Avivagen Inc.

ANNUAL INFORMATION FORM

FOR THE PERIOD ENDED OCTOBER 31, 2019

DATED: March 4, 2020

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Abbreviations

OxBC: generic name for the product mixture obtained by the full, spontaneous oxidation of beta-carotene; used in technical and scientific reports.

OxC-beta™: brand name for products containing OxBC that also is used in this document interchangeably with OxBC for convenience.

Copolymer: beta-carotene-oxygen copolymer (occasionally may also refer to analogous compounds formed by oxidation of other carotenoids, e.g., lycopene).

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 in US dollars and incurs expenses primarily in Canadian and US dollars.

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 October 31, 2019, unless otherwise stated.

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.

Without limiting the generality of the foregoing, this Annual Information Form contains, or incorporates by reference, forward-looking information pertaining to such items as the following:

- Avivagen's expectation that its products can achieve market acceptance as an alternative for in-feed antibiotics;
- Avivagen's longer term goal to access the human natural health product markets for OxC-beta™ technology;
- Avivagen's expectations with respect to the potential for sales of product through its joint venture with Mimi's Rock, Corp.;
- Expected continuation and acceleration of industry and national trends toward the reduction or elimination of the use of antibiotics in meat production;
- Potential applications for and market opportunities open to the Corporation's products, including across different animal species including humans;
- Results and expectations concerning various projects of the Corporation such as product trials sponsored by Avivagen or its potential customers, in Asia, Canada, or elsewhere;
- Ability to formalize and maintain distribution and customer relationships in current and new markets;
- Expectations with respect to pricing for Avivagen's products;
- Expectations with respect to competition to Avivagen's products;

- Expectations with respect to continued orders by existing customers for Avivagen's products;
- Maintaining security of product supply and product intellectual property;
- The expected receipt of patents for applications which are currently pending, the expectation that Avivagen will be able to apply for additional patents and the benefit the Corporation will derive from its current, pending or future patents;
- Expectations with respect to obtaining a GRAS-based AAFCO (American Association of Feed Control Officials) definition for OxBC, the OxBC active compound and the expected timing with respect to such designation;
- Expectations with respect to continued facility use and manufacturing and supply relationships;
- The Corporation's planned efforts and expected timing with respect to regulatory approval in additional jurisdictions and the funding required for such processes;
- The Corporation's plans to expand into additional geographic markets;
- 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, debt covenants, and other related covenants; and
- Expectations that the Corporation may broaden its business to include other products and technologies.

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;
- 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.

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 and 38 Auriga Dr., Ottawa, Ontario, Canada, K2E 8A5.

Avivagen is an early-revenue stage life sciences corporation 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". On November 1, 2017 Avivagen amalgamated with its wholly owned subsidiary, Avivagen Animal Health Inc.

DESCRIPTION OF THE BUSINESS

Corporate Objectives

The Corporation is a life sciences company focused on developing and commercializing products for livestock feeds that support optimal immune function and help animals to achieve their full growth and productivity potential. Furthermore, the product is a compelling alternative for in-feed antibiotics. The Corporation's unique, proprietary technology, known as OxC-beta™ technology ("OxC-beta"), is based on the novel, polymer-containing fully-oxidized beta-carotene product (OxBC).

The use of antibiotics as growth promoters in the feedstock of cattle, swine and poultry has been banned for over 10 years in Europe and has more recently been embargoed by leading international food processors, retailers and restaurant chains. OxC-beta™ Livestock premix is currently being sold as a non-antibiotic feed additive in the Philippines, Thailand, and Malaysia (sales to Malaysia have occurred in fiscal year 2020). The product is being tested by prospective customers for its ability to promote optimal health in swine, poultry and dairy cattle, thereby helping animals reach their full productivity potential, e.g., feed efficiency, and resulting in improved human safety in food-animal production.

Avivagen's longer term goal is to access the human natural health product market with the OxC-beta technology.

For companion animals, the Corporation has created Vivamune™ Health Chews for retail distribution that are intended to promote health and quality of life in companion animals. In 2019, the Corporation announced a joint venture agreement focused on the online sale of nutritional supplements for cats and dogs. Under the terms of the agreement, Avivagen will supply its products that include its proprietary OxC-beta™ technology and Mimi's Rock, Corp. ("Mimi's Rock") will market and sell the product through its e-commerce platform and online global channels. All sales will be conducted through a newly formed

corporation called Centre Beach, Inc. ("Centre Beach") which is jointly owned by Avivagen and Mimi's Rock. This joint venture will be the exclusive channel through which Avivagen sells nutritional supplements for cats and dogs online.

See "Forward-Looking Information."

Business Model

Avivagen's business model centers on the commercialization of its technology and related products having significant profit potential within the livestock animal and companion animal fields (See "OxC-beta Technology: Fully Oxidized Beta-Carotene (OxBC)" and following, related technical sections). The business is not expected to be cyclical or seasonal.

Avivagen maintains biology and chemistry laboratories and offices in Ottawa, Ontario, Canada and Charlottetown, Prince Edward Island, Canada. These facilities are currently sufficient to accomplish the business processes and the Corporation does not currently intend to build or acquire manufacturing infrastructures.

To date, Avivagen has been focused on demonstrating product utility, obtaining regulatory approvals, and ensuring commercial success of its internally-discovered technology.

See "Forward-Looking Information."

Value Proposition

As noted above, the Corporation's main business focus is on OxBC for livestock feed ("OxC-beta™ Livestock") to help support optimal health and productivity in food animals and as an alternative for the prophylactic use of antibiotics for growth promotion.

There is a growing body of evidence that the overuse of antibiotics in animals for growth promotion and as a prophylactic is resulting in an alarming increase in the spread of antimicrobial resistance.

Retailers such as McDonald's, Costco and Subway are sourcing certain meat products raised without the use of antibiotics, and producers such as Cargill and Tyson are planning to reduce or eliminate the use of antibiotics in meat production. This growing restriction, whether by legislation or customer demand, on the use of antibiotics for growth promotion in livestock is taking place in an increasing number of regions and countries, including the United States ("U.S."), Canada, the European Union, South Korea, Thailand, Malaysia, Brazil and China.

In September 2016, the United Nations recognized the global rise of antimicrobial resistance as a threat to health and human development[1]. A 2014 report commissioned by the United Kingdom projected that by 2050 drug resistance will kill more people each year than cancer and cost the world as much as $100 trillion in lost economic output[2]. Antibiotic usage in food animal production is thought to be a major contributing factor. Accordingly, the UN has called for a limit on the overuse of antibiotics, including in animals.

Given this serious, developing situation, the demonstrated utility and safety of the OxC-beta product opens up a large market opportunity for the Corporation in supporting the health of livestock animals in all situations, including as an alternative to antibiotics used in livestock feeds.

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[1] (https://news.un.org/en/story/2016/09/539912-un-global-leaders-commit-act-antimicrobial-resistance#.V-kXivRslPA

[2] https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf

See “Forward-Looking Information.”

The OxC-beta Technology: Fully Oxidized beta-Carotene (OxBC)

There are numerous reports that beta-carotene has biological actions, particularly including beneficial effects upon immune function, quite apart from its function as a precursor of vitamin A. Similar non-vitamin A effects have been observed with other carotenoids, e.g., lutein, that are not sources of vitamin A, as well as in animals (e.g., domestic cats) that are inefficient converters of beta-carotene into vitamin A. This project began with the goal of identifying the chemical source of the non-vitamin A actions of beta-carotene and progressed to the idea that the actions arise from beta-carotene oxidation products and not beta-carotene itself.

In investigating the strong tendency of beta-carotene to spontaneously oxidize, Avivagen’s scientists, originally working at the National Research Council of Canada, discovered that the beta-carotene molecule strongly prefers to add oxygen to form beta-carotene-oxygen copolymer compounds. Various *in vitro* and *in vivo* studies revealed that the combined polymeric compounds and their associated small molecule breakdown products present in the beta-carotene oxidation product mixture (OxBC: Oxidized beta-Carotene) together have non-vitamin A activity. Actions include support of immune function formerly attributed to beta-carotene itself, and at concentrations in line with those of the precursor beta-carotene. In addition, the small molecule breakdown products impart flavour and aroma properties to OxBC that can serve to increase food intake of livestock feed.

Recognizing the potential value and broad applicability that the newly discovered combination of beta-carotene copolymers and breakdown products in OxBC represent, Avivagen developed commercial OxC-beta products containing OxBC that harnesses those activities to support and maintain animal wellbeing. The OxBC in the OxC-beta product is a synthetic counterpart of the naturally occurring substance and its development was based on the detailed investigation of spontaneous oxidation of pure β-carotene and the resultant products. OxBC is obtained as a highly reproducible mixture by the full oxidation of beta-carotene and is comprised of major amounts of the novel beta-carotene-oxygen copolymer compounds, as well as minor amounts of mostly familiar, low molecular weight, norisoprenoid breakdown compounds. The presence of minor amounts of numerous co-generated, low molecular weight norisoprenoid compounds is reflective of the process occurring naturally in plant materials. The commercial product is produced as a 10% premix of OxBC on a corn starch carrier, by a global beta-carotene manufacturer under human food and animal feed quality assurance certifications.

Avivagen has sought to develop the animal wellbeing applications of its OxC-beta technology as the first step in the commercialization of its research discoveries, with potential human applications being a longer-term objective.

In animal nutrition, beta-carotene, primarily recognized as a source of vitamin A, was originally obtained by adding certain plant materials or forages to livestock feeds. In reflecting the importance of this precursor function, beta-carotene is sometimes referred to as provitamin A. However, significant losses of beta-carotene occur in plant materials during processing and storage, with associated losses in vitamin A activity. Consequently, plant material sources of beta-carotene have been replaced in modern livestock feeds with supplements that include synthetic vitamin A instead, along with other vitamins, micronutrients and minerals.

The strategy of replacing natural plant sources of micronutrients and minerals with synthetic versions has led modern livestock diets to become increasingly refined and more narrowly based. An unintended consequence of decreasing or replacing plant materials in diets has been the elimination of potentially beneficial but as-yet unrecognized micronutrients or phytochemicals that would have been present naturally in plant materials. The inclusion of known vitamins and minerals and other recognized micronutrients in livestock feed supplements may not be able to fully compensate for the absence of such substances.

Avivagen, and subsequently others, have demonstrated that polymeric compounds that are highly similar to those in the OxBC product, as well as many of their oxidation breakdown products, are naturally present in numerous carotenoid-containing plant materials that at one time served as common livestock forages. The application of OxBC as a feed supplement for livestock is based on the concept that the product represents a synthetic source of the beneficial and naturally occurring copolymer and small molecule compounds, that support optimal immune function and, indirectly, productivity and whose levels have become deficient as livestock diets have become increasingly refined.

The concept that the copolymers represent beneficial phytochemicals is merited by the fact that beta-carotene appears to provide several non-vitamin A benefits to animal health. However, studies intended to demonstrate beta-carotene's non-vitamin A benefits in animal health and productivity have been plagued with inconsistent and irreproducible results. Avivagen attributes this to an incomplete understanding of the origin of the source of the benefits. With Avivagen's discovery of the natural occurrence and activities of beta-carotene-oxygen copolymers, the source of at least many of beta-carotene's non-vitamin A actions is now known.

