focusing its livestock research and business development efforts on Asian markets due to larger commercial potential and clearer pathways to regulatory approval. In these markets, further livestock trials are now being planned or conducted to generate additional results and thereby determine

the best OxC-beta™ usage protocols and inclusion rates. Currently, Avivagen is engaged with major feed producers in several countries and is working with those parties to initiate and complete studies in farmed aquatic species, poultry, swine and cattle.

The trials Avivagen has arranged or is arranging are intended to test the efficacy of OxC-beta™ in one or both of two ways. The first way is to evaluate its potential to improve growth rates and the conversion of livestock feed into live body weight across all or part of the animal's life cycle under commercial farming conditions. The second way is to determine the extent to which OxC-beta™ can reduce the incidence or severity of certain livestock diseases (e.g., gastrointestinal diseases in poultry and swine, udder diseases in dairy cattle, etc.) by improving the animal's immune function.

#### *Product – Commercial Presentations*

Avivagen's commercial products are currently focused on the companion animal and livestock animal markets and consist of the following brands and services:

- Oximunol™ Chewable Tablets for dogs, exclusive to veterinarians,
- Vivamune™ Health Chews for dogs and cats, directly marketed and sold to consumers,
- bulk OxC-beta™ premix for inclusion in livestock feeds (e.g., as available in Thailand), and
- custom production of specialty chemicals.

For companion animals, the Corporation completed development of its Oximunol™ Chewable Tablets in June, 2010. Oximunol™ Chewable Tablets are a proprietary natural health enhancer for dogs

The Oximunol clinical trial program included 1) assessment of product efficacy through a blinded placebo-controlled field study in dogs, 2) a determination of mode of action via *in vitro* and *in vivo* studies, 3) a determination of product safety in a controlled target animal safety study, and 4) the confirmation of product palatability, including a comparison with a standard animal health product positive control. The results of these multiple studies demonstrated that Oximunol™ Chewable Tablets are highly palatable and that they can improve coat quality and reduce shedding. In addition, treated dogs showed a tendency to increased enjoyment of walks and there were no adverse effects observed in the safety study. With the completion of this milestone, the Corporation targeted product introduction to veterinarians.

On February 15, 2012, Teva Animal Health, Inc. (hereafter "TAH") and the Corporation entered into an exclusive USA veterinarian distribution agreement whereby TAH became the exclusive distributor for Oximunol™ Chewable Tablets in the USA. TAH was subsequently purchased by Bayer Healthcare, Animal Health, with that transaction closing on September 14, 2012. The Avivagen-TAH contract now continues with Bayer as described in the Corporation's news release of May 9, 2013. A further order of Oximunol™ Chewable Tablets was produced in 2013 and delivered to Bayer on November 13, 2013. The product is a hard chewable tablet delivered in a bottle of 50 for larger dogs (20mg) or small dogs (5mg). Bayer remains charged with the marketing and distribution of this product in the United States.

A second companion animal product line, Vivamune™ Health Chews, was made available in the United States in the summer of 2013. This product line consists of packages of 30 chews in two sizes for dogs and one size for cats. Vivamune™ Health Chews were developed to be a direct-to-consumer companion animal product – with a lower price point and a less medicine-like presentation. Avivagen is currently refining its consumer messaging with respect to this product line and will only consider committing greater marketing resources to this product line once its sales approach has been optimized.

Oximunol™ Chewable Tablets and Vivamune™ Health Chews are in a class of natural nutritional supplements. In the USA, voluntary regulation is through the National Animal Supplement Council (the "NASC"). The Corporation is a member of the NASC and is complying with the NASC requirements and standards. Both Oximunol™ Chewable Tablets and Vivamune™ Health Chews carry the NASC Quality

Seal. Oximunol™ Chewable Tablets and Vivamune™ Health Chews contain proprietary mixtures of carotenoids and carotenoid oxidation products.

For livestock applications, Avivagen is offering OxC-beta™ and mixed carotenoid premixes for inclusion into livestock feeds. By providing the potential for significant improvements in growth and feed conversion efficiency, it is believed that OxC-beta may become a commercially viable alternative to antibiotic animal feed additives. The Corporation is pursuing initial premix product sales in livestock species where data can be rapidly generated and in jurisdictions with high motivation to eliminate their use of antibiotics in feeds and/or that have clearer regulatory pathways for approval of natural products. The Corporation has announced that it has commenced company-sponsored trials in South Korea and Vietnam and that it is working with research academics, feed makers and livestock producers in other Asian countries (See “Product – Supporting Research Data”).

In addition to the development of its lead products, the Corporation presently generates modest revenues in chemical services activities that leverage its core expertise in synthetic organic chemistry.

For the 12 months ended October 31, 2013, sales, in Canadian dollars, of each product line were as follows:

- Oximunol Chewable Tablets - \$4,665
- Vivamune Health Chews - \$331
- Bulk OxC-beta premix - \$6,920
- Chemistry services - \$98,598

For the 6 months ended April 30, 2014, sales of each product line were as follows:

- Oximunol Chewable Tablets - \$135,258
- Vivamune Health Chews - \$952
- Bulk OxC-beta premix - \$0
- Chemistry services - \$72,109

### *Markets*

Avivagen participates in two different marketplaces – health supplements for companion animals and feed additives for livestock. The two markets have different customer bases and dynamics.

The market segment of health supplements for companion animals has emerged over the past decade. It is now estimated that the market for nutritional supplements for dogs and cats in North America and Europe is in excess of US\$ 1.0 billion. The top five pet supplements are joint care products such as glucosamine, fish oils for skin and coat, probiotics for digestive issues, multivitamins for general health and lysine for immune supplementation in cats. While there are few sources of industry data on pricing for this market, Avivagen’s sector knowledge suggests that most products are priced in the range of \$0.25 to \$1.00 per day per animal.

For 2013, the American Pet Products Association estimates that there are currently 83.3 million owned dogs and 95.6 million owned cats in the United States. At an estimated retail pricing of \$0.70 per day for animals to take Vivamune™ or Oximunol™, Avivagen’s companion animal revenue potential may be limited largely by the extent of the resources Avivagen can commit to trials to develop allowable non-drug efficacy claims and subsequent product marketing.

Livestock feed ingredients are a more established marketplace, with many multinational and regional companies offering active feed supplements. Feed International magazine currently estimates that 959 million tons of prepared (compound) animal feeds are sold globally – principally in Asia (350 million tons), Europe (208 million tons), North America (199 million tons) and Latin America (137 million tons). Feed producers advise Avivagen that a considerable proportion of such feeds are supplemented with

biologically-active ingredients; including antibiotics, probiotics and other synthesized or extracted ingredients.

Avivagen intends to target a price per ton of US\$ 4.00 to US\$ 8.00 for OxC-beta™ at effective dosing levels, leading it to believe that it currently competes in a potential Asian feed ingredient market of US\$ 1.4-2.8 billion. Currently OxC-beta™ is available for sale in Thailand, a country that domestically uses 15.0 million tons of feed and that is home to several large animal feed exporters, including the world's largest feed company that is estimated to produce 25 million tons of feed per year. By way of comparison, Canada's largest domestic feed company produces an estimated 1.5 million tons per year.

### *Industry/Competition*

The Corporation faces competition in the areas of availability of financing, access to technical facilities, competitive products and acquisition of talent.

The Corporation's current product competitors are believed by management to be as follows:

For companion animals, Avivagen competes principally against supplements based on ingredients such as glucosamine and chondroitin (reputed to help maintain mobility) and omega fatty acids (fish oils reputed to help maintain skin and coat). These competing products may or may not be governed by or respect the same National Animal Supplements Council (NASC) rules as Avivagen and may therefore have more aggressive marketing approaches, such as making therapeutic (disease curing) claims.

For livestock applications, Avivagen is competing with three classes of products. They are as follows:

- Antibiotic Growth Promoters. Certain antibiotics used as prophylactics against disease and as growth promotion agents are known to industry as Antibiotic Growth Promoters or AGPs. Usage of AGPs remains very widespread in spite of objections from consumers, the expressed concerns of regulators and, as believed by some in the industry, in the face of laws against their use. Availability of such AGPs varies by country, but compounds in common usage include avoparcin, bacitracin, ceftiofur, virginiamycin and many others. In some cases, these AGPs are marketed by multinational animal health companies that have marketing, research, regulatory affairs and lobbying resources that are greater than those of Avivagen.
- Natural Products. As consumers and regulators have become more vocal in objecting to the widespread use of AGPs, innovator companies have developed naturally inspired or derived substitute products that, unlike AGPs, are less likely to promote the development of antibiotic-resistant strains of bacteria. Products that activate or stimulate immunity have therefore been developed for applications in poultry and swine in particular. In Avivagen's opinion, the principal competing products to OxC-beta™ would be the beta-glucan class of immune stimulants and Sangrovit, a botanical appetite stimulant. While OxC-beta™ may have technical advantages to those competing products, the competing products are more advanced in the marketplace by way of having been introduced some time earlier.
- Vaccines and Probiotics. Prophylactic and therapeutic vaccines and probiotic bacterial supplementation are other established means of controlling livestock diseases and, indirectly, promoting the growth of such food animals. Many companies, large and small offer live bacterial, killed bacterial, recombinant and sub-unit vaccines, or applicable probiotics, to address livestock diseases. Some of those vaccines and probiotics infect the animals with less-harmful bacterial strains to competitively exclude disease causing variants. Others work to activate the adaptive immune system to better recognize and prevent initial infections. In some cases, the use of OxC-beta™ will be complementary to vaccination or probiotic usage, while in other cases livestock producers would likely decide between the products.

## *Intellectual Property*

Avivagen began securing intellectual property around its fully-oxidized carotenoids as an initial corporate priority, believing this to be a cornerstone of a science-based company. As a result, the Corporation now has a portfolio of issued and pending patents around its technology. Specifically, Avivagen has secured intellectual property rights on its discoveries for applications it believes to be commercially useful and in countries where it is worthwhile to seek such protections. Generally, these intellectual property rights concern its discoveries about oxidatively-transformed carotenoid “OxC” compounds – including their compositions, uses and related methods.

