Avivagen Inc.

ANNUAL INFORMATION FORM

FOR THE PERIOD ENDED OCTOBER 31, 2021

DATED: January 18, 2022

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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.

Polymer: 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, 2021, unless otherwise indicated.

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 and for other significant health benefits;
- Avivagen's goal to access the human natural health product markets for OxC-beta™ technology and the human dietary supplement based on the β-carotene norisoprenoid blend;
- Avivagen's expectations with respect to the potential for sales of human and companion animal products through Centre Beach, 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 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, North America, South America, or elsewhere;
- Ability to formalize and maintain distribution and customer relationships in current and new markets and the Corporation's expectations as to the potential size of various 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 "no objection" notification letter from the United States Food & Drug Administration for OxBC, the OxC-beta 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 and the funding required for such processes;
- Expectations regarding the ability to raise equity, capital, debt or other forms of financing that may be required to maintain operations;
- Expectations that the Corporation will continue as a going concern;
- Adhering to program funding commitments, government grants, government loans, 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 margins;
- Outcomes from ongoing and planned product trials and research and development;
- Obtaining or maintaining regulatory permissions in commercial markets;
- The enforceability of the Corporation's patents in commercial markets;
- The return of conditions persisting during the global financial crisis and economic downturn;
- The Covid-19 pandemic and its effects;
- Competition for, among other things, sales, financial capital and skilled personnel and contractors;
- The Corporation's ability to continue as a going concern;
- Changes in laws and regulations relating to the human and animal health industries; 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 debt, liabilities, provisions, obligations and commitments;
- The Corporation's ability to continue as a going concern;

- The regulatory frameworks relating to animal health products, human foodstuffs, global 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, sales and marketing staff, logistics 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.

Information herein that relates to the current or anticipated size of, or demand in, international markets are based on third party information sourced by the Corporation. While the Corporation believes such information to have been prepared by professional organizations based on reasonable assumptions, we rely on those third parties entirely for such information and cannot independently represent as to its accuracy. Readers should not place undue reliance on such information provided by third parties.

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 Drive, Ottawa, Ontario, Canada K1A 0R6.

Avivagen is a 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 enhance feed intake and support immune function thus helping animals to achieve their full growth and productivity potential. 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 novel properties of the OxBC-based product make it not only a compelling alternative for in-feed antibiotics in poultry and swine but more recently have provided indications of applications beyond antibiotic replacement such as supporting reproductive health and immune function of sows and the health of their nursing piglets as well as improving milk quality and general health in dairy cows.

The use of antibiotics as growth promoters in feedstock 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 has been sold as a feed additive in the Philippines, Taiwan, Thailand, China, Mexico, and Malaysia. 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.

For fiscal year ended October 31, 2021, the Corporation sold 12,081kg of OxC-beta™ Livestock 10% premix as follows: 9,550kg to a customer in the Philippines, 1,150kg to customers in Mexico, and 1,381kg to customers in Thailand and Taiwan.

For fiscal year ended October 31, 2020, the Corporation sold 10,364kg of OxC-beta™ Livestock 10% premix as follows: 7,250kg to a customer in the Philippines, 2,450kg to customers in Mexico, and 664kg to customers in Thailand, Taiwan, Brazil, and Malaysia.

For the five-year period from November 1, 2016 to October 31, 2021, the Corporation sold 36,045kg of OxC-beta™ Livestock 10% premix as follows: 29,900kg to a customer in the Philippines, 3,600kg to customers in Mexico, 1,075kg to customers in Thailand, 1,135kg to customers in Taiwan, and 335kg to customers in Brazil, Malaysia, and China.

The Corporation has created Vivamune™ Health Chews for retail distribution which are intended to promote health and quality of life in companion animals. 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 is supplying its products that include its proprietary OxC-beta™ technology and Mimi's Rock, Corp. ("Mimi's Rock") is marketing and selling the product under the brand name "Dr. Tobias™ All-In-One Dog Chews" through its e-commerce platform and online global channels. All sales are conducted through Centre Beach, Inc. ("Centre Beach") a corporation which is jointly owned by Avivagen and Mimi's Rock. This joint venture is the exclusive channel through which Avivagen sells nutritional supplements for cats and dogs online.