The importance of dietary beta-carotene copolymers in helping animals to produce to their full potential and the utility of OxBC as a source of copolymer compounds is demonstrated by multiple trials in broiler poultry and swine (described in the supporting trials section below). These trials demonstrated that balancing or completing poultry and swine diets by the addition of low parts per million levels of OxBC leads to health and performance benefits that include improvements in average daily gain (ADG), final body weight (FBW), and feed conversion ratio (FCR). The difference in growth performance and health between animals receiving supplemental OxBC compared to control animals is presumed to be due to suboptimal performance of the control group because of a lack of naturally occurring beta-carotene-oxygen copolymer compounds in the control diet. The fact that OxBC has consistently demonstrated such benefits in multiple trials conducted in different countries, production systems, and dietary ingredients indicates that there is a widespread lack of naturally occurring carotenoid-oxygen copolymers in commercial poultry and swine feeds and highlights the very significant commercial value of OxBC.

A further finding of the trials was that animals in the OxBC supplemented groups showed growth performance and clinical health that matched or exceeded that of animals receiving antibiotic growth promoters. These findings indicate that by providing optimal dietary levels of copolymers in the diet through supplementation with OxBC it is possible to reduce the use of antibiotic growth promoters without compromising productivity.

Livestock Applications of OxC-beta™ Livestock

Avivagen has conducted several studies (See "Supporting Research Results") evaluating the benefits of the OxBC beta-carotene copolymers in supporting optimal immune function and productivity as well as the utility of OxBC as a source of the beneficial copolymers. These studies revealed that the copolymers (in the form of supplemental OxBC provided as OxC-beta™ Livestock 10% premix) have an important role to play in supporting immune function and thereby animal productivity and health. Furthermore, the benefits of the OxBC copolymers have been demonstrated in a wide range of species, including fin fish, chickens, pigs, cattle and dogs. This broad range of activity in livestock, aquaculture and companion animal species highlights the very large commercial potential of OxBC in the animal health and nutrition field. It has been Avivagen's intention to develop products in both the livestock and companion animal markets (See "Supporting Research Results").

There are multiple livestock species in which OxC-beta™ Livestock could be used. These include both terrestrial and aquatic livestock species, of which the major commercial types include the following:

- Poultry –breeders, layers and broilers;
- Swine – pork, sows, piglets and growing pigs;
- Cattle – dairy and beef cattle; and
- Farmed fish – e.g., salmon, trout and sea bass.

Applications of OxBC in companion animals include species such as dogs, cats, and horses.

Avivagen has evidence that OxBC will demonstrate similar health benefits in humans as in other animals. However, it will require commitment of financial and human resources to commercialize OxBC-based products for humans. Nonetheless, while Avivagen remains steadfastly focused on the large animal (livestock) feed markets, an initiative is being undertaken to determine the feasibility of entering the human nutraceutical/health supplement market with OxBC-related products.

See "Forward-Looking Information."

Supporting Research Results

Avivagen has evaluated the utility of OxBC as a feed supplement for livestock in several field trials with swine and broiler poultry, as well as in proof of concept studies in rainbow trout, and cattle. Overall the results from these studies reveal that economically meaningful improvements in health and productivity can be gained by optimizing the dietary level of beta-carotene-oxygen copolymer compounds through addition of OxBC. The studies highlight the fact that modern livestock diets, which have become increasingly refined and more narrowly based, are potentially deficient in as-yet unrecognized micronutrients or phytochemicals. As a result of these deficiencies animals may not be performing to their full potential. The trial results described below are evidence of the benefits of the copolymer compounds discovered by Avivagen. Furthermore, the results highlight that optimizing copolymer levels in diets with supplemental OxBC contributes significantly to an animal reaching its full health and growth potential.

The studies described below were conducted to determine the properties of OxBC and to support registration and marketing of the product in international markets for a series of livestock and companion animal applications. Several further studies are ongoing. The main focus of Avivagen's trial program has been on the two largest single segments of the livestock feed industry – namely broiler and layer poultry at 465 million tonnes of feed and swine at 261 million tonnes of feed globally, each year (source: Alltech 2020 Global Feed Survey).

Broiler Poultry Trials:

- The utility of supplemental OxBC as a source of beta-carotene-oxygen copolymers to ensure optimal levels of production efficiency in broilers has been assessed in three separate trials. The first two trials were conducted in Canada and the third trial was conducted in Scotland. Across all three studies it was found that supplementation with OxBC at inclusion rates at or above 2 parts-per-million (ppm) in feed consistently improved measures of broiler performance (average daily weight gain, feed utilization efficiency and body weight) compared to non-supplemented controls.
- The ability of beta-carotene copolymers, in the form of supplemental OxBC, to support optimal immune function in broilers was assessed in two challenge trials with the intestinal pathogen *Clostridium perfringens*. Both trials employed experimental models of subclinical necrotic enteritis (NE) (a condition caused by *C. perfringens*), as opposed to acute NE, because the goal was to demonstrate that birds with optimal immune function could fend off the deleterious effects of a low-level challenge. The first trial was conducted in Canada and the second trial was conducted in South Korea. Results demonstrated that supplementation with OxBC protected the birds from NE-induced productivity losses, lowered *C. perfringens* levels in the gut and reduced severity of

intestinal lesions compared to non-supplemented controls. These findings support the concept that copolymers play a role in supporting optimal immune function and demonstrate the utility of OxBC as a source of copolymers. The fact that birds receiving supplemental OxBC showed growth performance that was comparable to those receiving antibiotic growth promotors highlights that balanced and complete nutritional strategies are a viable alternative to antibiotic growth promoters. It should be noted that OxBC has been shown not to possess antimicrobial activity, thus the lower level of *C. perfringens* observed in the birds receiving OxBC supplemented diets was not due to any direct action of OxBC on the bacteria. The university researchers who conducted the South Korean trial have published their results (Poultry Science, 2018, doi.org/10.3382/ps/pey180).

- The utility of OxBC as a source of beneficial copolymers was also evaluated in a trial in the Philippines. The study was conducted in collaboration with Avivagen's distribution partner for the Philippines, Univet Nutrition and Animal Health Company (UNAHCO). Results were consistent with earlier trials conducted in Canada and Scotland, demonstrating the productivity benefits of dietary supplementation with OxBC. The outcome of this study was a critical element contributing to UNAHCO's decision to move forward with a distribution agreement for OxC-beta™ Livestock in the Philippines.

Swine Trials

- The first trial that evaluated the effects of OxBC on growth performance of hogs was conducted at the Atlantic Veterinary College (AVC) in Prince Edward Island, Canada. This initial trial evaluated the benefits of supplemental OxBC in young piglets during the first 28 days after weaning. Results revealed that supplementation with OxBC improved both average daily gain (ADG) and feed conversion ratio when compared to non-supplemented controls. The results of this study provided proof of concept for the benefits of optimizing dietary carotenoid copolymer levels, through supplementation with OxBC on growth performance in hogs.

- A second trial was conducted in pigs to evaluate whether lower levels of dietary supplementation with OxBC would be sufficient to maximize dietary levels and be beneficial for pigs. In this second trial the benefits of supplementation with OxBC were assessed over the entire 140-day post-wean growth cycle of the pig. This full grow trial was conducted under contract with the National Institute of Animal Science (NIAS) for South Vietnam at a farm near Ho Chi Minh City. The trial evaluated OxBC as a supplemental source of copolymers and assessed a number of growth performance and health parameters during each stage of the production cycle (starter, grower, finisher, and overall). Results from the trial were very positive, with all doses of OxBC producing improvements in commercially relevant measures of productivity and health compared to non-supplemented controls during each phase of the production cycle. Furthermore, pigs in the OxBC groups performed at a level comparable to animals receiving antibiotic growth promoters. This finding once again highlighted the possibility that reductions in the use of antibiotics for growth promotion and disease prevention may be possible by focusing on animal nutrition, particularly as it relates to immune function.

- A third trial, also conducted with the NIAS for Vietnam, evaluated the effect of providing supplemental copolymers on the health and growth performance of young pigs during the pre-wean and post-wean periods. Results taken at the end of phase 1 (on the day of weaning) indicated that supplementation of the pre-wean creep feed with OxBC positively impacted average daily weight gain and body weight at weaning relative to the non-supplemented control group. Results from phase 2 of the study indicated that continued supplementation with OxBC during the post-wean "starter" period provided further benefits to growth performance and feed efficiency compared to the negative control. The results of this trial confirm those of previous trials indicating that beta-carotene copolymers play a role in supporting optimal growth and immune function in pigs and that supplementing diets with OxC-beta, as a source of copolymers, can provide improvements on

growth performance and feed efficiency. Furthermore, the trial demonstrated that supplementation with OxBC can also benefit growth performance of pre-weaned piglets.

- A fourth trial evaluating the benefits of supplemental beta-carotene copolymers on growth performance of starter pigs reared under typical Chinese conditions was conducted in collaboration with COFCO-Biotech in Chengde, Hebei Province, China. Results showed that providing supplemental copolymers in the form of OxBC improved growth performance and reduced incidence of diarrhea compared to the non-supplemented group. These findings once again demonstrate the utility of OxBC as a source of immune-supporting copolymer compounds that help pigs reach their full growth potential.
- A fifth trial evaluating the utility of OxBC in supporting optimal health and growth performance of pigs through the starter period and into the grower period of the production cycle was conducted with Univet Nutrition and Animal Health Company (UNAHCO) and the University of the Philippines, Los Baños (UPLB). In addition to the evaluation of growth performance and clinical health parameters, the study also evaluated several aspects of gut health. Findings demonstrated a reduction in the level of *E. coli* in the small intestines of OxC-beta-treated animals concurrent with improved gut morphology. Reduced levels of *E. coli* in the gut are consistent with the immune-supporting role of the beta-carotene-oxygen copolymers that supplemental OxBC provides. These benefits to gut health are the likely basis for the observed improvement in growth performance in the OxBC-treated animals compared to negative control.
- The ability of beta-carotene copolymers, in the form of supplemental OxBC, to support optimal immune function in weaned piglets was assessed in an *E. coli* challenge trial with Univet Nutrition and Animal Health Company (UNAHCO) and the University of the Philippines, Los Baños (UPLB). Results demonstrated that piglets in the OxBC groups had reduced levels of *E. coli* in their gut and improved fecal consistency (an indicator of the reduced diarrhea) compared to challenged non-supplemented controls. As in the starter and grower trial described above, the reduction in *E. coli* levels was concurrent with improved gut morphology. In terms of growth performance, piglets receiving OxBC resumed a positive growth rate in the post-infection recovery period while piglets in the non-supplemented group continued to lose weight during the same period.
- A trial was also conducted to evaluate the benefits of providing supplemental OxBC beta-carotene copolymers to gestating-lactating sows and their nursing piglets. The trial was conducted by researchers at South China Agricultural University (SCAU) at a commercial site near Guangzhou, China. Supplementation with OxBC was assessed for the ability to improve the health of the sow and her nursing piglets as well as for its impact on milk quality. Dietary supplementation with OxBC improved several parameters of sow health and productivity. Supplementation of the sow diets with OxBC also benefited nursing piglets as piglets nursing from OxC-beta-treated sows had increased body weights at weaning and a reduced incidence of diarrhea. Analysis of sow's milk revealed that OxBC treatment resulted in improved colostrum and milk quality. The observed benefits in nursing piglets is a likely reflection of the improved colostrum and milk quality from sows receiving OxBC supplementation. The findings of this trial are of particular significance because they provide the first evidence of the importance of beta-carotene copolymers in supporting health, productivity and milk quality in sows. Furthermore, these findings highlight that OxBC represents more than an alternative to antibiotic growth promoters and has a much broader spectrum of potential applications in the livestock industry.
- A trial with nursery piglets was conducted with the Bangkok Animal Research Centre (BARC) to confirm the utility of OxBC in supporting optimal health and performance in young piglets under typical commercial production conditions in Thailand. The trial was conducted by BARC at a commercial pig farm in Thailand. Results demonstrated improvements in body weight, average

daily weight gain and feed utilization efficiency for the OxBC supplemented groups relative to both the control group.