From these intellectual property objectives, four (4) patent families have been created that are continuing to be developed and defended:

1. WO 2006/034570 – Food Animals – Compositions, Uses and Methods. This patent protects OxCs for enhancing the efficiency of weight-gain and feed-conversion in food animals. Coverage includes essentially all potential OxC compositions, uses and methods relating to food animals. This patent is now granted in the United States and granted or allowed in nine other countries.
2. WO 2009/052629 – Immune Response – Compositions, Uses and Methods. This patent protects OxCs for enhancing the immune systems of animals in relation to prophylactic or therapeutic applications. Coverage includes essentially all potential OxC compositions, uses and methods relating to this application. This patent has been granted in New Zealand and is pending in the United States and other key countries.
3. WO 2010/124391 – Health of Animals – Compositions, Uses and Methods. This patent protects OxCs for improving the health of animals, particularly as related to companion animals. Coverage includes essentially all potential OxC compositions, uses and methods relating to such applications. This patent has been granted in New Zealand and is pending in the United States and other key countries.
4. WO 2011/103464 – Aquaculture – Compositions, Uses and Methods. This patent provides extensive protection on OxCs in aquaculture, including essentially all potential compositions, uses and methods of use likely to be of utility for aquaculture. This patent is now pending in the United States and other key countries.

The above four patent families are expected to protect Avivagen’s fully-oxidized carotenoid technologies until 2030. To enhance its protections and to extend them beyond that time, Avivagen sees opportunities for patenting other discoveries relating to oxidized carotenoids that may make it impractical or impossible for others to produce identical or similar products even once the above patents have expired.

Beyond fully-oxidized carotenoids, Avivagen believes that there are opportunities to acquire and develop new animal health technologies that could enhance shareholder value. As a result, the Corporation may option or may acquire complementary products or technologies within its areas of expertise and that it believes might materially enhance shareholder value.

Avivagen’s ability to maintain its current intellectual property rights and develop further protections are dependent on its access to specialized human resources, Canadian and international patent and trademarks counsels and capital.

## *Regulatory and Legal Matters*

Avivagen executives have familiarity with the broad business, and animal health industry regulatory and legal obligations to which the Corporation is subject. For in-depth knowledge of such matters, Avivagen relies on the services of legal, accounting, tax, regulatory and other advisors. Avivagen is not currently a party to any legal disputes or subject to regulatory enforcement sanctions in any jurisdiction.

The animal health care field is subject to laws and regulations in every country and that may differ country by country. Compliance with such laws and regulations can require significant expenditures that may constrain the Corporation's ability to operate in the applicable jurisdiction. Likewise, unintended breach of legal or regulatory obligations could lead to suspension or revocation of the right to sell in a country or other penalties, all of which may significantly and negatively impact the Corporation's position and competitiveness.

For non-food animals such as dogs and cats (companion animals), regulation of products making therapeutic claims (drugs) is governed by national health authorities such as Health Canada (Canada) and the Food and Drug Administration (United States "FDA"). In the United States, health supplements for companion animals are not directly regulated by FDA as long as they do not make therapeutic claims (i.e., claims of curing disease conditions), but instead limit themselves to claims to aid in the maintenance of good health. Such health supplement products are instead governed by an industry self-regulatory body, the National Animal Supplement Council ("NASC").

As companion animal health supplements sold in the United States, both Oximunol™ Chewable Tablets and Vivamune™ Health Chews are regulated by way of Avivagen's being a member of the NASC. As a member of NASC, Avivagen must comply with its requirements and standards, including with respect to product manufacturing, product labeling and its marketing materials. The NASC periodically audits its members, including Avivagen, and can apply sanctions for non-compliance with its standards.

If Avivagen or its current or future marketing partners choose to pursue therapeutic claims for Oximunol™ Chewable Tablets or Vivamune™ Health Chews the products would become subject to full review by the relevant national health authorities.

The regulation of feed ingredients for food animals (livestock) is complex and varies considerably from country to country. In some nations, feed ingredients such as OxC-beta are deemed as not to be subject to regulation due to their apparent safety and natural occurrence in foodstuffs. In other countries, products need varying levels of formal safety or efficacy studies before they can be approved for addition to livestock feeds. Avivagen works to evaluate what is required to achieve market access in each jurisdiction and develops a regulatory strategy based on the size of the market, its expected receptivity to OxC-beta, the resources required and the expected timing. The following indicative examples of national regulations are provided for illustration purposes.

In Thailand, OxC-beta was deemed to be a safe and naturally-occurring product that is suitable for addition to animal feeds at the industry's discretion and not subject to regulation. Accordingly, Avivagen is free to sell OxC-beta in that market for use in animals destined for domestic consumption.

In China, novel feed ingredients must be tested in field trials conducted by the Ministry of Agriculture Feed Industry Centre (MAFIC) in Beijing. Applicants must engage with MAFIC to design studies that establish safety and efficacy at the intended doses in the species for which approval will be sought. Applicants must then fund the studies, which are run by MAFIC personnel at its facilities.

In the United States, feed ingredients are governed by the provisions of the United States Federal Food, Drug, and Cosmetic Act (FFDCA). The United States Center for Veterinary Medicine (CVM) is responsible for the regulation of animal feed products. Products marketed as dietary supplements or "feed supplements" for animals can be considered "foods" or "new animal drugs" depending on their intended use, with the regulatory status of the product determined by CVM on a case-by-case basis. The United States FDA also carries out its responsibilities for the regulation of animal feed and is empowered to enforce all regulations. This enforcement includes that feed ingredients must be used in accordance with a food additive regulation unless generally recognized as safe for that use (GRAS). Typical feed ingredients such as forages, grains, and most minerals and vitamins are generally recognized as GRAS, as sources of nutrients. Use of a food ingredient that is neither GRAS nor an approved food additive can cause a food to be deemed adulterated, which cannot then be legally marketed in the United States. In order for a feed

ingredient like OxC-beta to be approved, it must meet any criteria set out by the FDA, including that it will pose no meaningful risk to humans.

In Canada, the Canadian Food Inspection Agency (CFIA) verifies that livestock feeds manufactured and sold in Canada or imported are safe, effective and are labelled appropriately. Any additive to feed must be approved for use in livestock by the CFIA if it has not been previously approved for use. In reviewing an application for approval, the CFIA reviews matters such as product characterization, modes of action, history of use(s) and safety considerations. Industry contacts of Avivagen have characterized CFIA regulations as among the most difficult in the world to address.

Avivagen believes that fully-oxidized carotenoids are a previously unrecognized class of nutrients and the Company's regulatory strategy reflects that belief. Specifically, all carotenoids currently consumed in human and animal diets inevitably contain a varying proportion of fully-oxidized carotenoids. While the fully-oxidized carotenoids were not recognized, they are a natural component of foodstuffs and are therefore most logically considered as both natural and GRAS.

For now, Avivagen is focusing its efforts on countries such as Thailand that provide for faster entry into larger markets. A substantive benefit to this approach is the interest by local feed and livestock producers to test OxC-beta in different species, for different applications and at their own expense. Livestock trials now underway in Asia include farmed aquatic species, poultry and swine. The data thereby generated may result in nearer-term commercial sales and might also become available to support applications for regulatory approval in other markets, such as the United States or Canada.

As further peer-reviewed scientific and field trial publications are generated by Avivagen, the Company intends to engage with other national regulators, such as Health Canada, taking the position that OxC-beta is a naturally-occurring and safe nutrient and not a drug.

#### *Corporate Infrastructure*

Avivagen maintains several types of infrastructure relating to its science and business activities (See "Business Model" and "Human Resources"). This includes offices and chemistry capabilities in its Ottawa, Ontario location, offices and biology capabilities in its Charlottetown, P.E.I. location and other business capabilities in various other locations. Avivagen also pays for finished goods storage of its products in Canada and other countries.

#### *Marketing*

Marketing of Avivagen's products differs for each of its products. The four revenue-generating segments of the Corporation are marketed as follows:

- Oximunol™ Chewable Tablets - Marketed by Bayer Animal Health in the United States via its choices of advertising and sales materials and potentially using its (approximately) 150 sales representatives detailing companion animal veterinarians.
- Vivamune™ Health Chews - Marketed by Avivagen using a combination of print, internet, social media and tradeshow methods. The Corporation's resources for such marketing are limited by its current finances, funds generated from product sales or future capital markets activities.
- Bulk OxC-beta™ premix – Avivagen is devoting meaningful amounts of the time and resources to develop this market segment.
- Chemistry Services – Sales of chemistry services have been generated by way of the synthesis of specialty research chemicals for sale in niche markets.

## *Manufacturing*

Avivagen does not maintain its own resources for active ingredient or finished goods manufacturing. It would not be practical or economic for a company of Avivagen's current size and capitalization to maintain and operate the necessary facilities for such production.

Avivagen currently relies on an established producer of beta-carotene for its production of OxC-beta™ and related carotenoids. This firm produces OxC-beta™ under exclusive license from Avivagen and is precluded from producing OxC-beta™ for other parties by virtue of that agreement and Avivagen's portfolio of patents.

The finished form of Oximunol™ is produced at a Contract Manufacturing Organization "CMO" that operates under human-level (current Good Manufacturing Practices ("cGMP")) and produces tableted and sterile products for major multinational pharmaceutical companies.

The finished form of Vivamune™ is produced at a CMO specialized in producing pet supplements and that operates under cGMP and NASC certification and is FDA inspected. This CMO produces its own branded products and high quality private-label products for multiple animal health companies.

Due to the small volumes of active ingredients and finished goods that Avivagen is currently ordering, each of its products (OxC-beta™ active and premix, Oximunol™ and Vivamune™) are produced at a single site. Although each source could ultimately be replaced, Avivagen remains at risk of short-term supply disruptions until it is in a position to carry greater levels of inventory and develop backup and alternative sources of production.