On January 25, 2021, the Corporation launched Beta Blend, a dietary health supplement for humans. The Beta Blend product is intended to bring the health benefits of the Corporation's discoveries related to beta-carotene oxidation compounds to humans. Beta Blend is marketed by Centre Beach Inc., a joint venture corporation of Avivagen and Mimi's Rock Corp. Under the terms of the joint venture agreement, Avivagen is supplying its dietary health supplement product and Mimi's Rock, Corp. ("Mimi's Rock") is marketing and selling the product under the brand name "Dr. Tobias™ Beta Blend" through its e-commerce platform. All sales are conducted through Centre Beach, Inc.

The Corporation is also undertaking discussions with potential marketing and distribution-partners for the human health supplement product outside of the US.

Business Model

Avivagen's business model centers on the commercialization of its technology and related products having significant profit potential within the livestock animal, companion animal, and human health supplement 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 a chemistry laboratory in Ottawa, Ontario, Canada. This facility is 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 primarily on the commercialization of its product for livestock feed by demonstrating product utility, obtaining regulatory approvals, and sales of its internally discovered technology. See "Forward-Looking Information."

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

There are reports that beta-carotene has biological activities, including beneficial effects upon immune function, quite apart from its function as a precursor of vitamin A. Similar activities have been observed with other carotenoids, e.g., lutein, that are not sources of vitamin A. The project began with the goal of identifying the chemical source of the non-vitamin A activities of beta-carotene and progressed to the discovery that the activities arise from beta-carotene oxidation products and not beta-carotene itself.

In probing beta-carotene's strong tendency to spontaneously oxidize, Avivagen's scientists discovered that when beta-carotene reacts with oxygen it forms a beta-carotene-oxygen copolymer compound ("polymer") together with minor amounts of many small molecule compounds called norisoprenoids, Furthermore, the oxidized beta-carotene mixture (OxBC) was confirmed to be biologically active. Importantly, the absence of any vitamin A in OxBC shows its activity is independent of β-carotene's vitamin A activity. Activities include support of immune function that once was attributed to beta-carotene itself. In addition, the norisoprenoid products contribute flavour and fragrance properties to OxBC, supporting increased food intake of livestock feed.

Avivagen has developed commercial OxC-beta™ products that harness OxBC's newly-discovered activities to support and maintain animal wellbeing.

OxBC is obtained by the full oxidation of pure beta-carotene. The presence of minor amounts of norisoprenoid compounds is reflective of the process that occurs 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.

In livestock nutrition, beta-carotene originally was provided as a source of vitamin A by including forages with livestock feeds. However, loss of beta-carotene occurs in plant materials during processing and storage which inevitably led to loss of vitamin A activity. Nowadays livestock feeds provide synthetic vitamin A directly, along with other vitamins, micronutrients and minerals, replacing forages for this purpose. An unintended consequence has been the elimination of potentially beneficial but as-yet unrecognized micronutrients or phytochemicals, including OxBC, that would have been present naturally in plant materials. The inclusion of known vitamins and minerals and other recognized micronutrients in livestock feed supplements cannot fully compensate for the absence of such substances.

Avivagen and others have shown that polymeric compounds very similar to those in the OxBC product, as well as many of their associated norisoprenoid oxidation products, are naturally present in numerous carotenoid-containing plant materials that at one time served as livestock forages. The application of OxBC as a feed supplement for livestock provides a compensating, synthetic source of the beneficial and naturally occurring polymer and small molecule compounds, supporting immune function, feed intake, general health and, indirectly, productivity.