Salmonid (cold water fish) Trial:

- A proof of concept trial was conducted to evaluate the benefits of providing supplemental beta-carotene copolymers to fish. The study assessed the immunological effects of supplementing the diets of Rainbow trout with OxBC. Results demonstrated that white blood cells from fish fed OxBC supplemented diets had improved response to a simulated pathogen challenge compared to cells from non-supplemented controls. These results in fish are consistent with the earlier studies demonstrating that copolymers play a role in supporting optimal immune function in mammalian and avian species and support the application of OxBC in aquaculture.

Beef Cattle Proof of Concept Trial

- In beef cattle, a calf model of bovine respiratory disease (BRD) demonstrated a role for OxBC in supporting a balanced immune response. BRD is characterized by an overzealous immune response that often causes collateral damage to healthy lung tissue. This study was conducted by Dr. Andre Buret at the University of Calgary. Analysis of samples taken from the lungs indicated that calves receiving OxBC-supplemented diets had improved resolution of inflammation relative to non-supplemented control animals. The university researchers who conducted this work have published the results (Am. J. Vet. Res., 2014, p. 1064-1075).

Dairy Cattle Proof of Concept Trial

- A trial in dairy cattle was conducted with COFCO Biotech of China, the feed additive technology division of COFCO. This proof of concept study was the first to assess the potential benefits of providing supplemental OxBC to dairy cattle. The study assessed the utility of OxBC as a source of beta-carotene copolymers to optimize productivity and milk quality in cows considered "poor" performers. Results revealed that providing supplemental OxBC led to increases in the nutritional content (protein, fat and lactose) and reduced bacterial counts in the milk. The observed effects on milk quality in dairy cattle are consistent with results on milk quality in sows reported for the gestating/lactating sow trial above. The reduction in bacterial counts in the milk is interpreted as being a function of improved immune function in the OxBC supplemented cows. Providing sufficient levels of immune-supporting beta-carotene copolymers through supplementing with OxBC helped the immune system to function at an optimal level in the OxBC groups. It is again noted that OxBC has been shown to possess no antimicrobial activity, therefore reduction in bacterial levels are not due to any direct antimicrobial activity of OxBC.

Canine Clinical Trials

The utility of OxBC as a source of beneficial beta-carotene copolymers in companion animals was assessed in two separate clinical trials in dogs.

- The potential for OxBC to benefit the overall health and well-being of companion canines was evaluated in two clinical trials. Both studies were conducted by Avivagen and involved dogs recruited from the general public in Prince Edward Island, Canada. For both of these daily-dosing trials, owners completed questionnaires at the beginning and end of the study evaluating their dog's general health. Results indicated that OxBC supplementation benefited canine skin and coat health and also improved joint mobility.

Ongoing Trials

Avivagen has continued to conduct trials evaluating OxBC with the goal of supporting product sales in new markets or expanding product applications to additional species, production phases, or usages. An example of a trial that has been undertaken is provided below.

See “Forward-Looking Information.”

Confirmatory Dairy Cattle Trial

- A second trial in dairy cattle was conducted with Cognosco, Anexa FVC of New Zealand, a contract research and veterinary service company serving the New Zealand dairy industry. The New Zealand study was designed and conducted with the intention of extending and strengthening the results of the initial dairy trial conducted in China. Cows with positive tests for bacteria in milk but that did not show signs of clinical disease were used in the trial. The study assessed the utility of OxBC as a source of copolymers to optimize dairy cow immune function during lactation. Results revealed that providing supplemental beta-carotene copolymers in the form of OxBC led to improved immune function as evidenced by a significantly greater number of negative bacteria tests for cows in the OxBC group compared to control. The reduction in the number of positive bacteria tests is interpreted as being a function of improved immune function in the OxBC supplemented cows. Providing sufficient levels of immune-supporting beta-carotene copolymers through supplementing with OxBC allowed the immune system to function at an optimal level in the OxBC groups. It is again noted that OxBC has been shown to possess no antimicrobial activity, therefore reduction in bacterial levels are not due to any direct antimicrobial activity of OxC-beta.

Commercial OxBC Products

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

- OxC-beta™ Livestock 10% premix for inclusion in livestock feeds;
- Vivamune™ Health Chews for dogs, previously marketed and sold directly to consumers, now marketed and sold through distributors pursuant to a joint venture with Mimi’s Rock Corp.
- Dr. Tobias All-In-One Dog Chews, launched on January 23, 2020, directly marketed and sold to consumers through a joint venture with Mimi’s Rock Corp.

For livestock applications, Avivagen is offering OxC-beta™ Livestock premix for inclusion in livestock feeds. By providing the potential to help an animal to reach optimal levels of immune function, and, indirectly, health, and thereby help realize full growth potential, OxC-beta™ Livestock premix represents a compelling nutritional strategy to replace the use of antibiotic feed additives. This at a time when the global feed industry is seeking viable alternatives to antibiotic growth promoters. The Corporation is pursuing premix product sales in livestock species where data can be rapidly generated and in jurisdictions with high motivation to eliminate the use of antibiotics in feeds and/or that have clear regulatory pathways for approval of products that compensate for the absence in modern livestock feeds of plant-based substances with potential nutritive value.

A proprietary companion animal product line, Vivamune™ Health Chews, containing the OxBC active ingredient, was made available in the U.S. in the summer of 2013. This product line consists of packages of chews for dogs. Vivamune™ Health Chews were developed as a direct-to-consumer companion animal product.

Vivamune™ Health Chews is a class of nutritional supplements that in the USA are voluntarily regulated through the National Animal Supplement Council (the “NASC”). Avivagen is a member of the NASC and complies with NASC requirements and standards. Vivamune™ Health Chews carries the NASC Quality Seal.

For the 12 months ended October 31, 2019, sales, in Canadian dollars, of each product line were as follows:

- OxC-beta™ Livestock premix – $896,345
- Vivamune Health Chews - $81,106

The Corporation had significant sales to 1 customer of $863,655 (93% of all revenue) in the twelve-month period ended October 31, 2019.

For the 12 months ended October 31, 2018, sales, in Canadian dollars, of each product line were as follows:

- OxC-beta™ Livestock premix – $960,894
- Vivamune Health Chews - $111,678

The Corporation had significant sales to 1 customer of $947,096 (88% of all revenue) in the twelve-month period ended October 31, 2018.

Markets

Avivagen participates in one main marketplace – feed additives for livestock. To a lesser extent, Avivagen participates in marketplaces focusing on health supplements for companion animals. These markets have different customer bases and dynamics.

Livestock feed ingredients are a more established marketplace, with many multinational and regional companies offering active feed supplements. The Alltech 2020 Global Feed Survey estimates that 1.127 billion tonnes of prepared (compound) animal feeds are produced globally – principally in Asia-Pacific (363 million tonnes), Europe (279 million tonnes), North America (236 million tonnes) and Latin America (168 million tonnes). 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.

Currently, OxC-beta™ Livestock is being sold in the Philippines, Thailand, Taiwan, Malaysia (Malaysia in fiscal year 2020). The product is also available for sale in the USA, Australia, New Zealand, and Mexico.

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 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 US$0.25 to US$1 per day per animal.

For 2017, the American Pet Products Association estimates that there are currently 89.7 million owned dogs in the U.S. Avivagen's companion animal revenue potential may be limited largely by the extent of the resources Avivagen can commit to product marketing.

Industry/Competition

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

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

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 in the face of laws against their use. Availability of such AGPs varies by country, but compounds in common usage include bacitracin, ceftiofur, chlortetracycline, colistin, 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, innovative 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™ Livestock would include products such as the beta-glucan class of immune stimulants, and phytogenics (active compounds derived from plant extracts). While OxC-beta™ Livestock may have technical and intellectual property advantages to those competing products, the competing products are more advanced in the marketplace by way of having been introduced some time earlier.
- Probiotics and Prebiotics. Supplementation with probiotic bacterial and prebiotic substances are established means of improving gut health and promoting optimal overall health and productivity in food animals. Prebiotics are non-digestible food substances that selectively stimulate the growth of favorable species of bacteria in the gut, thereby benefitting the host. These substances are primarily derived from non-digestible oligosaccharides. Many companies offer probiotic and/or prebiotic products to address livestock gut health. However, a consensus has yet to be reached by the scientific community that prebiotics and probiotics consistently provide benefits in commercial settings.

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). The companies marketing these products may or may not be governed by or respect the same National Animal Supplements Council (NASC) rules as adhered to by Avivagen and may therefore have more aggressive marketing approaches, such as making therapeutic (disease curing) claims. See "Risk Factors" below.

Intellectual Property

Avivagen began securing intellectual property around 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 compounds – including their compositions, uses and related methods.

From these intellectual property objectives, seven (7) patent families have been created that are continuing to be developed**.** In order of filing, these are:

1. Enhancing Weight-Gain & Feed-Conversion in Food Animals (2006)
2. Enhancing Immunity to Prevent or Treat Disease in Animals (2009)
3. Improving Health of Animals, Including pets (2010)
4. Aquaculture - Compositions, Uses and Methods (2011)
5. Preventing Livestock Disease - Uses and Methods (2015)
6. Natural Sources of Carotenoid-Oxygen Copolymers - Compositions, Uses and Methods (2016)
7. Supplemented Feeds for Breeder Birds (2019)

Further details of the individual patent applications are provided below

1. Food Animals (WO 2006/034570). Compositions, Uses and Methods. This patent protects polymer-containing oxidized carotenoids for enhancing the efficiency of weight gain and feed conversion in food animals, including fish. Coverage includes essentially all potential

compositions, uses and methods relating to food animals. This patent has been granted or allowed in 27 countries including countries in North and South America, Europe, Asia and Australasia.

2. Immune Response (WO 2009/052629). Compositions, Uses and Methods. This patent protects polymer-containing oxidized carotenoids for enhancing the immune systems of animals in relation to prophylactic or therapeutic applications. Coverage includes essentially all potential compositions, uses and methods relating to this application. This patent has been granted in Canada, Australia, New Zealand, South Korea, Japan, Europe and is pending in the U.S.
3. Health of Animals (WO 2010/124391). Compositions, Uses and Methods. This patent protects polymer-containing oxidized carotenoids for improving the health of animals, particularly as related to companion animals. Coverage includes essentially all potential compositions, uses and methods relating to such applications. This patent has been granted or allowed in Canada, Australia and New Zealand and is pending in the U.S and Europe.
4. Aquaculture (WO 2011/103464). Compositions, Uses and Methods. This patent provides protection for polymer-containing oxidized carotenoids in aquaculture. As most of the aquaculture opportunities are already covered by the Food Animal Patent (WO 2006/034570), the available claims are narrowed. This patent has been granted in Chile.
5. Preventing Livestock Disease (WO 2016/172787). Uses and Methods. This patent provides protection for the use of polymer-containing oxidized carotenoids for the prevention of necrotic enteritis and ameliorating associated conditions in poultry. The application has entered the national phase with protection being sought in a wide range of commercially-important countries.
6. Natural Sources of Carotenoid-Oxygen Copolymers. Compositions, Uses and Methods (WO 2017/143460). This patent relates to compositions, methods of identifying and quantifying carotenoid-oxygen copolymer compounds in plant-based foods and related sources, and methods of preparing copolymer compositions in food sources in sufficiently useful concentrations to have beneficial effects in animals and humans. The application is presently in the PCT phase.
7. Supplemented Feeds for Breeder Birds (U.S. Provisional Patent). This application is in the general field of poultry farming and relates particularly to the feeding of breeder fowl (e.g., breeder-broilers). The invention features a method of feeding female breeder birds with a feed formulation of the invention which enhances, for example, interior egg fertility and/or egg production. This invention also features methods which provide improved hatchability.