## *Distribution and Pricing*

Bayer Animal Health distributes Oximunol™ and sets its retail price in the United States. Avivagen orders the shipment of finished goods directly from its CMO in accordance with ordering information from Bayer and has no further role in the distribution of this product once it leaves the CMO. At that time, Avivagen invoices Bayer for set transfer prices for the 20 mg and 5 mg product variants of Oximunol™.

Avivagen arranges the distribution of its Vivamune™ product line. Vivamune™ is distributed by way of a contracted order fulfillment and warehousing services company. That firm charges Avivagen a monthly storage fee for maintaining stocks of Vivamune™ and also bills for picking, packing and postage as product orders are conveyed to it by Avivagen. In this arrangement, Avivagen sets the retail price of Vivamune™. Currently, Avivagen is testing pricing for the larger dog, smaller dog and cat variations of this product. At present, the large dog product is priced at U.S. \$22.95 per package of 30 chews and the smaller dog and cat versions at U.S. \$19.95 per package of 30 chews. Inclusion of postage and handling and other discounts may be offered for bulk purchases of product or in relation to special promotions.

Avivagen is pricing its OxC-beta™ livestock premix at price levels that are competitive to widely-used antibiotic growth promoters. OxC-beta premix is currently sold at an active ingredient concentration of 10% and in packages of either 1.0 or 5.0 kg. At inclusion rates of 2.0 to 4.0 parts-per-million "PPM", each kilogram of OxC-beta premix is sufficient to supplement 25 to 50 metric tons of animal feed. Premix pricing is being set by distribution partners in consultation with Avivagen and will be on a per-kg basis - driven by the added cost per ton of feed to producers. Avivagen has arranged for physical distribution of OxC-beta™ premix within Asia and has distribution relationships in several countries in the region. Avivagen expects to formalize those distribution relationships as its sales in Asia accelerate.

Avivagen aims to achieve a gross margin in excess of 50% on each of Oximunol™, Vivamune™ and OxC-beta™ premix and take steps to preserve or enhance profitability as it develops the markets for each product line. However, its products could be over or underpriced for the market supply and demand and in light of the prices of competitive products.

### *Human Resources*

In the course of its research, product development, production, business development and sales functions, the Corporation requires the expertise of biopharmaceutical specialists. To date, the Corporation has not experienced any difficulties in hiring and retaining the professionals and experts it requires for its operations.

As of April 30, 2014, the Corporation has seven employees at its head office in Ottawa, Ontario, Canada, and three employees in its project offices in Charlottetown, Prince Edward Island, Canada. In addition, there are two employees located in the Toronto, Ontario, Canada area, one in Vancouver, British Columbia, Canada and one in Halifax, Nova Scotia, Canada. The Corporation also engages consultants in Canada and internationally for sales and marketing, research and development, product trials, regulatory affairs, capital markets advisory, internet matters and various other business development requirements.

By capabilities, Avivagen has access to broad scientific and business capabilities from its full-time employees. Its employees are the holders of five university degrees in chemistry, three degrees in biology and veterinary sciences and three degrees in business and other social disciplines.

### **RISK FACTORS**

There are certain risks associated with owning securities in Avivagen that holders should carefully consider. The risks and uncertainties below are not the only risks and uncertainties facing the Corporation. Other risks and uncertainties not currently known to the Corporation or that the Corporation currently believe are immaterial may also impair the business, operations and future prospects of the Corporation and cause the price of its securities to decline. If any of the following risks actually occur, the Corporation's business may be harmed and its financial condition and results of operations may be significantly adversely affected. In that event, the trading price of securities of the Corporation could decline, and holders may lose all or part of their investment. In addition to the risks described in the other related filings on SEDAR at [www.sedar.com](http://www.sedar.com), holders of securities should carefully consider each of the following risk factors, in addition to their cumulative effect.

**The Corporation has a history of operating losses. It expects to incur net losses and may never achieve or maintain profitability.**

The Corporation has not been profitable since amalgamation in 2005. Under International Financial Reporting Standards, net losses of approximately \$2.0 million were reported for each of the years ended October 31, 2013 and 2012, respectively. As of October 31, 2013, the Corporation had an accumulated deficit of approximately \$17.3 million. As of April 30, 2014 the accumulated deficit was approximately \$18.2 million. The net loss for the six month period ending April 30, 2014 was approximately \$0.9 million.

The Corporation has not generated any significant revenue from product sales to date and it is possible that it will never have sufficient product sales revenue to achieve profitability. The Corporation might continue to incur losses for the next several years in pursuit of commercialization. To become profitable, the Corporation must successfully develop, manufacture and market its current products as well as continue to identify, develop, manufacture and market new product candidates. It is possible that the Corporation will never have significant product sales revenue. If funding is insufficient at any time in the future, the Corporation may not be able to develop or commercialize its products, take advantage of business opportunities, or respond to competitive pressures.

**The Companies technology and products are not yet commercially successful**

While the company believes there is scientific merit to its discoveries they are not yet successfully commercialized to the point of extensive sales or profitability. Avivagen's products or technologies might not prove sufficiently compelling to potential distributors and end-customers in light of other products

available now or in the future. Specifically, pet owners may choose to use pet supplements that have no scientific basis but more aggressive marketing programs. Livestock producers may choose to continue using antibiotics to promote growth and to prevent disease – even in the face of pressure to adopt alternative solutions. OxC-beta™ could prove unable to compete against such factors.

**The Corporation may need to raise additional capital.**

The need for capital may require the Corporation to:

- engage in equity financings that could result in significant dilution to existing investors;
- delay or reduce the scope of or eliminate one or more development programs;
- obtain funds through arrangements with collaborators or others that may require the Corporation to relinquish rights to technologies, product candidates or products that the Corporation would otherwise seek to develop or commercialize; or license rights to technologies, product candidates or products on terms that are less favourable than might otherwise be available;
- considerably reduce operations; or
- cease operations.

**The Corporation may be unable to maintain or obtain partnerships for one or more of its product candidates, which could curtail future development and negatively affect its share price.**

The Corporation's strategy for the research, development and commercialization of its products may require it to enter into arrangements with corporate collaborators, licensors, licensees and others. Commercial success is dependent upon these outside parties performing their contractual responsibilities.

The amount and timing of resources that these outside parties will devote to these activities may not be within the Corporation's control. The Corporation cannot assure shareholders that such parties will perform any of their obligations as expected. The Corporation also cannot assure shareholders that its current or future collaborators will devote adequate resources to the Corporation's programs. There is a risk that the Corporation could become involved in disputes with its collaborators, which could result in a delay or termination of the related development programs. Such disputes could also result in litigation. The Corporation intends to seek additional collaborative arrangements to develop and commercialize some of its products. The Corporation may not be able to negotiate collaborative arrangements on favourable terms, or at all, in the future, and it cannot assure shareholders that its current or future collaborative arrangements will be successful.

If the Corporation cannot negotiate collaboration, licence or partnering agreements, the Corporation may not achieve profitability and may not be able to continue to develop its product candidates.

**The success of the business depends on regulatory approvals.**

The animal health care field is subject to laws and regulations in every country and that may differ from country to country. Compliance with such laws and regulations can require significant expenditures that may constrain the Corporation's ability to operate in the applicable jurisdiction. Likewise, a breach of legal or regulatory obligations could lead to suspension or revocation of the right to sell in a country or other penalties, any of which will significantly and negatively impact the Corporation's position and competitiveness.

The Corporation's research, development, production and sales depend on regulatory approval of governing bodies for each geographic area in which its products are to be marketed, distributed or sold. Revocation or denial of regulatory approval will prevent the sale, distribution and marketing of products in an area.

Only two of its products, Oximunol™ Chewables and Vivamune™ Health Chews are available for commercial use and sale in North America.

The Corporation's ability to generate revenue is dependent on the successful approval and marketing of OxC-beta in livestock. Regulatory approval for additives to feed for animals intended for human consumption is a lengthy and uncertain process (see "Regulatory Process"). Further, approval in one country does not assure approval in another country. In general, research and development and clinical studies are required to demonstrate the safety and effectiveness of products before the Corporation can submit any regulatory applications for approval.

**The success of company-sponsored and customer-sponsored product trials**

In addition, trials of any product candidates could be unsuccessful, which would prevent the Corporation from advancing, commercializing, or selling its products.

Even if the results of trials are initially positive, it is possible that the Corporation will obtain different results in the later stages of product development or that results seen in trials will not continue. The Corporation cannot assure shareholders that its trials will generate positive results and it similarly cannot assure shareholders that the results will allow it to move towards the commercial use and sale of its products in livestock. Furthermore, negative trial results may cause its business, financial condition, or results of operations to be materially adversely affected.

Preparing, submitting and advancing applications for regulatory approval is complex and expensive. It entails significant uncertainty. A commitment of substantial resources to conduct research and trials will be required if the Corporation is to complete development of its products for use in livestock.

The Corporation's failure to develop safe, commercially viable products would substantially impair or even altogether negate its ability to generate revenues and sustain its operations. Such a failure would materially harm its business and adversely affect its share price.

**The Corporation may not achieve its projected development goals in the time frames the Corporation announces and expects.**

The Corporation has set goals for and makes public statements regarding the expected timing of the accomplishment of objectives material to its success, such as the commencement and completion of trials, the partnership of its products and its ability to secure the financing necessary to continue the development of its products. The actual timing of these events can vary dramatically due to factors such as delays or failures in its trials, the uncertainties inherent in the regulatory approval process, market conditions and interest by partners in its products among other things. The Corporation cannot assure shareholders that its trials will be completed, that it will make regulatory submissions or receive regulatory approvals as planned, or that it will secure partnerships for any of its products. Any failure to achieve one or more of these milestones as planned would have a material adverse effect on its business, financial condition and results of operations.