The importance of OxBC in helping animals to produce to their full potential has been demonstrated in multiple trials in broiler poultry, swine, and dairy cattle. The trials in broilers and piglets demonstrated that supplementation with low parts per million levels of OxBC in feeds supports overall health, which translates into growth performance benefits, including 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 OxBC in the control diet. Trials in dairy cattle and periparturient sows demonstrated still further benefits of OxBC beyond growth performance. Observed benefits in dairy cattle and sows include reduced incidence of subclinical disease, improved immune status and reproductive performance. 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 OxBC in commercial poultry, swine and dairy cattle feeds and highlights the very significant commercial value of OxBC products.

A further finding of the broiler and piglet 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 OxBC in the diet it is possible to reduce the use of antibiotic growth promoters without compromising productivity.

Significant potential commercial opportunities also exist where in-feed antibiotic use is either precluded, such as for dairy cattle during lactation, or is not applicable, such as for periparturient sows. Supplementation of lactating dairy cows with dietary OxBC significantly increased the cow's ability to eliminate subclinical intramammary infection and led to lower incidence of clinical mastitis. OxBC affords producers a non-antimicrobial approach to reducing the prevalence of intramammary infection during the lactation period when use of antibiotics would result in the animal being withdrawn from production. Supplementation of sows with OxBC during the perinatal period enhances milk-lactose concentration and sow-immune status, as reflected in improved cytokine status and immunoglobulin concentrations in colostrum and milk. The increased nutrient content of milk, coupled with improved passive immune transfer arising from higher immunoglobulin levels in colostrum and milk, results in healthier piglets with lower incidence of disease and increase body weight at weaning.

Livestock Applications of OxC-beta™ Livestock

Avivagen has conducted several studies (See "Supporting Research Results") evaluating the benefits of OxBC in supporting optimal immune function and productivity. These studies showed that supplemental OxBC provided as OxC-beta™ Livestock 10% premix has an important role to play in supporting immune function and overall animal productivity and health. The immunological benefits of OxBC have been demonstrated in a wide range of species, including fin fish, chickens, pigs, dairy 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 goal 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, sea bass, and shrimp.

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

In addition to the OxC-beta™ Technology, Avivagen has developed an innovative formulation of β-carotene combined with norisoprenoids (β-carotene norisoprenoid blend), which shows promise as an ingredient in human dietary/health supplements. The Corporation has launched a human dietary supplement, Beta Blend, based on the β-carotene norisoprenoid blend. The first market for the product was the US and could be followed by additional markets including Taiwan, Mexico, Brazil and Canada. The US product was launched January 28, 2021. 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, broiler poultry and cattle, as well as in proof-of-concept studies in rainbow trout. Overall, the results from these studies reveal that economically meaningful improvements in health and productivity can be gained by optimizing the dietary level 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. Furthermore, the results highlight that optimizing OxBC in diets contributes significantly to an animal reaching its full health and growth potential.

An important component of marketing feed additive products and technologies to the feed industry is the validation of study results by publication in peer-reviewed scientific journals. Avivagen has directed resources to having the findings of several of its sponsored trials published in international scientific journals.

For broiler poultry there are two papers reporting the benefits of OxC-beta™ Livestock supplementation which have been published in the journal, Poultry Science. The first paper reports the results of a study conducted in broilers under subclinical necrotic enteritis, a commonly encountered disease in the broiler production industry. The second paper reports the results of two dietary supplementation studies in commercially reared broilers.

- Efficacy of polymers from spontaneous carotenoid oxidation in reducing necrotic enteritis in broilers, Kang et al, 2018 Poultry Science.
- Effect of oxidized β carotene on the growth and feed efficiency of broilers, Riley et al 2021 Poultry Science.

For swine there is one paper published in the British Journal of Nutrition reporting the results of a dietary supplementation trial conducted in sows during gestation and lactation. The paper describes benefits to both the sow as well as the nursing piglets. An additional paper reporting the results of a trial with post-wean pigs has recently been submitted for review to the journal, Translational Animal Science.

- Effects of maternal supplementation with fully oxidised β-carotene on the reproductive performance and immune response of sows, as well as the growth performance of nursing piglets, Chen et al 2021, British Journal of Nutrition.