The above seven patent families are expected to protect Avivagen's fully-oxidized carotenoid technologies for periods ranging from 2025 to 2037. In total, 40 applications have been granted or allowed in individual countries and 27 are pending.

To enhance and extend its protections, 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.

Trademarks. Avivagen has obtained or has filed applications for the following trademarks:

OxC-beta™	14 registrations (AU, BR, CA, CL, CN, EU, JP, KR, MX, NZ, RU, SG, TW, UK) 8 pending (AR, ID, IN, PH, TH, US, VN, ZA)
Avivagen™	1 registration (CA)
Oximunol™	3 registrations (CA)
Vivamune™	2 registrations (US, CA)

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

See “Forward-Looking Information.”

Regulatory and Legal Matters

Avivagen executives have familiarity with the broad business, and animal health/nutrition 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 and nutrition fields are subject to laws and regulations in every country, which 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 to other penalties, all of which may significantly and negatively impact the Corporation’s position and competitiveness.

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 the beta-carotene-oxygen copolymer compound present in OxC-beta™ Livestock, may not 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 OxBC technology-based products, the resources required and the expected timing.

In any major market in which Avivagen plans commercial operations there is a regulatory requirement prior to offering OxC-beta™ Livestock for sale. There is very little consistency, other than proof of efficacy and safety, for regulatory filings among countries, which necessitates that Avivagen custom prepare a registration dossier for each market. The review time before regulators confirm no objection to sale can range from one to three years depending on the country.

Avivagen has, to date, received approval for sale in the Philippines, Taiwan, Thailand, Mexico, Malaysia, the USA, Australia, and New Zealand. Registration activity is ongoing in several other Asian countries, as this area of the world has been in the forefront in reducing antibiotic use in food animals. A number of Asian countries export poultry and pork to countries in the European Union, which has a policy of no antibiotics in food animals.

Regulatory approval in China is a priority for Avivagen. The regulatory requirements for OxC-beta™ Livestock in China are being addressed through a partnership with a Chinese company that will coordinate the submission.

Avivagen’s published work indicates the carotenoid-oxygen copolymer compounds present in fully-oxidized carotenoids are a previously unrecognized class of beneficial phytogenic compounds and the Corporation’s regulatory strategy reflects that knowledge. Specifically, all carotenoids currently consumed in human and animal diets inevitably contain varying proportions of carotenoid-oxygen copolymer compounds. While these substances had not been recognized until recently, they are a natural component of foodstuffs and are therefore most logically considered as both natural and falling within the US GRAS (Generally Recognized As Safe) definition.

The key to the general regulatory approach for gaining approval for OxBC is achieving recognition that, quite apart from beta-carotene’s vitamin A activity, the beta-carotene-oxygen copolymer compound is in fact actually responsible for beta-carotene’s non-vitamin A activity and that it occurs naturally in varying amounts in beta-carotene-containing plant materials. Avivagen’s published evidence, subsequently corroborated extensively by an independent, highly respected research group, of the presence of significant

amounts of beta-carotene copolymer compound in beta-carotene-containing plant-based products means that subjects consuming such products inevitably consume beta-carotene copolymer along with beta-carotene.

The U.S. Self-Affirmed GRAS designation of the OxC-beta compound includes the following key points:

- beta-carotene is regarded as safe by the FDA (GRAS);
- The beta-carotene copolymer occurs naturally alongside beta-carotene in plant materials in amounts depending upon relative exposure to air and original levels of beta-carotene and is therefore consumed in products containing such plant materials;
- The pure OxBC product contains beta-carotene copolymer compounds as the main product and minor amounts of low molecular weight breakdown compounds (norisoprenoids). All but one of the norisoprenoid compounds are at 1% or much less of the total OxBC product and some are already GRAS, while the rest are regarded as safe by virtue of their presence in many edible plant products;
- OxBC contains no vitamin A, no beta-carotene that can be converted to vitamin A, and exhibits no vitamin A activity;
- The beta-carotene copolymers in OxBC are provided to livestock at levels anticipated to be within anticipated exposure ranges for beta-carotene present in plant materials were they to be present;
- Modern, refined livestock feeds are devoid of, or deficient in, plant materials containing beta-carotene and its associated oxygen copolymers;
- Non-vitamin A immune function effects previously associated with administration of beta-carotene, though not reproducibly or consistent – presumably because of variable extents of oxidation - can be explained by the presence of adventitious amounts of associated beta-carotene polymers.

Self-affirmation of GRAS provides federal level authority for sale of OxC-beta™ Livestock. However, many individual states require an AAFCO (American Association of Feed Control Officials) definition for OxC-beta™ Livestock for sales within such states. Application for an AAFCO definition is in progress.

In China the anticipated approval time is within approximately 2 years. Regulatory activities are underway in other markets including Canada (Canadian Food Inspection Agency, CFIA) and Brazil.

Avivagen has focused its efforts on countries such as the Philippines, Taiwan, Thailand, Malaysia, Mexico, Australia, and New Zealand, which provide for faster entry into large markets. An intended benefit of this approach is to obtain nearer-term commercial sales to help support applications for regulatory approval in other markets, such as, China, or Canada.

The review time before regulators confirm no objection to sale can range from one to several years depending on the country and registration process required. Due to the uncertain nature, extent and timing of the regulatory process in each country there is no guarantee that the Corporation can register in all countries within the time frames projected.

The timing and cost of regulatory registration may be very significant, and the Corporation may require additional funds to support the above regulatory registration process. The Corporation would attempt to offset the cost with sales in the countries for which it is registered to date, but additional funding by way of equity and or debt may be required.

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 (U.S. “FDA”). In the U.S., health supplements for companion animals are not directly regulated by FDA as long as they do not make therapeutic claims (i.e., claims for curing

disease conditions), but instead limit themselves to statements 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 a companion animal health supplement sold in the U.S., Canada, and Asia, 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.

In 2018, the OxBC compound was registered as an Admissible Substance under the Low Risk Veterinary Health Product (LRVHP) program, which allows sale in Canada of the Vivamune™ chews product.

See "Forward-Looking Information."

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

On November 14, 2016, the Corporation announced an agreement with Shaanxi Jintai Mining Co. Ltd., a widely diversified Chinese company, to form a joint venture to commercialize OxC-beta™ Livestock in the People's Republic of China. On August 7, 2018, the Corporation announced that it entered into an agreement to wind up the joint venture in China. The wind-up was completed and the Corporation issued 500,000 common shares on November 25, 2019 to reimburse the JV partner for $300,000 of expenses incurred.

On November 29, 2016, the Corporation announced that it had raised $3.5 million from the exercise of common share purchase warrants.

On February 9, 2017, the Corporation announced the departure of Cameron Groome as CEO and the appointment of Kym Anthony as Interim CEO.

On February 21, 2017, the Corporation announced having raised $1.3 million from the exercise of common share purchase warrants.

On November 30, 2017, the Corporation raised $4.0 million from the issuance of shares and warrants via a private placement.

On May 2, 2018, the Corporation announced the issuance of 107,944 common shares to an officer of the Corporation in settlement of a bonus payable.

On May 22, 2018, the Corporation announced the drawdown of the remaining $800,000 from the Bloom Burton Healthcare Lending Trust Line of Credit.

On May 30, 2018, the Corporation announced that it had received regulatory approval for the sale of OxC-beta™ Livestock in New Zealand.

On June 27, 2018, the Corporation announced that the Veterinary Drugs Directorate of Health Canada added OxC-beta™ to the Veterinary Health Product list of substances and designated it for oral use in cats and dogs, allowing for the sale of Vivamune™ Health Chews in Canada.

On February 20, 2019, the Corporation announced that it had signed a partnership with CSA Animal Nutrition providing for the sales and distribution of OxC-beta™ Livestock by CSA in the U.S. Under the terms of the agreement, CSA will coordinate commercial scale validation research with potential customers and fulfill a sales and distribution role with OxC-beta™ for poultry, swine and dairy cattle in the U.S.

On March 28, 2019, the Corporation announced the closing of a private placement financing of $5.26 million of secured debentures. In connection with the secured debenture placement, the Corporation issued 1,316,000 common shares of the Corporation and 225,375 common share purchase warrants.

On April 9, 2019, the Corporation announced a second and final closing of a private placement of senior secured debentures for proceeds of $114,000. In connection with the second closing, the Corporation issued 26,206 common shares and 6,840 common share purchase warrants.

On May 14, 2019, the Corporation announced the appointment of Mr. Kym Anthony as permanent CEO of the Corporation. In light of Mr. Anthony's appointment as permanent CEO, he stepped down as Chairman of the Board of Directors but remains a Director of the Corporation. Mr. Jeffrey Kraws was appointed Chairman of the Board of Directors.

On June 13, 2019, the Corporation announced a joint venture agreement focused on the online sale of nutritional supplements for cats and dogs. Under the terms of the agreement, Avivagen will supply its products that include its proprietary OxC-beta™ technology and Mimi's Rock will market and sell the product through its e-commerce platform and online global channels. This joint venture will be the exclusive channel through which Avivagen sells nutritional supplements for cats and dogs online. All sales will be conducted through a newly formed corporation called Centre Beach, Inc. which is jointly owned by Avivagen and Mimi's Rock. The profits will be shared equally between the two companies.

On August 20, 2019, the Corporation announced that it had received regulatory approval in Mexico for the use of OxC-beta™ technology in broiler hens and pigs.

On October 23, 2019, the Corporation announced that it had received approval from the TSX Venture Exchange for the extension of the expiration date of warrants exercisable to purchase 1,163,738 common shares at $1.00 per share which were originally issued on December 16, 2014 and warrants exercisable to purchase 2,774,991 common shares at $0.90 per share which were originally issued on June 1, 2016. These warrants previously had an expiration date of October 30, 2019. The new date of expiry for the warrants originally issued on December 16, 2014 was December 16, 2019 and the new expiry date for the warrants originally issued on June 1, 2016 was March 31, 2020. All other terms of such warrants remained unchanged.

On November 11, 2019, the Corporation announced the issue of 80,645 common shares pursuant to a previously announced consulting agreement with Shaanxi Jintai Mining Co., Ltd to support Avivagen's continued efforts in China. Such shares were issued in lieu of $50,000 in consulting fees at a price of $0.62 per common share.

On December 5, 2019, the Corporation announced it had received approval for the use of OxC-beta™ Livestock in Broilers and Swine in Malaysia.

On December 17, 2019, the Corporation announced an agreement with COFCO Biotechnology Co. Ltd. to assist the Corporation with the regulatory approvals necessary to enter the Chinese market.

On January 2, 2020, the Corporation raised $1.25 million through the issuance of 2,500,000 common shares and 1,250,000 common share purchase warrants.

On January 8, 2020, the Corporation announced that it began trading on the OTCQB Venture Market under the ticker symbol VIVXF.

On January 27, 2020, the Corporation raised $1.75 million through the issuance of 3,500,000 common shares and 1,750,000 common share purchase warrants.

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 locations, 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.