**If the Corporation fails to attract and retain key employees, the development and commercialization of its products may be adversely affected.**

The Corporation depends on the key members of its scientific and management staff. If the Corporation loses any of these people, its ability to develop products and become profitable could suffer. The risk of being unable to retain key personnel may be increased because the Corporation has not executed long-term employment contracts with its employees, except for with its senior executives. The Corporation's future success will also depend in large part on its ability to attract and retain other highly qualified scientific and management personnel. The Corporation faces competition for personnel from other companies, academic institutions, government entities and other organizations.

**The Corporation may be unable to obtain or enforce patents to protect its technologies from other companies with competitive products, and patents of other companies could prevent it from manufacturing, developing or marketing its products.**

### *Patent protection:*

The patent positions of biotechnology companies are uncertain and involve complex legal and factual questions. There is no consistent policy regarding the breadth of claims set by The United States Patent and Trademark Office (nor by many other patent offices in the world) when it comes to companion animal and livestock patents.

Allowable and patentable subject matter may differ between jurisdictions, as might the scope of patent protection obtainable. If a patent office allows broad claims, the number and cost of patent interference proceedings in the jurisdiction of the office may increase. The risk of infringement litigation may then increase for the same reason. If a jurisdiction narrows the claims allowed, the risk of infringement may decrease, but the value of the Corporation's rights under its patents, licenses and patent applications may also decrease.

The scope of the claims in a patent application can be significantly modified during prosecution before the patent is issued. As a result, the Corporation cannot know whether its pending applications will result in the issuance of patents or, if any patents are issued, whether they will provide it with significant proprietary protection. They could be circumvented, invalidated or found to be unenforceable.

Publication of discoveries in scientific or patent literature can often lag behind actual discoveries. As a result, patent applications filed in the United States generally will be published 18 months after the filing date unless the applicant certifies that the invention will not be the subject of a foreign patent application. In many other jurisdictions, such as Canada, patent applications are published 18 months from the priority date. The Corporation cannot assure shareholders that, even if published, the Corporation will be aware of all such literature. Accordingly, the Corporation cannot be certain that the named inventors of its products and processes were the first to invent that product or process or that the Corporation was the first to pursue patent coverage for its inventions.

### *Enforcement of intellectual property rights:*

It can be complex and costly to protect the rights revealed in published patent applications. The Corporation's commercial success depends in part on its ability to maintain and enforce its proprietary rights, but outcomes here can be uncertain. If third parties engage in activities that infringe the Corporation's proprietary rights, management's focus will be diverted and the Corporation may incur significant costs in asserting its rights. The Corporation may not be successful in asserting its proprietary rights, which could result in its patents being held invalid or a court holding that the third party is not infringing, either of which would harm its competitive position.

Others organizations may design around the Corporation's patented technology. The Corporation may have to participate in interference proceedings declared by the United States Patent and Trademark Office, European opposition proceedings, or other analogous proceedings in other parts of the world. These proceedings to determine priority of invention and the validity of patent rights granted or applied for could result in substantial cost and delay, even if the eventual outcome is favourable to the Corporation. The Corporation cannot assure shareholders that its pending patent applications, if issued, would be held valid or enforceable.

### *Trade secrets*

The Corporation also relies on trade secrets and know-how, as well as confidentiality provisions in its agreements with its collaborators, employees and consultants to protect its intellectual property. However, the Corporation's counterparties may not comply with the terms of their agreements and the Corporation might be unable to adequately enforce its rights against these people or obtain adequate compensation for the damages caused by their unauthorized disclosure or use of trade secrets or know how. The

Corporation's trade secrets or those of its collaborators may become known or may be independently discovered by others.

**The Corporation is dependent on sole suppliers for its raw materials and finished goods.**

The Corporation is dependent on sole suppliers for its raw materials and finished goods. Any disruption to the activities of such suppliers would adversely affect it. Due to the small volumes of active ingredients and finished goods that the Corporation currently orders, each of its products (OxC-beta™ active and premix, Oximunol™ and Vivamune™) are produced at a single site. Any disruption in its short-term supply for whatever reason will have a negative impact on its financial condition and results of operations.

The Corporation outsources the production and distribution of its OxC-beta™-based products. Should a labor disruption occur at the production or distribution site, sales of its products would be adversely impacted and would have a negative impact on its financial condition and its operational results.

**The Corporation is dependent on one technology.**

The Corporation has one main technology related to fully oxidized carotenoids, which is incorporated in its three products. The failure of any of its products to achieve market penetration will have a negative impact on its financial condition and results of operations.

**The Corporation's products and product candidates may infringe the intellectual property rights of others, or others may infringe on its intellectual property rights which could increase its costs.**

The Corporation's success also depends on avoiding infringement of the proprietary technologies of others. In particular, there may be certain issued patents and patent applications claiming subject matter which the Corporation or its collaborators may be required to license in order to research, develop or commercialize its product candidates. In addition, based on patents or other intellectual property rights, third parties may assert infringement or other intellectual property claims against the Corporation. An adverse outcome in these proceedings could subject Avivagen to significant liabilities to third parties, require disputed rights to be licensed from third-parties or require it to cease or modify its use of the technology. The Corporation cannot assure shareholders that in the event that the Corporation is required to license a technology, a license under such patents and patent applications will be available on acceptable terms or at all. Further, the Corporation may incur substantial costs defending itself in lawsuits against charges of patent infringement or other unlawful use of another's proprietary technology. The Corporation may also need to bring claims against others who the Corporation believes are infringing its rights in order to become or remain competitive and successful.

**If product liability claims are brought against the Corporation or it is unable to obtain or maintain product liability insurance, the Corporation may incur substantial liabilities that could reduce its financial resources.**

The commercial use of products in companion animals and livestock involves significant exposure to product liability claims. The Corporation has obtained limited product liability insurance coverage; however, its insurance coverage may be insufficient to protect it against all product liability damages. Regardless of merit or eventual outcome, liability claims may result in decreased demand for a future product, injury to reputation, loss of revenue, costs of litigation, distraction of management and substantial monetary awards to plaintiffs. Additionally, the Corporation may not have sufficient financial resources to complete development or commercialization of any of its products if the Corporation is required to pay a product liability claim, and its business and results of operations may be adversely affected as a result. Furthermore, insurance will not protect it against some of its own actions such as negligence.

**The Corporation may be the subject of litigation.**

From time to time, the Corporation may be the subject of litigation. Damages claimed under such litigation may be material or may be indeterminate. The outcome of such litigation may materially impact our financial condition or results of operations. While the Corporation assesses the merits of each lawsuit and defends itself accordingly, the Corporation may be required to incur significant expenses or devote significant resources to defend against litigation.

Third parties may own patents relating to competing product formulations. Liability for damages may arise from potential claims by these companies that the Corporation has infringed their proprietary technology and may delay the development and commercialization of our products. Competitors in the animal health care industry could make such claims against the Corporation for strategic purposes. Defending patent litigation is time-consuming and costly and will negatively impact our financial condition and results of operations.

**The Corporation's major markets are outside of Canada and may expose it to political and legal risk.**

The Corporation believes that its business opportunities lie primarily outside of Canada, including in the rest of North America, Asia and South America. Operating in foreign countries provides further market opportunities but also exposes the Corporation to political risks, country risks and currency risks in many forms. The forms of these risks can include tariff and non-tariff trade barriers, potential confiscation of goods or capital, and revolution, both violent and non-violent. Any political or legal disruption in its major markets will negatively impact its financial condition and results of operations.

**The Corporation's competitors may be better capitalized and have more attractive product offerings than the Corporation does.**

The Corporation competes with both large and small companies offering supplements that purport to help to maintain the health of companion and livestock animals. Such companies offer products that compete with the Corporation's and could be found preferable by customers due to their technical merits, by way of superior marketing resources or skills, or for other reasons. In addition, competitors may be better capitalized than the Corporation. The Corporation cannot assure shareholders that it will succeed in the face of such competition and its financial condition and results of operations will be significantly negatively impacted.

**The Corporation's share price has been and may continue to be volatile and an investment in its common shares could suffer a decline in value.**

A potential investor should consider an investment in the Corporation's common shares as risky. A potential investor should invest only if he or she can withstand a significant loss and wide fluctuations in the market value of the investment. Securities analysts pay only limited attention to the Corporation and the Corporation frequently experiences an imbalance between supply and demand for its common shares. The market price of its common shares has been highly volatile and may continue to be volatile. This leads to a heightened risk of securities litigation pertaining to such volatility.

Factors affecting its common share price include but are not limited to:

- its financial position and doubt as to whether the Corporation will be able to continue as a going concern;
- its ability to raise additional capital;
- the progress of its trials;
- its ability to maintain or obtain partnerships and collaborators to assist with the future development of its products;
- general market conditions;
- announcements of technological innovations or new product candidates by the Corporation, its collaborators or its competitors;

- published reports by securities analysts;
- developments in patent or other intellectual property rights;
- the cash and short term investments held the Corporation and its ability to secure future financing;
- public concern as to the safety and efficacy of products that the Corporation and its competitors develop; and
- the level of shareholder interest in the Corporation's common shares.

**Future sales of common shares by the Corporation or by its existing shareholders could cause its share price to fall.**

The issuance of common shares by the Corporation could result in significant dilution in the equity interest of existing shareholders and adversely affect the market price of its common shares. Sales by existing shareholders of a large number of its common shares in the public market and the issuance of shares issued in connection with strategic alliances, or the perception that such additional sales could occur, could cause the market price of its common shares to decline and have an undesirable impact on its ability to raise capital.

**The Corporation is susceptible to stress in the global economy and therefore, its business may be affected by current and future global financial conditions.**

The Corporation's operations, business, financial condition and the trading price of its common shares could be materially adversely affected by the continuance of the high levels of volatility and market turmoil that have marked recent years. Furthermore, general economic conditions may have a great impact on the Corporation, including its ability to raise capital, its commercialization opportunities and its ability to establish and maintain arrangements with others for research, manufacturing, product development and sales.

**There is no assurance that an active trading market in the Corporation's common shares will be sustained.**

The Corporation's common shares are listed for trading on the TSX Venture Exchange. The Corporation cannot assure shareholders that an active trading market in its common shares on the stock exchange will be sustained or that the Corporation will be able to maintain its listing.