For cattle there are two papers published. The first paper reports on mode of action in dairy cattle exposed to challenge with the respiratory pathogen, *Mannheimmia haemolytica* and is published in the American Journal of Veterinary Research. The second paper reports the findings of a study conducted in New Zealand with dairy cattle diagnosed with subclinical mastitis and is published in the New Zealand Veterinary Journal.

- Anti-inflammatory effects of retinoids and carotenoid derivatives on caspase-3–dependent apoptosis and efferocytosis of bovine neutrophils, Duquette et al 2014, American Journal of Veterinary Research.
- Evaluation of fully oxidised β-carotene as a feed ingredient to reduce bacterial infection and somatic cell counts in pasture-fed cows with subclinical mastitis, McDougall 2021, New Zealand Veterinary Journal.

The application of OxC-beta™ Livestock as a feed additive is further supported by the results of several additional non-published studies conducted in multiple markets around the world. The results of these additional studies corroborate the findings of the published works referenced above under local/regional production conditions.

Product safety is also an important consideration for potential customers and government regulatory agencies. The Corporation has published several seminal papers in peer-reviewed literature demonstrating the inherent safety of its OxBC-based products. These published papers are important reference materials that are often required as part of regulatory dossiers submitted to regulators. To date Avivagen has published the following papers supporting the identity and safety of its product:

- ***β***-carotene autoxidation: oxygen copolymerization, non-vitamin A products, and immunological activity, Burton et al 2014, Canadian Journal of Chemistry.

- Discovery and characterization of carotenoid copolymers in fruits and vegetables with potential health benefits, Burton et al 2016, Journal of Agriculture and Food Chemistry.
- The ***β***-carotene-oxygen copolymer: its relationship to apocarotenoids and ***β***-carotene function, Mogg and Burton 2021, Canadian Journal of Chemistry.
- ***β***-carotene oxidation products – function and safety, Burton et al 2021, Food and Chemical Toxicology.

Commercial OxBC Products

Avivagen's commercial products are currently focused on the livestock animal, companion animal, and human health supplement 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.
- Dr. Tobias™ Beta Blend, launched on January 28, 2021, 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 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 comes at a time when the global feed industry is seeking viable alternatives to antibiotic growth promoters. The Corporation is also pursuing premix product sales in applications beyond antibiotic alternatives, such as dairy cattle and breeding stock (sows).

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.

A proprietary human health supplement product line, Dr. Tobias™ Beta Blend, containing the OxBC active ingredient, was made available in the U.S. in January 2021. This product line consists of bottles of capsules and were developed as a direct-to-consumer human health product through Avivagen's joint venture with Mimi's Rock.

For the 12 months ended October 31, 2021, sales of each product line were as follows, in Canadian dollars:

- OxC-beta™ Livestock premix – $1,279,696
- Vivamune™ Health Chews - $16,295

The Corporation had significant sales to one customer of $1,007,596 (78% of all revenue) in the twelve-month period ended October 31, 2021.

For the 12 months ended October 31, 2020, sales of each product line were as follows, in Canadian dollars:

- OxC-beta™ Livestock premix – $1,148,967
- Vivamune™ Health Chews - $28,890

The Corporation had significant sales to two customers of $1,079,137 (92% of all revenue) in the twelve-month period ended October 31, 2020.

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 and humans. 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.

OxC-beta™ Livestock has been sold in the prior 2 years in the Philippines, Thailand, Taiwan, Malaysia, and Mexico. The product is also available for sale in the USA, Brazil, and New Zealand.

The market segment of health supplements for companion animals has emerged over the past decade. It is now estimated that the global market for nutritional supplements for companion animals is valued at US$1.47 billion (Grandview Research report 2021). 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.

For 2019, the American Pet Products Association estimates that there are currently 90 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.

The global human dietary health supplement market for 2020 was valued at $US 140.3 Billion in a recent market report (Grandview Research Report 2021). With a forecast for compound annual growth rate of 8.6% to 2028, the human supplement market represents a significant opportunity for the Corporation's product. Much of the recent growth in this market had been driven by the global COVID-19 pandemic and consumer demand for products that support immune function. Avivagen's Beta Blend product which has shown benefits in research trials with livestock under subclinical coronavirus-challenge is well-positioned to fill consumer needs.