Marketing

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

- OxC-beta™ Livestock premix – Avivagen is devoting meaningful amounts of time and resources to develop this market segment.
- Vivamune™ Health Chews - Marketed by Avivagen using a combination of distributors, print, internet and social media and through the joint venture arrangement with Mimi's Rock, called Centre Beach, Inc..

Manufacturing

Avivagen does not maintain its own resources for active ingredient or finished goods manufacturing. It would not be practical or economic at this time for a company of Avivagen's current size and capitalization to maintain and operate the necessary facilities for such production. Avivagen's inventories are produced in Taipei, Taiwan and Vermont, US.

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

The finished form of Vivamune™ Health Chews is produced by a Contract Manufacturing Organization ("CMO") specializing in producing pet supplements and operating under cGMP and NASC certification with FDA inspection. 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 two products, the OxC-beta™ Premix and Vivamune™ Health Chews, are produced at single sites, respectively. 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

Avivagen is pricing its OxC-beta™ Livestock premix at levels that are competitive to widely-used antibiotic growth promoters and competing alternative products. OxC-beta™ Livestock premix is currently sold at an active ingredient concentration of 10% in packages of either 5 kg or 25 kg. At inclusion rates of 2.0 to 4.0 parts-per-million, "ppm", of active compound, each kilogram of OxC-beta™ Livestock premix is sufficient to supplement 25 to 50 metric tonnes of animal feed. 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 tonne of feed to producers. Avivagen has arranged for physical distribution of OxC-beta™ Livestock premix within Asia and North America and has distribution relationships in several countries in these regions.

The Vivamune™ Chews product line is distributed primarily by direct-to-consumer product sales. Distribution is fulfilled by way of a contracted order fulfillment and warehousing services company. That firm charges Avivagen a monthly storage fee for maintaining stocks of Vivamune™ products 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™ products. Subsequent to October 31, 2019, online direct-to-consumer sales are facilitated through the Corporation's joint venture with Mimi's Rock, Inc. The joint venture is responsible for determining the retail price for online direct-to-consumer sales.

As per the agreement with Mimi's Rock and Centre Beach, Avivagen will provide the active ingredient, OxBC, to Centre Beach for use in companion animal 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 October 31, 2019, the Corporation had 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, and one in Vancouver, British Columbia, 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 and IT 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 university degrees in chemistry, biology, veterinary sciences, 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, holders of securities should carefully consider each of the following risk factors, in addition to their cumulative effect (see press releases, financial statements, and Management's Discussion and Analysis.

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, as of October 31, 2019, the Corporation had an accumulated deficit of approximately $31 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 Corporation's technology and products are not yet commercially successful

While the Corporation 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. Existing customers may not increase their purchases of the Corporation's products or may cease doing business with the Corporation, which may have an adverse impact on the Corporation's business and financial condition.

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.

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 may be required if the Corporation is to obtain regulatory approval for one or more of its products in one or more additional jurisdictions.

The Corporation's ability to generate revenue is dependent on the successful approval and marketing of OxBC in livestock. Regulatory approval for additives to feed for animals intended for human consumption is a lengthy and uncertain 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.

Once regulatory approvals are obtained, maintaining such status is often subject to ongoing compliance and reporting requirements. Failure to comply with the requirements or any failure to maintain the regulatory approvals would have a material adverse impact on the business, financial condition and operating results of the Corporation.

The success of Corporation-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.

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 registrations, 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 U.S. 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 U.S. 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.

Other organizations may design around the Corporation's patented technology. The Corporation may have to participate in interference proceedings declared by the U.S. 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, its products (OxC-beta™ premix and Vivamune™ Health Chews) are each produced at single sites, respectively. 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 two 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 many 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.

The Corporation may be subject to product liability claims

As a manufacturer and distributor of products designed to be ingested by animals, the Corporation faces an inherent risk of exposure to product liability claims, regulatory action and litigation if its products are alleged to have caused significant loss or injury. In addition, the manufacture and sale of the Corporation's products involve the risk of injury due to tampering by unauthorized third parties or product contamination. Previously unknown adverse reactions resulting from consumption of the Corporation's products alone or in combination with other substances could occur. The Corporation may be subject to various product liability claims.

A product liability claim or regulatory action against the Corporation could result in increased costs, could adversely affect the Corporation's reputation with its clients and consumers generally, and could have a material adverse effect on our results of operations and financial condition of the Corporation. There can be no assurances that the Corporation will be able to obtain or maintain product liability insurance on acceptable terms or with adequate coverage against potential liabilities. Such insurance is expensive and may not be available in the future on acceptable terms, or at all. The inability to obtain sufficient insurance coverage on reasonable terms or to otherwise protect against potential product liability claims could prevent or inhibit the commercialization of products.

The Corporation may face product recalls

Manufacturers and distributors of products are sometimes subject to the recall or return of their products for a variety of reasons, including product defects, such as contamination, unintended harmful side effects or interactions with other substances, packaging safety and inadequate or inaccurate labeling disclosure. If any of the products produced by the Corporation are recalled due to an alleged product defect or for any other reason, the Corporation could be required to incur the unexpected expense of the recall and any legal proceedings that might arise in connection with the recall. The Corporation may also lose a significant amount of sales and may not be able to replace those sales at an acceptable margin or at all. In addition, a product recall may require significant management attention. Although the Corporation has detailed procedures in place for testing finished products, there can be no assurance that any quality, potency or contamination problems will be detected in time to avoid unforeseen product recalls, regulatory action or lawsuits.

The Corporation and its products may be subject to unfavourable publicity or consumer perception

Consumer perception of the Corporation's products can be significantly influenced by scientific research or findings, regulatory investigations, litigation, media attention and other publicity. There can be no assurance that future scientific research, findings, regulatory proceedings, litigation, media attention or other research findings or publicity will be favourable to the Corporation's products, or consistent with earlier publicity. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favourable than, or that question, earlier research reports, findings or publicity could have a material adverse effect on the demand for the Corporation's products and the business, results of operations, financial condition and cash flows of the Corporation. The Corporation's dependence upon consumer perceptions means that adverse scientific research reports, findings, regulatory proceedings, litigation, media attention or other publicity, whether or not accurate or with merit, could have a material adverse effect on the Corporation, the demand for products, and the business, results of operations, financial condition and cash flows of the Corporation.

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, Europe 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. In addition, in jurisdictions outside of Canada, there can be no assurance that any market for the Corporation's products will develop. The Corporation may face new or unexpected risks or significantly increase its exposure to one or more existing risk factors, including economic instability, changes in laws and regulations, and the effects of competition. These factors may limit the Corporation's ability to successfully expand its operations into such jurisdictions and may have a material adverse effect on the Corporation's business, financial condition and results of operations.

The Corporation has operations in various emerging markets and may have operations in additional emerging markets in the future. Such operations expose the Corporation to the socioeconomic conditions as well as the laws governing such countries. Inherent risks with conducting foreign operations include, but are not limited to: high rates of inflation; extreme fluctuations in currency exchange rates, military repression; war or civil war; social and labour unrest; organized crime; hostage taking; terrorism; violent crime; expropriation and nationalization; renegotiation or nullification of existing licenses, approvals, permits and contracts; changes in taxation policies; restrictions on foreign exchange and repatriation; and changing political norms, currency controls and governmental regulations that favour or require the Corporation to award contracts in, employ citizens of, or purchase supplies from, the jurisdiction.

Governments in certain foreign jurisdictions intervene in their economies, sometimes frequently, and occasionally make significant changes in policies and regulations. Changes, if any, in investment policies or shifts in political attitude in the countries in which the Corporation operates may adversely affect the Corporation's operations or profitability. Operations may be affected in varying degrees by government regulations with respect to, but not limited to, restrictions on production, price controls, export controls, currency remittance, importation of product and supplies, income and other taxes, royalties, the repatriation of profits, expropriation of property, foreign investment, maintenance of concessions, licenses, approvals and permits, environmental matters, land use, land claims of local people, water use and workplace safety. Failure to comply strictly with applicable laws, regulations and local practices could result in loss, reduction or expropriation of licenses, or the imposition of additional local or foreign parties as joint venture partners with carried or other interests.

The Corporation relies on international advisors and consultants

The legal and regulatory requirements in the foreign countries in which the Corporation operates, as well as local business culture and practices, are different from those in Canada. The Officers and Directors of the Corporation must rely, to a great extent, on the Corporation's local legal counsel and local consultants retained by the Corporation in order to keep abreast of material legal, regulatory and governmental developments as they pertain to and affect the Corporation's business operations, and to assist the Corporation with its governmental relations. The Corporation must rely, to some extent, on those members of management and the Corporation's Board of Directors who have previous experience working and conducting business in these countries, if any, in order to enhance its understanding of and appreciation for the local business culture and practices. The Corporation also relies on the advice of local experts and professionals in connection with current and new regulations that develop as well as in respect of banking, financing, labour, litigation and tax matters in these jurisdictions. Any developments or changes in such legal, regulatory or governmental requirements or in local business practices are beyond the control of the Corporation. The impact of any such changes may adversely affect the business of the Corporation.

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 performance and 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 by 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.

If additional funds are raised through issuances of equity or convertible debt securities, existing shareholders could suffer significant dilution, and any new equity securities issued could have rights, preferences and privileges superior to those of holders of 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 past 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.

The Corporation and its suppliers, partners and customers are exposed to the effects of severe weather, natural disasters, diseases, and other catastrophic and force majeure events beyond the Corporation's control, as well as those that may be caused by climate change, and such events could result in a material adverse effect on the Corporation.

The Corporation and its suppliers, partners and customers are exposed to potential interruption and damage, and partial or full loss, resulting from environmental disasters and other catastrophic events. There can be no assurance that in the event of an earthquake, hurricane, tornado, fire, flood, ice storm, tsunami, typhoon, terrorist attack, cyber-attack, act of war or other natural, manmade or technical catastrophe, all or some

parts of the operations of the Corporation or its suppliers, partners or customers will not be disrupted. The occurrence of a significant event which disrupts the ability of the Corporation or its suppliers or partners to produce or sell the Corporation's products for an extended period, including events which reduce customer demand for the Corporation's products, could have a material negative impact on the Corporation's business.

Climate change is predicted to lead to increased frequency and intensity of weather events and related impacts such as storms, wildfires, flooding and storm surge. Extreme weather events create a risk of physical damage to the operations of the Corporation or its suppliers, partners and customers which may not be recoverable through insurance, legal, regulatory cost recovery or other processes and could materially affect the Corporation's business, results of operations and cash flows, including its reputation with customers, regulators, governments and financial markets.

An outbreak of infectious disease, a pandemic or a similar public health threat, such as the recent outbreak of the novel coronavirus known as COVID-19, or a fear of any of the foregoing, could adversely impact the Corporation by causing operating, supply chain and project development delays and disruptions, labour shortages, reduced product demand, travel and shipping disruption and shutdowns (including as a result of government regulation and prevention measures), and increased costs to the Corporation.

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 has not paid any dividends in the past and does not have any present intention of declaring 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 currently prohibited from distributing dividends on its Common Shares.

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 October 31, 2019, there were 34,907,334 (33,565,128 as at October 31, 2018) common shares issued and outstanding as fully paid. As of March 4, 2020, there were 41,487,979 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

The outstanding common share purchase warrants indicated herein reflect the number of common shares which could be issued upon the exercise of the currently outstanding common share purchase warrants.