## **DIVIDENDS**

The Corporation currently has future obligations to repay government-granted research and development funding to the Atlantic Canada Opportunities Agency ("ACOA"). The funding is non-interest bearing and is repayable based on 10% of the Corporation's sales of the prior year. A stipulation of this funding agreement is that no dividends be distributed until the funding is repaid. As such, the Corporation is prohibited from distributing dividends on its Common Shares. The Corporation has not paid any dividends in the past.

## **DESCRIPTION OF CAPITAL STRUCTURE**

### *Common Shares*

The authorized capital of the Corporation consists of an unlimited number of common shares without par value. As at April 30, 2014, there were 171,375,395 (149,745,472 as at October 31, 2013) common shares issued and outstanding as fully paid.

The holders of common shares are entitled to one vote per common share at meetings of the Shareholders and upon liquidation, dissolution or winding-up, to share equally in such assets of the Corporation as are distributable to the holders of common shares.

### Warrants

As at April 30, 2014 the Corporation had 65,758,547 subscriber warrants and 4,659,160 agent warrants outstanding, representing a total of 70,417,707 warrants outstanding. The details are as follows:

<b>Subscriber Warrants</b>				
Date of Issue	Warrants	Term (Years)	Year of Expiry	Exercise Price
23-Oct-09	8,432,517	5	2014	\$ 0.20
11-Nov-09	1,566,333	5	2014	\$ 0.20
23-Nov-11	5,000,000	5	2016	\$ 0.10
28-Dec-11	510,000	5	2016	\$ 0.10
30-Jan-12	3,060,000	5	2017	\$ 0.10
16-May-12	5,901,715	3	2015	\$ 0.10
29-Jun-12	1,429,000	3	2015	\$ 0.10
22-Oct-12	5,071,429	3	2015	\$ 0.10
05-Mar-13	9,878,573	3	2016	\$ 0.10
02-Oct-13	14,823,601	3	2016	\$ 0.12
14-Nov-13	8,853,235	3	2017	\$ 0.12
11-Apr-14	1,232,144	3	2017	\$ 0.12
<b>Totals:</b>	<b>65,758,547</b>			

<b>Agent Warrants</b>				
Date of Issue	Warrants	Term (Years)	Year of Expiry	Exercise Price
23-Oct-09	748,752	5	2014	\$ 0.15
11-Nov-09	156,633	5	2014	\$ 0.15
23-Nov-11	450,000	5	2016	\$ 0.10
30-Jan-12	276,000	5	2017	\$ 0.10
16-May-12	46,857	3	2015	\$ 0.10
22-Oct-12	571,429	3	2015	\$ 0.10
05-Mar-13	634,800	3	2016	\$ 0.10
02-Oct-13	1,774,689	2	2015	\$ 0.10
<b>Totals:</b>	<b>4,659,160</b>			

### Stock Options

The Corporation adopted a stock option plan ("Option Plan") on October 31, 2005 and amended the plan on March 11, 2013 and on February 13, 2014. The Option Plan is administered by the Board of Directors of the Corporation, which establishes exercise prices, at not less than market price on the date of grant, and vesting periods, which to date have been set between one day and three years. Options under the Option Plan are exercisable for five years from the date of grant. The maximum number of common shares reserved for issuance for options that may be granted under the Option Plan is 15,907,934, which represents 9.5% of the total common shares outstanding as of January 31, 2014.

Details relating to the Option Plan are as follows:

	<b>Total</b>	<b>Weighted average exercise price</b>
<b>Balance Outstanding at 1 November 2012</b>	<b>2,038,500</b>	<b>\$ 0.15</b>
Granted	8,687,763	\$ 0.10
Expired and forfeited	(1,066,500)	\$ 0.20
<b>Balance Outstanding at 31 October 2013</b>	<b>9,659,763</b>	<b>\$ 0.105</b>
Granted	1,000,000	\$ 0.10
Expired and forfeited	0	\$ 0
<b>Balance Outstanding at 31 January 2014</b>	<b>10,659,763</b>	<b>\$ 0.104</b>
Granted	360,000	\$ 0.10
Expired and forfeited	(686,000)	\$ 0.14
<b>Balance Outstanding at 30 April 2014</b>	<b>10,333,763</b>	<b>\$ 0.1017</b>

<b>Options exercisable as at:</b>	<b>Total</b>	<b>Weighted average exercise price</b>
30 April 2014	9,333,763	\$ 0.1015
31 October 2013	8,223,196	\$ 0.105

<b>Exercise price</b>	<b>Number</b>	<b>Options Weighted Remaining (Months)</b>	<b>Outstanding Average Contractual Life</b>	<b>Number</b>	<b>Options Weighted Remaining Life (Months)</b>	<b>Exercisable Average Contractual</b>
\$0.10	360,000		59.2	360,000		59.2
\$0.10	8,237,763		46.4	8,237,763		46.4
\$0.10	500,000		23.6	500,000		23.6
\$0.10	64,000		35.9	64,000		35.9
\$0.10	1,000,000		53.6	Nil		53.6
\$0.125	22,000		11.5	22,000		11.5
\$0.205	150,000		5.0	150,000		5.0
	<b>10,333,763</b>			<b>9,333,763</b>		

Subsequent to April 30, 2014, (on May 20, 2014) the Corporation granted an additional 3,066,667 stock options to management, employees, the Board of Directors and consultants. The stock options vest over 8 quarters and with a strike price of \$0.07.

#### *Repayable Government Funding*

In 2006, the Corporation entered into an agreement to obtain repayable funding from the Atlantic Canada Opportunities Agency ("ACOA"). Under the agreement, the Corporation may draw up to 75% of certain of its research and development project expenditures up to \$2,052,131 over a four-year period. The full amount of \$2,052,131 was cumulatively drawn under the agreement. The research and development

project centered principally upon OxBC, a proprietary product developed from beta-carotene. OxBC is a mixture containing innumerable oxidation products representing a cross-section of the spectrum of the numerous carotenoid oxidation products that occur naturally. The key objective of the project was to develop and patent new intellectual property associated to the application of OxBC and related compounds as they correspond to skin care applications, veterinary uses, companion animals, and aquaculture and livestock additives. Also the project was to establish business relationships suitable for the commercialization of OxBC.

In 2010, the Corporation entered into another ACOA arrangement. Under the new agreement, the Corporation may draw up to 57% of certain of its research and development expenditures up to \$2,000,000 over four years and expired on April 30, 2014. The project relates to the development of natural, non-antibiotic products enhancing food animal productivity through the prevention and control of common livestock bacterial diseases. As at 31 October 2013, \$931,528 was drawn under the new ACOA arrangement. As of April 30, 2014, \$1,065,711 was drawn under the agreement.

The repayable funding is recorded at the amounts drawn under the agreement. Balances outstanding carry no interest as long as the agreement is not in default.

Balances outstanding are repayable over a ten-year period, commencing June 30, 2014 and yearly repayments are capped at 10% of revenues of the prior year from the resulting product.

Under the first ACOA agreement the repayments are over a ten year period and commence on June 30, 2014 and are capped at the greater of 10% of the prior year's revenue resulting from the product develop under the ACOA project and by the following amount:

June 30, 2014	\$125,000
June 30, 2015	\$150,000
June 30, 2016	\$175,000
June 30, 2017	\$200,000
June 30, 2018	\$300,000
June 30, 2019	\$350,000
June 30, 2020	\$452,131
June 30, 2021	\$100,000
June 30, 2022	\$100,000
June 30, 2023	\$100,000

The actual June 30, 2014 payment was in the amount of \$1,193.

Under the second ACOA agreement the repayments are over a ten year period and are capped at 10% of the prior year's revenue resulting from the product develop under the ACOA project. The repayment commences on May 15, 2016.

The Corporation is in compliance with the terms and conditions of the ACOA agreements.

#### *Stock Appreciation Rights*

On March 11, 2013, the Corporation adopted a stock appreciation rights plan (SARs). The SARs issued on March 20, 2013 to the CEO vest and are exercisable immediately, at the option of the executive, at the excess of the current stock price over the fair value of the stock price. The CEO was issued 2,424,242 SARs with a stock price and exercise price of 8.25 cents.

On May 20, 2014, the Chair of the Board of Directors was granted 600,000 SARs vesting over eight quarters, with an exercise price of 7 cents. The SARs are redeemable into cash or common shares of the Corporation when elected by the CEO or Chair of the Board. The Corporation retains the option to convert to cash or common shares.

As the conversion of the SARs into cash or common shares is at the option of the Corporation, and it is probable that the common share conversion would be elected by the Corporation, IFRS requires the transaction to be accounted for as equity-settled share-based compensation.

## MARKET FOR SECURITIES

### *Trading Price and Volume*

The Common Shares are listed on the TSX.V under the trading symbol “VIV”. The closing price of the Common Shares on the TSX.V on April 30, 2014 was \$0.07.

The following table sets out the high and low trading of the Common Shares for the periods indicated, as reported by the TSX.V in Canadian dollars.

<b>Period</b>	<b>High</b>	<b>Low</b>	<b>Trading Volume</b>
April 2014	\$ 0.075	\$ 0.060	4,011,350
March 2014	\$ 0.080	\$ 0.060	6,361,862
February 2014	\$ 0.075	\$ 0.055	8,469,610
January 2014	\$ 0.070	\$ 0.060	2,259,734
December 2013	\$ 0.075	\$ 0.060	2,684,400
November 2013	\$ 0.080	\$ 0.065	4,497,458
October 2013	\$ 0.100	\$ 0.070	5,520,200
September 2013	\$ 0.090	\$ 0.070	5,109,800
August 2013	\$ 0.090	\$ 0.070	6,075,800
July 2013	\$ 0.100	\$ 0.080	16,501,700
June 2013	\$ 0.110	\$ 0.070	8,984,400
May 2013	\$ 0.090	\$ 0.060	1,894,900
April 2013	\$ 0.090	\$ 0.070	1,451,700
March 2013	\$ 0.110	\$ 0.080	7,089,600
February 2013	\$ 0.090	\$ 0.070	4,540,900
January 2013	\$ 0.100	\$ 0.050	6,952,700
December 2012	\$ 0.060	\$ 0.050	1,674,400
November 2012	\$ 0.070	\$ 0.050	2,177,500

## PRIOR SALES

The following summarizes details of the common shares and warrants issued by the Corporation and exercised during the 24 month period prior to the date of this annual information form.