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 may be 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 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 and Methods (2011)
5. Preventing Livestock Disease - Uses and Methods (2015)
6. Natural Sources of Carotenoid-Oxygen Copolymers - Compositions and Methods (2016)
7. Supplemented Animal Feeds for Mammals (2020)

Further details of the individual patent applications are provided below

1. Food Animals (WO 2006/034570). Compositions 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 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 the U.S., Europe (BE, DE, DK, ES, FR, GB, IT, NL, PL), Canada, Australia, New Zealand, South Korea and Japan.
3. Health of Animals (WO 2010/124391). Compositions 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 the U.S., Europe (BE, CH/LI, DE, ES, FR, GB, IT), Canada, Australia and New Zealand.
4. Aquaculture (WO 2011/103464). Compositions 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. This patent has been granted in Australia, Japan, Mexico, and Russia.
6. Natural Sources of Carotenoid-Oxygen Copolymers. Compositions 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 has entered the national phase.
7. Supplemented Animal Feeds for Mammals (U.S. Provisional Patent). This application features supplemented animal feeds for use in methods for: (i) ameliorating one or more symptoms of subclinical mastitis; (ii) reducing the frequency of subclinical mastitis progressing to full clinical mastitis; (iii) reducing bacteria count in colostrum or milk of a mammal; (iv) reducing physiological stress of a mammal; (v) improving reproductive performance of a mammal; and/or (vi) improving the health of offspring of a mammal. The application has entered the national phase.

The above seven patent families are expected to protect Avivagen's fully oxidized carotenoid technologies for periods with termination dates that range from 2025 to 2037. In total, 58 applications have been granted or allowed in individual countries and 16 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™	19 registrations (AU, BR, CA, CL, CN, EU, IN, JP, KR, MX, NZ, PH, RU, SG, TW, US, VN, UK, ZA) 3 pending (AR, ID, TH)
Avivagen™	1 registration (CA)
Oximunol™	3 registrations (CA)
Vivamune™	2 registrations (US, CA)

B-Immune™	1 registration pending (CA)
IsoPrime™	1 registration (CN); 6 pending (CA, JP, IN, KR, US, VN)

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 OxBC substance present in OxC-beta™ Livestock, may not be subject to regulation due to its 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 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.

To date Avivagen's OxC-beta™ Livestock premix product has been approved for sale and use in livestock feeds in the Philippines, Taiwan, Thailand, Mexico, Malaysia, Australia, New Zealand, and Brazil. In each of these countries the product registration is held by one of Avivagen's distribution partners as it is a legal requirement for a local company to hold the registration permit. Registration activity is ongoing in China, Vietnam, Costa Rica, Peru, Colombia, Argentina, and Uruguay, as these areas of the world have been in the forefront in reducing antibiotic use in food animals. A number of Asian countries export poultry to countries in the European Union, which has a policy of no antibiotics in food animals.

In addition to the countries listed above, Avivagen also has clearance to market OxC-beta™ Livestock in the USA via the self-affirmed GRAS process. Self-affirmation of GRAS provides federal level authority for sale of OxC-beta™ Livestock. However, many individual states require a further level of product approval, either by obtaining an AAFCO (American Association of Feed Control Officials) definition for OxC-beta™ Livestock, or by receiving a notification letter of "no objection" from the FDA. Application for an FDA letter of no objection is in progress.

As noted above, regulatory approval in China is also 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 has focused its efforts on countries such as the Philippines, Brazil, Taiwan, Thailand, Malaysia, Mexico, Australia, and New Zealand, which Avivagen believes will 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.

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 will 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 will 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., Dr. Tobias™ All-In-One Dog Chews are regulated by way of Avivagen 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 of Health Canada, which allows sale of OxBC-containing products, including Dr. Tobias™ All-In-One Dog Chews, in Canada.