As at October 31, 2019, the Corporation had 6,984,297 warrants outstanding. The details are as follows:

Date of Issue	Subscriber Warrants	Agent Warrants	Long-term Debt Warrants	Term (Years)	Date of Expiry	Exercise Price
16-Dec-2014	1,163,738			5.0	16-Dec-2019[1]	$ 1.00
30-Oct-2015			500,000	4.0	13-Nov-2019	$ 1.10
1-Jun-2016	2,774,992			3.8	31-Mar-2020[1]	$ 0.90
30-Nov-2017	2,029,250			3.0	30-Nov-2020	$ 1.20
30-Nov-2017		283,080		3.0	30-Nov-2020	$ 1.00
28-Mar-2019		225,375		2.0	28-Mar-2021	$ 0.80
9-Apr-2019		7,862		2.0	9-Apr-2021	$ 0.87
	5,967,980	**516,317**	**500,000**			

Note 1: On October 15, 2019, the Corporation obtained approval to extend 2,774,992 warrants to March 31, 2020. These subscriber warrants were previously extended.

As of March 4, 2020, the Corporation had outstanding 7,804,242 subscriber warrants and 905,557 agent warrants for a total of 8,709,799 warrants issued.

Stock Options

The Corporation adopted a stock option plan (the "Option Plan") on August 4, 2005. The Option Plan is administered by the Board of Directors of the Corporation who establish exercise prices, at not less than market price at the date of grant, and vesting periods, which to date have been set between one day and three years. Options under the Plan remain exercisable for five years from the date of grant. The Option Plan was amended and restated as of February 26, 2018. As a result, the maximum number of common shares reserved for issuance for options that may be granted under the Option Plan is 3,321,955. The following table represents options granted, exercised, expired, and forfeited.

	Total	Weighted average exercise price
Balance Outstanding at October 31, 2017	**2,275,485**	**$ 0.927**
Granted	712,540	0.90
Granted	200,000	0.57
Forfeited	(45,311)	1.10
Expired and forfeited	(902,108)	1.00
Expired and forfeited	(67,500)	0.90
Expired and forfeited	(51,667)	0.70
Expired and forfeited	(31,667)	0.80
Expired and forfeited	(26,043)	0.65
Balance Outstanding at October 31, 2018	**2,063,729**	**0.86**
Forfeited	(2,187)	1.10
Forfeited	(8,125)	0.90
Expired	(11,563)	1.10
Expired	(42,667)	1.00
Expired	(9,375)	0.90
Expired	(18,750)	0.80
Expired	(215,000)	0.70
Expired	(10,000)	0.65
Granted	545,000	0.61
Balance Outstanding at October 31, 2019	**2,291,062**	**$ 0.81**

Options exercisable at:	Total	Weighted average exercise price
October 31, 2019	1,649,802	$ 0.86
October 31, 2018	1,385,653	$ 0.82

Exercise price	Options Outstanding	Options Exercisable	Weighted average remaining contractual life in months
$0.90	60,000	60,000	6.6
$0.65	132,900	132,900	9.7
$0.80	236,250	236,250	19.7
$1.00	60,000	60,000	27.9
$1.10	369,372	369,372	31.0
$0.90	60,000	52,500	37.7
$0.90	627,540	470,655	41.3
$0.57	200,000	200,000	46.5
$0.61	545,000	68,125	55.2
	2,291,062	**1,649,802**	

Due to the expiry and forfeiture of certain stock options, as at March 4, 2020, the Corporation had 2,291,062 options outstanding, of which 1,707,927 were vested and exercisable.

Repayable Government Funding

In 2006, the Corporation entered into an agreement to obtain repayable funding from 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 and was extended on October 26, 2014. Under the terms of the new agreement, the project expired on June 30, 2015. 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 October 31, 2019 and October 31, 2018, $1,334,400 was drawn under the new ACOA arrangement.

The ACOA loans were initially recognized at their fair value and are subsequently carried at amortized cost as determined by using a discounted cash flow analysis, which requires a number of assumptions. The significant assumptions used in determining fair value using discounted cash flows include estimating the amount and timing of future revenue for the Corporation and the discount rate. As the loans are repayable based on a percentage of gross revenue, the determination of the amount and timing of future revenue significantly impacts the initial fair value of the loan, as well as the carrying value of the loans at each reporting date. Management recalculates the carrying amount by computing the present value of the estimated future cash flows at the original effective interest rate of 35%. Any adjustments are recognized as accreted interest after initial recognition. For the year ended October 31, 2019, the adjustment to the

ACOA repayable funding liability was a decrease of $32,345, with a corresponding expense recognized in finance cost on the statement of comprehensive loss.

Under the first ACOA agreement, the repayments are over a ten year period commencing on June 30, 2014 and are equal to 10% of the prior year's revenue resulting from the sales of Vivamune™ Health and Oximunol™ Chews. Repayments under the first agreement are capped at the following amounts:

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

As of October 31, 2019, the Corporation has repaid $32,498 of the first agreement.

Under the second ACOA agreement, the repayments are equal to 10% of the prior year's revenue resulting from sales of OxC-beta™ Livestock. The repayment commenced on July 30, 2017. As of October 31, 2019, the Corporation has repaid $117,278 of the second agreement.

The next ACOA repayment is due on June 30, 2020 and is $97,745 based on total OxBC product sales of $977,451 for the year ended October 31, 2019.

	Project 1	Project 2	Total
Balance as at October 31, 2017	**$ 17,326**	**$ 166,770**	**$ 184,096**
Interest accretion during the year	6,772	65,956	72,728
Adjustment during the year	4,813	109,338	114,151
Repayment of loan during the year	(2,998)	(22,568)	(25,566)
Balance as at October 31, 2018	**$ 25,913**	**$ 319,496**	**345,409**
Interest accretion during the period	9,146	120,084	129,230
Adjustment during the year	971	(33,316)	(32,345)
Repayment of loan during the period	(12,547)	(94,710)	(107,257)
Balance as at October 31, 2019	**$ 23,483**	**$ 311,554**	**$ 335,037**

	October 31, 2019	October 31, 2018
Current portion of repayable funding	$ 97,745	$ 107,257
Non-current portion of repayable funding	237,292	238,152
Total ACOA repayable funding	**$ 335,037**	**$ 345,409**

Under the agreements, the Corporation must maintain a minimum shareholders' equity. The Corporation was in compliance with the covenant agreements as at October 31, 2019 and October 31, 2018.

Bloom Burton Healthcare Lending Trust

On October 30, 2015, the Corporation entered into an agreement with the Bloom Burton Healthcare Lending Trust (the "Trust") for a secured drawdown credit facility of up to $1.8 million. Amounts drawn on the credit facility accrue interest at 12% annually, with 7% repayable each calendar quarter and the remaining 5% accruing to be repaid at maturity. On March 28, 2019, the Corporation fully repaid the $1.8 million principal of the credit facility and $234,929 in accrued interest.

In consideration for the credit facility, the Trust was issued 500,000 warrants to purchase common shares of the Corporation at an exercise price of $1.10. Such warrants vested and became exercisable in amounts proportionate to the amount of the facility which was drawn down. The warrants remained exercisable up to November 13, 2019 at which time they expired unexercised.

Under IAS 32 *Financial Instruments: Presentation*, an entity is required to separate a financial instrument that contains a financial liability and an equity component using the residual method. The warrants are considered to be an equity component and the credit facility is considered a financial liability. Therefore, the financial liability is measured at the discount rate that a market participant would require without the equity component. The discount rate was determined to be 16%. As the credit facility is drawn, the financial liability was recorded at its discounted value of 16% with the difference, being the value of the warrants, accounted for as an equity transaction.

Initial recognition of the facility was at its fair value at a discount rate of 16%. Subsequent recognition will use the effective interest method. Transaction and legal costs associated with the facility in the amount of $99,023 have been recorded to equity and long-term debt on a pro-rata basis. The liability's transaction costs were expensed using the effective interest method up to the date the facility was repaid.

On November 13, 2015, the Corporation drew $1,000,000 from the credit facility and vested 277,778 warrants. The debt was recognized at $866,477 and the equity was recognized at $133,523. On May 17, 2018, the Corporation drew the remaining $800,000 from the facility and vested the remaining 222,222 warrants. The debt was recognized at $754,205 and the equity was recognized at $45,795.

The warrants were charged to the contributed surplus account until such time as the warrants are exercised or expired.

Balance as at October 31, 2017	**$ 996,603**
Amounts drawn from credit facility at present value	754,205
Interest paid during the year	(91,566)
Interest accretion during the year	226,448
Amortization of transaction costs during the year	21,773
Balance as at October 31, 2018	**1,907,463**
Interest accretion during the period	125,950
Interest paid during the period	(69,776)
Amortization of transaction costs during the period	8,845
Accrued interest paid on settlement of long-term debt	(234,929)
Principal repaid during the period	(1,800,000)
Interest accretion on settlement of long-term debt	62,447
Balance as at October 31, 2019	**Nil**

Senior Secured Debentures

On March 28, 2019, the Corporation closed an offering of Senior Secured Debentures (the "First Closing Debentures") in the aggregate principal amount of $5,264,000 for gross proceeds in the same amount. A second closing of Senior Secured Debentures (the "Second Closing Debentures" and together with the First Closing Debentures the "Debentures")) took place on April 9, 2019 in the aggregate principal amount of $114,000 for gross proceeds in the same amount. The Debentures will bear interest at 10% per year, payable quarterly in cash. The Corporation will also pay an annual credit maintenance fee of 2% in cash or shares at the Corporation's discretion. The First Closing Debentures will mature on March 27, 2022 and the Second Closing Debentures will mature on April 8, 2022, at which time the principal amount and all accrued and unpaid interest will be repayable in cash.

Purchasers of First Closing Debentures also received an aggregate of 1,316,000 common shares of the Corporation, being an amount equal to 20% of the principal amount of the First Closing Debentures divided by $0.80 per share.

The principal amount of the First Closing Debentures and any accrued and unpaid interest may be repaid in full after March 28, 2020. Between March 28, 2020 and March 28, 2021 an early repayment is subject to a 2% fee and between March 28, 2021 and March 27, 2022 an early repayment is subject to a 1% fee. The early repayment fee may be paid in cash or shares at the Corporation's discretion.

The Corporation paid agent fees in connection with the First Closing Debentures of $180,300 and issued 225,375 agent warrants. Each agent warrant entitles the agent to purchase one common share of the Corporation for two years at $0.80. The warrants were recognized at a fair value of $72,796 using a Black-Scholes calculation with the following inputs: stock price of $0.74, exercise price of $0.80, life of 2 years, annual risk-free interest rate of 1.49% based on the Bank of Canada benchmark 2-year bond yield, and annualized volatility of 85%. The warrants were charged to the contributed surplus account until such time as the warrants are exercised or expired.

Under IAS 32 *Financial Instruments: Presentation*, an entity is required to separate a financial instrument that contains a financial liability and an equity component using the residual method. The common shares are considered to be an equity component and the First Closing Debentures are considered a financial liability. Therefore, the financial liability is measured at the discount rate that a market participant would require without the equity component. The discount rate for the First Closing Debentures was determined to be 20.78%.

Initial recognition of the debt component of the First Closing Debentures was at its fair value at a discount rate of 20.78%. $4,211,200 was recognized as debt and $1,052,800 was recognized as equity. Subsequent recognition of the debt component will use the effective interest method.

Purchasers of Second Closing Debentures also received an aggregate of 26,206 common shares of the Corporation, being an amount equal to 20% of the principal amount of the Second Closing Debentures divided by $0.87 per share. The principal amount of the Second Closing Debentures and any accrued and unpaid interest may be repaid in full after April 9, 2020. Between April 9, 2020 and April 9, 2021 an early repayment is subject to a 2% fee and between April 9, 2021 and April 8, 2022 an early repayment is subject to a 1% fee. The early repayment fee may be paid in cash or shares at the Corporation's discretion.