<b>Date</b>	<b>Warrants issued (exercised)</b>	<b>Exercise price</b>	<b>Shares issued</b>	<b>Issue price</b>	<b>Total</b>
21-Feb-2012 <sup>(1)</sup>	(330,000)	\$0.10	330,000	-	\$33,000
16-May-2012 <sup>(2)</sup>	6,101,715	\$0.10	6,101,715	\$0.07	\$427,120
29-Jun-2012 <sup>(3)</sup>	1,429,000	\$0.10	1,429,000	\$0.07	\$100,030
22-Oct-2012 <sup>(4)</sup>	5,071,429	\$0.10	5,071,429	\$0.07	\$355,000
	571,429 agent		285,714 agent		
21-Jan-2013 <sup>(5)</sup>	(500,000)	\$0.10	500,000	-	\$50,000
25-Jan-2013 <sup>(6)</sup>	(430,000)	\$0.10	430,000	-	\$43,000
5-Mar-2013 <sup>(7)</sup>	9,878,573	\$0.10	9,878,573	\$0.07	\$691,500
	634,800 agent				
12-Apr-2013 <sup>(8)</sup>	-	-	10,612,757	\$0.068	\$721,688 debt-to-equity exchange
23-Apr-2013 <sup>(9)</sup>	3,975,000	\$0.10	-	-	-

	extension of warrant				
18-Jun-2013 <sup>(10)</sup>	(500,000)	\$0.10	500,000	-	\$50,000
21-Jun-2013 <sup>(11)</sup>	(150,000)	\$0.10	150,000	-	\$15,000
10-Jul-2013 <sup>(12)</sup>	(200,000)	\$0.10	200,000	-	\$20,000
2-Oct-2013 <sup>(13)</sup>	14,823,601	\$0.12	29,647,202	\$0.07	\$2,075,304
	1,774,689 agent	\$0.10			
14-Nov-2013 <sup>(14)</sup>	8,853,236	\$0.12	17,706,471	\$0.07	\$1,239,453
11-Apr-2014 <sup>(15)</sup>	-	-	1,459,164	\$0.056	\$81,713
					debt-to-equity exchange
11-Apr-2014 <sup>(16)</sup>	1,232,144	\$0.12	2,464,288	\$0.07	\$172,500

- (1) On 21 February, 2012 and 27 February, 2012, 330,000 warrants were exercised at \$0.10 per warrant for 330,000 common shares, raising \$33,000. The warrants were exercised by a related party to the Corporation.
- (2) On 16 May, 2012, the Corporation completed a non-brokered private placement providing total gross proceeds of \$427,120 resulting from the issuance of 6,101,715 Units and at a price of \$0.07 per Unit. Each Unit also consisted of one warrant. Each warrant entitles the holder to acquire one common share of Avivagen at an additional purchase price of \$0.10 per share for three years from the date of issuance. The Corporation paid \$3,280 in commissions and also issued to the agents 46,857 warrants on the same terms as the warrants issued to the subscribers in this placement.
- (3) On 29 June, 2012, the Corporation completed a non-brokered private placement providing total gross proceeds of \$100,030 resulting from the issuance of 1,429,000 Units and at a price of \$0.07 per Unit. Each Unit also consisted of one warrant. Each warrant entitles the holder to acquire one common share of Avivagen at an additional purchase price of \$0.10 per share for three years from the date of issuance.
- (4) On 22 October 2012, the Corporation issued 5,071,429 common shares and an equal number of common share purchase warrants for gross proceeds of \$355,000 through a non-brokered private placement. The private placement involved the sale of units, each comprised of one common share and one common share purchase warrant, for a unit price of \$0.07. Each warrant entitles the holder to acquire one common share of Avivagen at an additional purchase price of \$0.10 per share for three years from closing. In connection with the placement Avivagen also issued a total of 285,714 common shares and 571,429 warrants to agents as commission for their efforts. The warrants are on the same terms as the warrants issued to subscribers.
- (5) On 21 January 2013, 500,000 warrants were exercised at \$0.10 per warrant for the issuance of 500,000 common shares, raising \$50,000. The warrants were exercised by a related party to the Corporation.
- (6) On 25 January 2013, 430,000 warrants were exercised at \$0.10 per warrant for the issuance of 430,000 common shares, raising \$43,000. The warrants were exercised by a related party to the Corporation.
- (7) On 5 March, 2013, the Corporation issued a total of 9,878,573 common shares and an equal number of common share purchase warrants for gross proceeds of \$691,500 through a non-brokered private placement. This private placement involved the sale of units, each comprised of one common share and one common share purchase warrant, for a unit price of \$0.07. Each warrant entitles the holder to acquire one common share of the Corporation at an additional purchase price of \$0.10 per share for three years from closing. In connection with the placement the Corporation also paid a total of \$44,436 in cash and issued a total of 634,800 warrants to agents as commissions. The warrants are on the same terms as the warrants issued to subscribers.
- (8) On 12 April 2013, the Corporation issued 10,612,757 common shares at a price of \$0.068 in settlement of \$721,668 of trade payables and other obligations. Some of the obligations were settled with related parties to the Corporation.
- (9) On 24 April 2013, the Corporation issued 1,125,000 common shares at \$0.08 in partial settlement of a trade payable for total proceeds of \$90,000 (See note 19).
- (10) On 18 June 2013, 500,000 warrants were exercised at \$0.10 per warrant for the issuance of 500,000 common shares to raise \$50,000. The warrants were exercised by a related party to the Corporation.
- (11) On 21 June 2013, 150,000 warrants were exercised at \$0.10 per warrant for the issuance of 150,000 common shares to raise \$15,000. The warrants were exercised by a related party to the Corporation.
- (12) On 10 July 2013, 200,000 warrants were exercised at \$0.10 per warrant for the issuance of 200,000 common shares to raise \$20,000. The warrants were exercised by a related party to the Corporation.

- (13) On 2 October 2013, the Corporation issued 29,647,202 common shares and 14,823,601 investor warrants for a unit price of \$0.07. Each investor warrant entitles the holder to acquire one common share of the Corporation at an additional purchase price of \$0.12 per share for three years from closing. In connection with the placement, the Corporation also paid a total of \$124,288 in cash and issued a total of 1,774,689 agent warrants as commissions. These agent warrants entitle the holder to acquire one common share of the Corporation at an additional purchase price of \$0.10 per share for two years from closing.
- (14) On 14 November 2013, the Corporation issued 17,706,471 common shares at \$0.07 per share with one-half of a common share purchase warrant for total proceeds of \$1,239,453. The issuance cost was \$53,573. Each whole warrant entitles the holder to acquire one common share of the Corporation at a price of \$0.12 per share for three years after closing.
- (15) On 11 April 2014, the Corporation issued 1,459,164 common shares at \$0.056 per share to settle payables to related parties of \$81,713.
- (16) On 11 April 2014, the Corporation issued 2,464,288 common shares at \$0.07 per share with one-half of a common share purchase warrant for total proceeds of \$172,500. Each whole warrant entitles the holder to acquire one common share of the Corporation at a price of \$0.12 per share for three years after closing. All of these financial instruments were acquired by related parties to the Corporation.

## DIRECTORS AND OFFICERS

### *Directors and Officers of the Corporation*

As of April 30, 2014, the directors and executive officers of the Corporation (as a group) beneficially owned, or controlled or directed, directly or indirectly, a total of 9,905,920 common shares, representing 5.780% of the Corporation's total issued and outstanding common shares on a non-fully diluted basis.

The information is given below with respect to each of the current directors and executive officers of the Corporation. The term of office of each director expires at the end of the next annual meeting of shareholders.

The following table sets forth the name, province or state and country of residence of each director and executive officer of the Corporation, as well as such individual's position within the Corporation, principal occupations within the five (5) preceding years and number of common shares beneficially owned by each such director or executive officer. Information as to residence, principal occupation and common shares owned is based upon information furnished by the person concerned and is as at April 30, 2014.

Name and Residence	Present Position and Offices with the Corporation	Principal Occupations within the Five Preceding Years	Director Since	Number of Common Shares of the Corporation Held
Dr. Graham Burton Ontario, Canada	Director, Commercialization Science	March 11, 2013 to Present – Director Commercialization Science of the Corporation  August 2005 to March 11, 2013 – President of the Corporation (Avivagen)  November 2010 to March 11, 2013 – Managing Director of Research Coordination of the Corporation (Avivagen)  August 2005 to Sept 2008 – Chief Executive Officer of the Corporation (Chemaphor)  December 1997 to August 2005 – President and Scientist at Ocell Inc.  October 2003 to August 2005 – Chief Executive Officer at Ocell Inc.	August 4, 2005	2,375,111 (1)