The Corporation paid agent fees in connection with the Second Closing Debentures of $6,840 and issued 7,862 agent warrants. Each agent warrant entitles the agent to purchase one common share of the Corporation for two years at $0.87. The warrants were recognized at a fair value of $3,137 using a Black-Scholes calculation with the following inputs: stock price of $0.87, exercise price of $0.87, life of 2 years, annual risk-free interest rate of 1.60% based on the Bank of Canada benchmark 2-year bond yield, and annualized volatility of 85%. The warrants were charged to the contributed surplus account until such time as the warrants are exercised or expired.

Under IAS 32 *Financial Instruments: Presentation*, an entity is required to separate a financial instrument that contains a financial liability and an equity component using the residual method. The common shares are considered to be an equity component and the Second Closing Debentures are considered a financial liability. Therefore, the financial liability is measured at the discount rate that a market participant would require without the equity component. The discount rate for the Second Closing Debentures was determined to be 20.23%.

Initial recognition of the debt component of the Second Closing Debenture was at its fair value at a discount rate of 20.23%. $91,200 was recognized as debt and $22,800 was recognized as equity. Subsequent recognition of the debt component will use the effective interest method.

Transaction costs associated with the Debentures in the amount of $412,180 have been recorded to equity and long-term debt on a pro-rata basis. The liability's transaction costs will be expensed using the effective interest method up to the maturity date of the Debentures.

Balance as at October 31, 2018	**$ Nil**
Issuance of secured debenture	$ 4,302,400
Transaction costs allocated to long-term debt	(329,743)
Interest accretion during the period	534,381
Interest paid during the period	(319,392)
Amortization of transaction costs during the period	65,003
Balance as at October 31, 2019	**$ 4,252,649**

Current portion of long-term debt	$ 647,937
Non-current portion of long-term debt	3,604,712
Balance as at October 31, 2019	**$ 4,252,649**

The undiscounted future repayments per fiscal year on the loan with future accrued interest is as follows:

2020	647,937
2021	645,360
2022	5,703,192
Total	**$ 6,996,489**

MARKET FOR SECURITIES

Trading Price and Volume

The common shares are listed in Canada on the TSX Venture Exchange under the trading symbol "VIV". The closing price of the common shares on the TSX Venture Exchange on October 31, 2019 was $0.45.

The following table sets out the high and low trading of the common shares for each month of the fiscal year ended October 31, 2019, as reported by the TSX Venture Exchange in Canadian dollars.

Period	High	Low	Trading Volume
October 2019	$ 0.61	$ 0.40	839,860
September 2019	$ 0.67	$ 0.46	432,630
August 2019	$ 0.70	$ 0.45	498,170
July 2019	$ 0.72	$ 0.60	273,810
June 2019	$ 0.73	$ 0.56	191,986
May 2019	$ 0.77	$ 0.55	601,990
April 2019	$ 0.92	$ 0.73	1,236,060
March 2019	$ 0.99	$ 0.67	1,272,280
February 2019	$ 0.80	$ 0.46	2,174,041
January 2019	$ 0.59	$ 0.37	616,570
December 2018	$ 0.52	$ 0.33	799,590
November 2018	$ 0.67	$ 0.46	628,270

PRIOR SALES

During the fiscal year ended October 31, 2019 the Corporation issued the following securities which are not listed or quoted on a marketplace:

On June 5, 2019, the Corporation granted 545,000 stock options employees, consultants, and members of the Board of Directors. The stock options were granted pursuant to the terms of the stock option plan and are exercisable at $0.61 per share.

Also see above under the heading "Description of Capital Structure" for a description of warrants and senior secured debentures of the Corporation which are outstanding, some of which were issued during the fiscal year ended October 31, 2019.

DIRECTORS AND OFFICERS

Directors and Officers of the Corporation

As of October 31, 2019, the Directors and Executive Officers of the Corporation (as a group) beneficially owned, or controlled or directed, directly or indirectly, a total of 1,118,209 common shares, representing 3.2% of the Corporation's total issued and outstanding common shares.

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 October 31, 2019.

Name and Residence	**Position and Offices with the Corporation**	**Present Principal Occupation or Employment and Principal Occupation or Employment within the 5 preceding years**	**Director or Officer of the Corporation Since**	**Number of Common Shares Held**[(1)]
G. F. Kym Anthony Ontario, Canada not independent[(2)]	Director Chief Executive Officer and President	May 2019 to present – Chief Executive Officer of the Corporation February 2017 to May 2019 – Interim Chief Executive Officer of the Corporation 2007 to present – Chair, Hybrid Partners and Executive Chair, Top Meadow Investments Inc.	April 4, 2014	166,667[(3)]
Chris Boland Ontario, Canada	Chief Financial Officer	July 2012 to present – Chief Financial Officer of the Corporation 2009 to present – Principal of Chris Boland Professional Corporation	July 3, 2012	111,000
Dr. Graham Burton Ontario, Canada not independent[(2)]	Director Chief Scientific Officer	April 2017 to present – Chief Scientific Officer of the Corporation March 2013 to April 2017 – Director of Commercialization Science of the Corporation August 2005 to March 2013 – President of the Corporation November 2010 to March 2013 – Managing Director of Research Co-Ordination of the Corporation	August 4, 2005	245,845

Name and Residence	Position and Offices with the Corporation	Present Principal Occupation or Employment and Principal Occupation or Employment within the 5 preceding years	Director or Officer of the Corporation Since	Number of Common Shares Held[(1)]
Aubrey Dan Ontario, Canada independent	Director Chair of Corporate Governance and Compensation Committee Member, Audit Committee	2015 to January 2018 – Director of CannTrust Holdings Inc. 2014 to present – Director of Porter Aviation Holdings Inc. 2002 to present – President of Dancap Private Equity Inc. Family Investment Office	November 22, 2017	500,000
David Hankinson Nova Scotia, Canada independent	Vice Chairman of the Board of Directors Member, Audit Committee Member, Corporate Governance and Compensation Committee	March 2013 to October 2016 – Executive Director of the Corporation October 2010 to March 2013 – Chief Executive Officer of the Corporation	August 4, 2005	22,657
Jeffrey Kraws New York, U.S. independent	Chairman of the Board of Directors Member, Audit Committee	2003 to present – Chief Executive Officer and Co-Founder of Crystal Research Associates and CRA Advisors, LLC August 2016 to present – President of Ra Medical Systems Inc. November 2015 to present – Partner of Grannus Securities Pty Ltd. and Phoenix Holdings October 2014 to present – Registered Representative of Terranova Capital Partners, Inc. December 2013 to present – Director of Saleen Automotive, Inc. May 2012 to present – Independent Non-Executive Chairman of the Board of Directors of Synthetic Biologics Company February 2012 to present – Partner and Co-Founder of TopHat Capital, LLC	April 11, 2017	50,000

Name and Residence	Position and Offices with the Corporation	Present Principal Occupation or Employment and Principal Occupation or Employment within the 5 preceding years	Director or Officer of the Corporation Since	Number of Common Shares Held(1)
Paul Mesburis Ontario, Canada independent	Director Chair of Audit Committee Member, Corporate Governance and Compensation Committee	2012 to present – Managing Principal and Chief Investment Officer of Empyrean Capital 2019 to present – Independent Director of Logica Ventures Corp. 2009 to 2019 – Independent Director of Prometic Life Sciences Inc. 2016 to 2019 – Co-Chair and Independent Director of EEStor Corp. 2014 to 2016 – Independent Director of EEStor Inc.	April 5, 2016	22,040

Notes to Table:

(1) Number of Common Shares of the Corporation known to the Corporation to be beneficially owned, or over which control or direction is exercised, directly or indirectly, by any proposed director and the proposed director's associates or affiliates.

(2) Mr. Anthony is considered to be not independent as he is Chief Executive Officer of the Corporation. Dr. Burton is not independent as he is an officer of the Corporation.

(3) Does not include 560,000 Common Shares owned by Carole Anthony, Mr. Anthony's spouse, over which Mr. Anthony does not have voting or dispositive power and in respect of which Mr. Anthony disclaims beneficial ownership.

Corporate Cease Trade Orders

No Director or Executive Officer of the Corporation, is at the date of this Annual Information Form, or has been within the ten years before the date of this Annual Information Form, 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 at the date of this Annual Information Form, or has been within the ten years before the date of this Annual Information Form, 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:

- Related party with Mimi's Rock Inc.;

- Joint venture with Shaanxi Jintai Mining Co (the "China JV").; and
- All officers and directors and the corporations they influence or control.

On July 24, 2018, the Corporation entered into an agreement to wind up Shaanxi Jintai China-Canada Beta-carotene Oxidation Biological Company, its joint venture in China (the "China JV"). Upon the completion of the wind-up, the Corporation will issue $300,000 in common shares, being 500,000 common shares of the Corporation at $0.60 per share, as reimbursement to the China JV partner for expenses incurred to date.

For the fiscal year ended October 31, 2019, the Corporation recorded a $50,000 expense for the China JV windup which, combined with the $250,000 expense recorded in the year ended October 31, 2018, represents the full settlement of $300,000. To settle the $300,000, 500,000 common shares of the Corporation were issued at $0.60 per common share on November 25, 2019.

For the twelve-month period ending October 31, 2018, the Corporation received consulting services from a legal firm that is a related party, as a former director of the Corporation is a partner at the legal firm. The expense related to the services totalled $3,650. As of April 10, 2018, the related Director departed from the Board and the legal firm is no longer considered a related party.

On June 13, 2019, the Corporation signed a Shareholder's Agreement with Mimi's Rock to create a joint venture, Centre Beach, Inc. for the purposes of marketing and selling Vivamune Health Chews or a similar brand through internet sales world-wide. Mimi's Rock and the Corporation each hold 50% of the outstanding shares of Centre Beach and each occupy 50% of the seats on the Board of Directors of Centre Beach.

Under the terms of the Centre Beach shareholder's agreement, the Corporation is responsible for providing Centre Beach with the active ingredient, OxC-Beta, and providing for necessary registrations in various countries and Mimi's Rock is responsible for the production, marketing, and sale of Vivamune Health Chews (or a similar brand) as well as administration of Centre Beach.

LEGAL PROCEEDINGS AND REGULATORY MATTERS

From time to time, the Corporation may be the subject of litigation arising out of its operations. See "Risk Factors" above. 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 knew of no material current or threatened legal proceedings as of October 31, 2019.

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 Paul Mesburis, Kym Anthony, David Hankinson, and Jeffrey Kraws. Mr. Mesburis is Chair of the Audit Committee. All members of the Audit Committee are financially literate. Mr. Anthony is considered not independent as he is an Officer of the Corporation. Mr. Mesburis, Mr. Hankinson, and Mr. Kraws are independent. Mr. Mesburis is a Chartered Professional Accountant (Ontario), Certified Public Accountant (Illinois) and Chartered Financial Analyst with more than twenty years of international experience in financial and capital markets. Mr. Anthony received his BA from Simon Fraser University and his MBA from the University of Western Ontario. Mr. Anthony had served as Chairman of DFG Investment Advisors since 2007. Mr. Anthony had also served as Executive Chairman of Hybrid Partners, Inc. until 2014. Mr. Hankinson graduated from Dalhousie University as a pharmaceutical chemist (Ph.C.) and has worked in the international pharmaceutical industry for 27 years, with experience at the director level of Eli Lilly and as CEO of the Canadian operations of Solvay S.A. Mr. Kraws holds an MBA and a B.S. degree from the State University of New York – Buffalo and is the CEO and co-founder of Crystal Research Associates LLC.

Mr. Kraws ranked in the top ten analysts for pharmaceutical stock performance in the world, and Starmine and Zacks have both ranked him as number one stock picker for pharmaceuticals. His experience includes Senior Pharmaceutical Analyst at Evern Securities, Asea Brown Boveri, Nationsbanc Montgomery Securities, BT Alex Brown & Sons and The Buckingham Research Group Incorporated.

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

Avivagen has adopted policies and procedures with respect to the pre-approval of audit and permitted non-audit services by McGovern Hurley LLP. 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 McGovern Hurley LLP. 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 McGovern Hurley LLP 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 McGovern Hurley LLP, Toronto, Ontario. McGovern Hurley was first appointed auditors of the Corporation for the 2018 fiscal year. Prior to McGovern Hurley, PwC Canada was the auditor of the Corporation for the October 31, 2017 fiscal year.

The following are the aggregate fees incurred by the Corporation for services provided by its external auditors during fiscal 2017, fiscal 2018, and fiscal 2019:

Financial Year Ending	Audit Fees	Audit Related Fees[(1)]	Tax Fees	All Other Fees[(2)]	Total
October 31, 2019	$32,640	$3,745	NIL	NIL	$36,385
October 31, 2018	$32,640	$3,711	NIL	NIL	$36,351
October 31, 2017	$30,750	NIL	NIL	$31,500	$62,250

(1) Related to travel and incidental expenses incurred in the course of performing the audit.

(2) Tax advisory services for China.

CORPORATE GOVERNANCE AND COMPENSATION COMMITTEE

The Corporate Governance and Compensation Committee is tasked with (i) reviewing and studying compensation and compensation policies for the Corporation; (ii) reviewing the goals and objectives of the CEO at the beginning of each year and providing an appraisal of the CEO's performance for the most recently completed year; and (iii) reviewing the performance of the senior Officers of the Corporation including the level of long-term incentives awarded to each. The compensation for all remaining Executives is determined in accordance with the terms of their employment agreements, and otherwise by the CEO.

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

Computershare Transfer, Inc., 100 University Ave., 9th 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 McGovern Hurley LLP, Toronto, Ontario. McGovern Hurley LLP was first appointed auditors of the Corporation for the 2018 fiscal year. The auditors have no interest in or security holdings of Avivagen.

MATERIAL CONTRACTS

Following are the material contracts entered into since the beginning of the fiscal year ended October 31, 2019 or before then but is still in effect. Copies of these contracts are available at www.SEDAR.com.

- Shareholders' Agreement dated June 13, 2019 to form a joint venture (Centre Beach, Inc.) between the Corporation and Mimi's Rock Corp. for the purpose of producing, marketing, and selling companion animal nutritional supplements.
- Agency Agreement dated March 28, 2019 with respect to a private placement of senior secured debentures completed by the Corporation on that date with a subsequent closing on April 9, 2019. Agent fees totaling $187,140 and broker warrants totaling 232,215 for both closings were issued. Each agent warrant entitles the finder to purchase one common share of the Corporation for three years at $0.80.
- Secured Trust Indenture dated March 28, 2019 between the Corporation and Capital Transfer Agency, ULC, with respect to senior secured debentures issued by the Corporation on that date with a subsequent closing on April 9, 2019.
- Supply and distribution agreement dated February 19, 2019 with CSA Animal Nutrition, Inc.
- Distribution and Supply Agreement dated October 19, 2016 with UNAHCO, Inc.
- The Corporation entered into two agreements to obtain repayable funding from the Atlantic Canada Opportunities Agency.

ADDITIONAL INFORMATION

Additional information about the Corporation may be found at www.SEDAR.com. Additional information, including directors', named executives' and officers' remuneration and indebtedness, principal holders of securities of the Corporation, and securities authorized for issuance under equity compensation plans, where applicable, is contained in the management information circular of the Corporation filed on SEDAR on March 1, 2019 in respect of the annual meeting of the holders of shareholders held on April 10, 2019. Additional financial information is provided in the audited annual financial statements and management's discussion and analysis for the year ended October 31, 2019 and issued on December 19, 2019.

APPENDIX A – AUDIT COMMITTEE CHARTER

1 PURPOSE

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

(a) 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;

(b) review the Corporation's financial reports and other financial information, disclosure controls and procedures and internal accounting and financial controls;

(c) review the Corporation's financial statements, management's discussion and analysis and annual and interim profit or loss press releases before public release;

(d) recommend to the Board of Directors the appointment of the external auditors, to be approved by the shareholders, compensation, and retention (and where appropriate, replacement) of the external auditors;

(e) oversee the work of the external auditor in preparing or issuing an audit report or related work, monitor the independence of the external auditor and pre-approve all auditing services and permitted non-audit services provided by the external auditor;

(f) receive direct reports from the external auditor and resolve any disagreements between management and the external auditor regarding financial reporting;

(g) 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

(h) carry out the specific responsibilities set forth below in furtherance of this stated purpose.

2 COMPOSITION AND TERM

Committee members shall be appointed by the Board, and shall serve at the pleasure of the Board. Any member of the Committee may be removed or replaced at any time by the Board and shall, in any event, cease to be a member of the Committee upon ceasing to be a member of the Board. The Board may designate one member of the Committee as its Chair.

Subject to applicable exemptions available under National Instrument 52-110 *Audit Committees*, as may be amended from time to time (**NI 52-110**), which exemptions include the requirements of a "venture issuer" and the requirements of any stock exchange on which the Corporation's securities are listed and posted for trading:

(a) the Committee shall be composed of at least three directors; and

(b) members of the Committee must be:

  (i) independent; and

  (ii) financially literate (or become financially literate within a reasonable period of time after his or her appointment to the Committee).

"Independence" shall have the meaning ascribed to such term in NI 52-110. Currently it means that a Committee member has no direct or indirect material relationship with Avivagen, which is a relationship that could, in the view of the Board, be reasonably expected to interfere with the exercise of a director's independent judgment.

"Financial literacy" shall have the meaning ascribed to such term in NI 52-110. Currently it means that a Committee member has the ability to read and understand a set of financial statements, including but not limited to the statement of financial position, the statement of comprehensive income or loss, the statement of shareholders' equity, the statement of cash flow, and notes to the statements in accordance with International Financial Reporting Standards, and that present a breath 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.

3 MANDATE AND RESPONSIBILITIES

The Committee's role is one of oversight of the integrity of the Corporation's accounting and financial reporting process, including financial reporting processes, internal controls over financial reporting and disclosure controls procedures. It is recognized that the Corporation's management is responsible for preparing the financial statements and notes thereto and that the Corporation's external auditor is ultimately accountable to the Board and the Committee, as representatives of the shareholders and other stakeholders, for providing an audit opinion on the financial statements and notes.

The mandate and responsibilities of the Committee are as follows:

(a) *Appointment of External auditor.* The Committee shall have direct responsibility for recommending 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. Review the performance of the external auditors.

(b) *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.

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

(d) *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. The Committee shall also discuss with the external auditor how the Corporation's financial systems and controls compare with industry practices.

(e) *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. Discuss with the external auditors the quality and not just the acceptability of the Corporation's accounting principles including all critical accounting policies used, any alternate treatment of financial information that have been discussed with management, the ramifications of use of such alternative classifications, recognitions, derecognitions, measurements, presentations and disclosures and treatments and the auditor's preferred treatment, as well as any other material communications with management.

(f) *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 and as permitted under the rules of professional conduct of the Chartered Professional Accountants of Ontario.

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

(i) request from the external auditor a formal written statement delineating all relationships between the external auditor and the Corporation;

(ii) discuss with the external auditor any 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;

(iii) approve the selection, and the terms of the engagement, of the external auditor;

(iv) 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;

(v) perform the procedures set forth under the heading "*Financial Reporting Procedures*" below with respect to the annual financial statements;

(vi) review with the Corporation's counsel, external auditors and management any legal or regulatory matter that could have a significant impact on the Corporation's financial statements;

(vii) review and make recommendations with respect to any litigation, claim or contingency that could have a material effect upon the financial position of the Corporation and the appropriateness of the disclosure thereof in the documents reviewed by the Committee;

(viii) review with management and the external auditor the Corporation's critical accounting policies and practices; and

(ix) 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.

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

(i) discuss with the external auditor whether all material correcting adjustments identified (if any) by the external auditor in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board of London, England and adopted by the Canadian Accounting Standards Board, Generally Accepted Auditing Standards of Canada and the rules of the applicable securities regulators, as may be amended from time to time, are reflected in the Corporation's financial statements;

(ii) review with the external auditor all material communications between the external auditor and management, such as any management letter or schedule of unadjusted differences (if any);

(iii) review with management and the external auditor any significant 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

(iv) resolve any disagreements, if any, between management and the external auditor regarding financial reporting.

(i) Review and make recommendation regarding insurance coverage (annually or as may be otherwise appropriate).

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

The foregoing responsibilities are set forth as a guide and may be varied and supplemented from time to time as appropriate under the circumstances.

4 MEETINGS AND PROCEDURES

4.1 Meetings

The time at which and the place where the meetings of the Committee shall be held, the calling of meetings and the procedure at such meetings shall be determined by the Chair of the Committee. The Committee shall meet as many times as it considers necessary to carry out its responsibilities effectively and shall, in any event, meet at least once per quarter.

4.2 Quorum

Unless otherwise determined by the Committee, two or more members of the Committee shall constitute a quorum.

4.3 Attendance

The Committee may invite such officers, directors or employees of the Corporation, external auditors, insurance agents and brokers, financial, technical or legal advisors, or other persons as it sees fit, from time to time, to attend at meetings of the Committee and to assist in the discussion of matters being considered by the Committee.

4.4 Chair and Secretary

The Chair shall preside at all meetings of the Committee. In the absence of the Chair, the Committee shall appoint one of its members to act as chair. The Committee shall also identify a Secretary, who need not be a member of the Committee, to attend and record minutes of the meetings of the Committee.

4.5 Decisions

Decisions of the Committee shall be evidenced by resolutions passed at meetings of the Committee and recorded in the minutes of such meetings or by an instrument in writing signed by all of the members of the Committee.

4.6 Minutes

Minutes of the Committee will be recorded and maintained by the Secretary of the Committee.

4.7 Authority to Engage Advisors

The Committee shall have the authority to engage, at the expense of the Corporation, such outside advisors as it determines necessary or advisable to carry out its duties, including legal, financial, tax, technical and accounting advisors, and establish the compensation of such advisors.

4.8 Reporting to the Board

The Committee shall report to the Board on such matters and questions relating to the mandate and activities of the Committee as the Committee may deem appropriate or as the Board may from time to time request or refer to the Committee.

4.9 Complaints

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. The contact information for the Chair of the Committee is as follows:

Avivagen Inc.
Attention: Chair of the Audit Committee of the Board
100 Sussex Drive
Ottawa, ON K1A 0R6
Canada

Tel: +1-613-949-8164
E-mail: auditchair@avivagen.com
Website: www.avivagen.com

5 RESOURCES AND AUTHORITY

The Committee is granted all authority required by NI 52-110, including without limitation the authority to:

(a) investigate any matter brought to its attention with full access to all books, records, facilities and personnel of the Corporation;

(b) engage independent legal, tax, 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; and

(c) 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 or other advisors 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.

Effective Date: December 19, 2016

Date of Last Amendment: December 19, 2016