Name and Residence	Present Position and Offices with the Corporation	Principal Occupations within the Five Preceding Years	Director Since	Number of Common Shares of the Corporation Held
Dr. Janusz Daroszewski Ontario, Canada	Director, Product Development & Quality Assurance	<p>March 11, 2013 to Present – Director, Product Development &amp; Quality Assurance of the Corporation (Avivagen)</p> <p>November 2010 to March 11, 2013 -- Managing Director of Chemistry and Technical Support of the Corporation (Avivagen)</p> <p>August 2005 to November 2010 – Chief Scientific Officer of the Corporation (Chemaphor)</p> <p>December 1997 to August 2005 -- Chief Scientific Officer at Ocell Inc.</p>	August 4, 2005	2,153,414 (2)
David Hankinson Nova Scotia, Canada	Executive Director	<p>March 11, 2013 to Present – Executive Director of the Corporation (Avivagen)</p> <p>October 2010 to March 11, 2013 – Chief Executive Officer of the Corporation (Avivagen)</p> <p>August 2005 to October 2010 -- Chairman of the Board of the Corporation (Chemaphor)</p> <p>December 1997 to August 2005 -- Board Chairman at Ocell Inc.</p>	August 4, 2005	126,562 (3)
Dr. Chandra Panchal Quebec, Canada	Director	<p>October 2008 to Present - Managing Director, Panford Investment Corp.</p> <p>2001 to Present - President &amp; CEO, Axcelon Biopolymers Corp.</p> <p>1989 to 2006 - Co-founder, President/CEO, Senior Executive VP, Procyon Biopharma Inc</p> <p>2006 to 2008 - Executive VP, Business Development, Licensing &amp; IP, Ambrilia Biopharma Inc.</p>	August 4, 2005	621,085 (4)
G.F. Kym Anthony Ontario, Canada	Director	<p>2007 to Present Chair, Hybrid Partners and Executive Chair, Top Meadow Investments, Inc.</p> <p>2005 to 2007 Dundee Securities</p> <p>1998 to 2005 First Marathon –National Bank Financial - President and CEO</p> <p>1993 to 1998 CEO and Vice-Chair: Toronto Dominion – TD Securities</p> <p>1980 to 1993 Wood Gundy (CIBC World Markets)</p>	April 14, 2014	1,428,572 (5)
Amin Khalifa California, USA	Director	<p>October 2010 to present - CFO &amp; Corporate Vice President, Iris International Inc.</p> <p>January 2008 to September 2010 - Principal Khalifa Management Consulting</p> <p>August 2006 to September 2007 - Executive Vice President &amp; CFO Leap Wireless</p> <p>August 2003 to August 2006 - Executive Vice President &amp; CFO Apria Healthcare</p>	June 23, 2010	2,263,176 (6)
Cameron Groome Ontario, Canada	Chief Executive Officer, President	<p>March 2013 to present – Chief Executive Officer and President of the Corporation (Avivagen)</p> <p>August 2012 to February 2013 – External Board Advisor, Trillium Therapeutics</p> <p>June 2006 to April 2012 – Executive Vice President, Corporate and Strategic Development, Bioniche Life Sciences Inc.</p>	April 24, 2013	588,000 (7)

Name and Residence	Present Position and Offices with the Corporation	Principal Occupations within the Five Preceding Years	Director Since	Number of Common Shares of the Corporation Held
Christopher Boland Ontario, Canada	Chief Financial Officer	July 2012 to present CFO of the Corporation (Avivagen) February 2009 to present - Chris Boland Professional Corporation – Public Accountancy 2004 to February 2009 – General Manager of Finance and Tax - Canada Post Corporation	N/A	350,000 (8)

- (1) Includes 947,165 common shares held by Dundee Securities in trust for Graham W. Burton, 206,708 common shares held by Dundee Securities in trust for Hedy Burton and 828,425 common shares held by Hedy Burton. Does not include 1,600,000 options held by Mr. Burton, 766,472 warrants held by Mr. Burton, 223,254 warrants held by Dundee Securities in trust for Graham W. Burton and 217,839 warrants held by Dundee Securities in trust for Hedy Burton.
- (2) Includes 288,448 common shares held by Dundee Securities Corp. in trust for Janusz Daroszewski, 155,114 common shares held by Dundee Securities Corp. in trust for Malgorzata Daroszewska and 796,593 common shares held by Malgorzata Daroszewska. Does not include 1,600,000 options, 570,637 warrants held by Mr. Daroszewski, 88,448 warrants held by Dundee Securities Corp. in trust for Janusz Daroszewski, 88,448 warrants held by Dundee Securities Corp. in trust for Malgorzata Daroszewska, 445,637 warrants held by Malgorzata Daroszewska.
- (3) Does not include 2,106,000 options and 105,152 warrants.
- (4) Does not include 298,000 options and 100,000 warrants held by Mr. Panchal.
- (5) Does not include 714,286 warrants. Does not include 600,000 options and 600,000 SARs held by Mr. Anthony.
- (6) Does not include 282,000 options held by Mr. Khalifa.
- (7) Includes 278,000 common shares held in RRSP Account, 30,000 common shares held in TFSA Account and 30,000 common shares held in Spouse's TFSA Account. Does not include 3,204,340 options, 2,424,242 stock appreciation rights and 125,000 warrants held by Mr. Groome.
- (8) Does not include 550,000 options and 125,000 warrants held by Mr. Boland.

#### *Corporate Cease Trade Orders*

No director or executive officer of the Corporation, is, or within the ten years prior to April 30, 2014 has been, a director, chief executive officer or chief financial officer of any company that was the subject of a cease trade order or similar order or an order that denied the relevant company access to any exemptions under securities legislation for a period of more than 30 consecutive days, while such director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer of the company being the subject of such order, or that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer in the company being the subject of such order and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer of the subject company.

#### *Corporate Bankruptcies*

To the knowledge of the Corporation, no director or executive officer, or a shareholder holding a sufficient number of securities in the capital of the Corporation to affect materially the control of the Corporation, is, or within ten years prior to the date of this report has been, a director or executive officer of any company, that while that person was acting in that capacity or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or

insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets except as follows:

Kym Anthony was Chairman of the Board of Directors from March 2012 to June 2012 of PCAS Patient Care Automation Services Inc. ("PCAS"), a private company incorporated under the *Canada Business Corporations Act*. On March 2012, PCAS applied and was granted protection from its creditors pursuant to the Companies' Creditors Arrangement Act ("CCAA"). On June 7 2012, PCAS filed an assignment into bankruptcy pursuant the provisions of the *Bankruptcy and Insolvency Act*. In June 2012, PCAS was sold out of the CCAA and continues its operations.

#### *Penalties or Sanctions*

To the best of the Corporation's knowledge, no director or executive officer of the Corporation, and no shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation, has been subject to any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or any other penalties or sanctions imposed by a court or regulatory body that would be likely to be considered important to a reasonable investor making an investment decision.

#### *Personal Bankruptcies*

To the best of the Corporation's knowledge no director or executive officer of the Corporation, and no shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation, nor any personal holding company of any such person, has, during the ten years prior to the date of this report, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or has been subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold his, her or its assets.

#### *Conflicts of Interest*

There are potential conflicts of interest to which the directors or officers of the Corporation may be subject in connection with the operations of the Corporation. Some of the directors and officers are engaged in and will continue to be engaged in corporations or businesses which may be in competition with the business of the Corporation. Accordingly, situations may arise where the directors and officers will be in direct competition with the Corporation.

The Corporation's directors and officers may serve as directors or officers of other companies or have significant shareholdings in other companies and, to the extent that such other companies may participate in ventures in which the Corporation may participate, the directors of the Corporation may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. If such conflict of interest arises at a meeting of the Corporation's directors, a director who has such a conflict will abstain from voting for or against the approval of such participation or such terms. From time to time several companies may participate in the research and development of biopharmaceutical products thereby allowing for the participation in larger programs, permitting involvement in a greater number of programs and reducing financial exposure in respect of any one program. It may also occur that a particular company will assign all or a portion of its interest in a particular program to another of these companies due to the financial position of the Corporation making the assignment. In accordance with the *Canada Business Corporations Act*, the directors of the Corporation are required to act honestly, in good faith and in the best interests of the Corporation. In determining whether or not the Corporation will participate in a particular program and the interest therein to be acquired by it, the directors will primarily consider the degree of risk to which the Corporation may be exposed and its financial position at that time.

### *Related Party Transactions*

According to International Financial Reporting Standards (IFRS), parties are considered to be related if one party has the ability to “control” the other party or have significant influence on the other party in making financial, commercial and operational decisions.

Related parties to the Corporation include:

- Avivagen Animal Health, Inc., its wholly-owned subsidiary; and
- All Officers and Directors and the corporations they influence or control.

## **LEGAL PROCEEDINGS AND REGULATORY MATTERS**

From time to time, the Corporation may be the subject of litigation arising out of its operations. These claims (if any) are not currently expected to have a material impact on the Corporation’s financial position. Management, the Board of Directors and Corporate counsels currently know of no material current or threatened legal proceedings as of April 30, 2014.

## **CORPORATE GOVERNANCE**

### *Audit Committee*

The full text of the Corporation’s Audit Committee Charter is appended hereto as Appendix “A”.

The Corporation is not required to have and does not have an executive committee of the board of directors. The Corporation has an audit committee of the board of directors comprised of Amin Khalifa, Kym Anthony, and Dr. Chandra Panchal. Mr. Khalifa is Chair of the Audit Committee. All members of the audit committee are independent and are financially literate. Dr. Panchal served as President and CEO to Axcelon Biopolymers Corporation and Procyon Biopharma Inc. Mr. Khalifa has held chief financial officer and other executive positions with public and private corporations and has an MBA in finance and a BS in Industrial Engineering from Lehigh University. Mr. Anthony served as CEO of TD Securities and National Bank Financial and currently serves as Chairman of ProMetric Life Sciences Inc, DFG Investment Advisors, and Com Dev International.

The Audit Committee is mandated to monitor audit functions, the preparation of financial statements, review press releases on financial results, review other regulatory documents as required, and meet with outside auditors independently of management.

Avivagen has adopted policies and procedures with respect to the pre-approval of audit and permitted non-audit services by NVS Chartered Accountants. The Audit Committee has established a budget for the provision of a specified list of audit and permitted non-audit services that the Audit Committee believes to be typical, recurring or otherwise likely to be provided by NVS Chartered Accountants. The budget generally covers the period between the adoption of the budget and the next meeting of the Audit Committee, but at the option of the Audit Committee it may cover a longer or shorter period. The list of services is sufficiently detailed as to the particular services to be provided to ensure that: (i) the Audit Committee knows precisely what services it is being asked to pre-approve; and (ii) it is not necessary for any member of management to make a judgment as to whether a proposed service fits within the preapproved services.

Subject to the next paragraph, the Audit Committee has delegated authority to the Chair of the Audit Committee (or if the Chair is unavailable, any other member of the Audit Committee) to pre-approve the provision of permitted services by NVS Chartered Accountants which have not otherwise been pre-approved by the Audit Committee, including the fees and terms of the proposed services (“**Delegated**

**Authority**). All pre-approvals granted pursuant to Delegated Authority must be presented by the member(s) who granted the pre-approvals to the full Audit Committee at its next meeting.

All proposed services, or the fees payable in connection with such services, that have not already been pre-approved must be pre-approved by either the Audit Committee or pursuant to Delegated Authority. Prohibited services may not be pre-approved by the Audit Committee or pursuant to Delegated Authority.

*External Auditor Service Fees (By Category)*

The auditors of the Corporation are NVS Chartered Accountants, Markham, Ontario. NVS was first appointed auditors of the Corporation in 2012.

The following are the aggregate fees incurred by the Corporation for services provided by its external auditors during fiscal 2012 and fiscal 2013:

<b>Financial Year Ending</b>	<b>Audit Fees</b>	<b>Audit Related Fees</b>	<b>Tax Fees</b>	<b>All Other Fees</b>	<b>Total</b>
October 31, 2013	\$22,500	\$3,851	NIL	NIL	\$26,351
October 31, 2012	\$22,500	\$5,042	NIL	NIL	\$27,542

**INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

Except as disclosed herein, no director or executive officer of the Corporation or any shareholder controlling, directly or indirectly, more than 10% of the issued and outstanding Common Shares, or any of their respective associates or affiliates, has any material interest in any transactions or any proposed transactions which has materially affected or will materially affect the Corporation or any of its subsidiaries.

**TRANSFER AGENT AND REGISTRAR**

Compushare Transfer, Inc., 100 University Ave., 9<sup>th</sup> Floor, Toronto, Ontario, M5J 2Y1, is the transfer agent and registrar for the common shares and warrants of the Corporation.

**INTERESTS OF EXPERTS**

The auditors of the Corporation are NVS Chartered Accountants, Markham, Ontario. NVS was first appointed auditors of the Corporation in 2012. The auditors have no interest in or security holdings of Avivagen.

**ADDITIONAL INFORMATION**

Additional information about the Corporation, including, but not limited to, directors' and officers' remuneration and indebtedness, principal holders of the Corporation's securities and securities authorized for issuance under the Corporation's stock option plan is contained in the management information circular of the Corporation dated February 21, 2014. Additional financial information is provided in the audited annual financial statements and management's discussion and analysis for the year ended October 31, 2013 and the unaudited interim financial statements as of January 31, 2014 and issued on February 13, 2014 and the unaudited interim financial statements as of April 30, 2014 and issued on May 15, 2014. This information and other pertinent information regarding the Corporation can be found on SEDAR at [www.sedar.com](http://www.sedar.com).

## APPENDIX A – AUDIT COMMITTEE CHARTER

### *Purpose*

The purpose of the Audit Committee (the “**Committee**”) of the Board of Directors (the “**Board**”) of Avivagen Inc. (the “**Corporation**”) is to:

- assist the Board in fulfilling its responsibility to oversee the Corporation’s accounting and financial reporting processes and audits of the Corporation’s financial statements;
- review the financial reports and other financial information provided by the Corporation, the Corporation’s disclosure controls and procedures, and its internal accounting and financial controls;
- review the Corporation’s financial statements, management’s discussion and analysis and annual and interim earnings press releases before public release;
- assume direct responsibility for the appointment, compensation, retention (and where appropriate, replacement), and oversight of the work of the external auditor in preparing or issuing an audit report or related work;
- oversee the independence of the external auditor and approve all auditing services and permitted non-audit services provided by the external auditor;
- receive direct reports from the external auditor and resolve any disagreements between management and the external auditor regarding financial reporting;
- review the Corporation’s hiring policies regarding partners, employees and former partners and employees of the present and former external auditor of the Corporation; and
- carry out the specific responsibilities set forth below in furtherance of this stated purpose.

### *Committee Membership and Procedures*

Committee members shall be appointed by the Board. The Board may designate one member of the Committee as its Chair.

The Committee shall be comprised of at least three directors. To the extent possible given the number of unrelated or independent directors on the Board, the members of the Committee should be: (i) unrelated directors for purposes of the Toronto Stock Exchange Governance Guidelines; (ii) and satisfy the independence requirements (the “**Independence Rules**”) of applicable securities regulators including CSA Multilateral Instrument 52-110 (“**MI-52-110**”), provided that if the circumstances warrant, the Board may designate a non-independent member of the Committee to the extent permitted by the Independence Rules; and (iii) have the ability to read and understand a set of financial statements, including but not limited to balance sheets, income statements and cash flow statements, that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Corporation’s financial statements.

### **RESPONSIBILITIES**

The Committee’s role is one of oversight, and it is recognized that the Corporation’s management is responsible for preparing the Corporation’s financial statements and that the external auditor is ultimately accountable to the Board and the Committee, as representatives of the stockholders, and is responsible for auditing those financial statements. In discharging its oversight role, the Committee is granted all responsibilities and authority required by MI 52-110.

The following functions shall be the common recurring activities of the Committee in carrying out its oversight role. The functions are set forth as a guide and may be varied and supplemented from time to time as appropriate under the circumstances.

*Appointment of External Auditor.* The Committee shall have direct responsibility for the appointment, compensation, retention (and where appropriate, replacement), and oversight of the work of any accounting firm selected to be the Corporation's external auditor for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Corporation.

*Appointment of Chief Financial Officer and Internal Auditor.* The Committee shall participate in the identification of candidates for the positions of Chief Financial Officer and the manager of the Corporation's internal auditing function, if any, and shall advise management with respect to the decision to hire a particular candidate.

*Disclosure Controls and Procedures.* The Committee shall review periodically with management the Corporation's disclosure controls and procedures.

*Internal Controls.* The Committee shall discuss periodically with management and the external auditor the quality and adequacy of the Corporation's internal controls and internal auditing procedures, if any, including any significant deficiencies in the design or operation of those controls which could adversely affect the Corporation's ability to record, process, summarize and report financial data and any fraud, whether or not material, that involves management or other employees who have a significant role in the Corporation's internal controls, and discuss with the external auditor how the Corporation's financial systems and controls compare with industry practices.

*Accounting Policies.* The Committee shall review periodically with management and the external auditor the quality, as well as acceptability, of the Corporation's accounting policies, and discuss with the external auditor how the Corporation's accounting policies compare with those in the industry and all alternative treatments of financial information within International Financial Reporting Standards that have been discussed with management, the ramifications of use of such alternative disclosures and treatments and the treatment preferred by the external auditor.

*Pre-approval of All Audit Services and Permitted Non-Audit Services.* The Committee shall approve, in advance, all audit services and all permitted non-audit services to be provided to the Corporation by the external auditor; provided that any non-audit services performed pursuant to an exception to the pre-approval requirement permitted by applicable securities regulators shall not be deemed unauthorized.

*Annual Audit.* In connection with the annual audit of the Corporation's financial statements, the Committee shall:

- request from the external auditor a formal written statement delineating all relationships between the auditor and the Corporation, discuss with the external auditor any such disclosed relationships and their impact on the external auditor's objectivity and independence, and take appropriate action to oversee the independence of the external auditor.
- approve the selection and the terms of the engagement of the external auditor.
- review with management and the external auditor the audited financial statements to be included in the Corporation's Annual Report filed on the System for Electronic Document Analysis and Retrieval ("SEDAR") and review and consider with the external auditor the matters required to be discussed under applicable statements of auditing standards.
- perform the procedures set forth below in "*Financial Reporting Procedures*" with respect to the annual financial statements to be reported.
- review with management and the external auditor the Corporation's critical accounting policies and practices.

- recommend to the Board whether, based on the reviews and discussions referred to above, the annual financial statements should be included in the Corporation's Annual Report filed on SEDAR.

*Financial Reporting Procedures.* In connection with the Committee's review of each reporting of the Corporation's annual financial information, the Committee shall:

- discuss with the external auditor whether all material correcting adjustments identified by the external auditor in accordance with International Financial Reporting Standards and the rules of the applicable securities regulators are reflected in the Corporation's financial statements;
- review with the external auditor all material communications between the external auditor and management, such as any management letter or schedule of unadjusted differences;
- review with management and the external auditor any material financial or other arrangements of the Corporation which do not appear on the Corporation's financial statements and any transactions or courses of dealing with third parties that are significant in size or involve terms or other aspects that differ from those that would likely be negotiated with independent parties, and which arrangements or transactions are relevant to an understanding of the Corporation's financial statements; and
- resolve any disagreements between management and the external auditor regarding financial reporting.

*Charter.* The Committee shall review and reassess at least annually the adequacy of this Charter and recommend any proposed changes to the Board for approval.

## **RESOURCES AND AUTHORITY**

The Committee is granted all authority required by MI 52-110, including without limitation the authority to: (i) investigate any matter brought to its attention with full access to all books, records, facilities and personnel of the Corporation; (ii) engage independent legal, accounting or other advisors to obtain such advice and assistance as the Committee determines necessary to carry out its duties and set and pay the compensation for any advisors so engaged; (iii) communicate directly with the external auditors (and internal auditors, if any).

The Committee may request any officer or employee of the Corporation or the Corporation's counsel to attend a meeting of the Committee or to meet with any member of, or consultants to, the Committee.

The Corporation shall provide the Committee all appropriate funding, as determined by the Committee, for payment of compensation to any such advisors and any external auditor, as well as for any ordinary administrative expenses of the Committee that it determines are necessary or appropriate in carrying out its responsibilities.

## **COMPLAINT PROCEDURES**

Any issue of significant financial misconduct shall be brought to the attention of the Committee for its consideration. In this regard, the Committee shall establish and maintain procedures for (i) the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters and (ii) the confidential, anonymous submission by employees of the Corporation of concerns regarding questionable accounting or auditing matters.