The guidelines for both the NASC and the Health Canada Low Risk Veterinary Health Product (LRVHP) program are well recognized by regulatory authorities in other jurisdictions including certain countries in Asia. This recognition greatly facilitates the registration of OxBC-based products such as Vivamune™ Health Chews in those countries.

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 entity 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 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 May 7, 2021, the Corporation announced that it had terminated its exclusive sales and distribution

agreement with CSA Animal Nutrition. On October 1, 2021, the Corporation announced that it had entered into an eight-year exclusive supply agreement with AB Vista for distribution of OxC-beta™ Livestock into the United States, Brazil, and Thailand.

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. The principal repayment of the debt is due on March 28, 2022.

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. The principal repayment of the debt is due on April 9, 2022.

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 or losses 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 poultry and pigs.

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 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.

On March 17, 2020, the Corporation announced that it was accelerating its plans for commercial launch of its OxC-Beta product as a supplement for human use in response to the COVID-19 pandemic.

On June 24, 2020, the Corporation announced it had received approval for the use of OxC-beta™ Livestock in poultry, swine, and both beef and dairy cattle in Brazil.

On October 15, 2020, the Corporation announced it had obtained debt financing of $500,000 through an unsecured Promissory Note from a Canadian Financial Institution. The note is payable on demand and bears interest at 12% per annum. The funds will be used to support ongoing general operating activities which include, but are not limited to, the ramp up in inventory in support of increasing frequency and size of orders for OxC-beta™ Livestock. The Corporation repaid the principal and accrued interest owing on the promissory note on February 18, 2021.

On November 25, 2020, the Corporation announced it had obtained additional debt financing of $350,000 through an unsecured Promissory Note from a Canadian Financial Institution. The note is in addition to the

$500,000 note issued on October 15, 2020, was issued by the same lender, and bears the same terms. The Corporation repaid the principal and accrued interest owing on the promissory note on February 18, 2021.

On January 26, 2021, the Corporation announced a "bought deal" financing of 10,000,000 Units of the Corporation for gross proceeds of $5,000,000. On January 27, 2021, the Corporation announced an upsize to the "bought deal" financing of to 15,000,000 Units of the Corporation for aggregate gross proceeds of $7,500,000.

On February 1, 2021, the Corporation announced the filing of its preliminary short-form prospectus to securities regulators in Ontario, Alberta, and British Columbia in connection with the previously announced "bought deal" offering. On February 9, 2021, the Corporation announced the filing of its final short-form prospectus to securities regulators in Ontario, Alberta, and British Columbia in connection with the previously announced "bought deal" offering.

On February 16, 2021, the Corporation announced the closing of the previously announced "bought deal" offering. The Corporation issued 15,000,000 units of the Corporation, consisting of one common share and one half of one Common Share purchase warrant for gross proceeds of $7,500,000.

On February 1, 2021, the Corporation announced the launch of its human health product Dr. Tobias™ Beta Blend to be marketed and sold online through its joint venture with Mimi's Rock.

On April 23, 2021, the Corporation announced a 4.4 tonne purchase order for OxC-beta™ Livestock from UNAHCO, a customer in the Philippines.

On April 26, 2021, the Corporation announced a purchase order from an integrated livestock producer in Thailand.

On May 6, 2021, the Corporation announced that it had shipped 200kg to a customer in Mexico.

On July 22, 2021, the Corporation announced that it had retained the services of Lesley Nernberg to facilitate sales and growth in Asia.

On July 22, 2021, the Corporation announced the termination of its Brazilian OxC-beta™ Livestock distribution agreement with São Paulo-based Look Chemicals Importacao E Exportacao LTDA.

On October 18, 2021, the Corporation announced a 6.3-tonne order of OxC-beta™ Livestock from a customer in Asia.

Corporate Infrastructure

Avivagen maintains infrastructure relating to its science and business activities (See "Business Model" and "Human Resources"). This includes offices and chemistry capabilities in its Ottawa, Ontario location. 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 outside of the US and Canada through distribution partnerships.
- Dr Tobias™ All in One Dog Chews – Marketed using a combination of internet and social media through Centre Beach, Inc a joint venture arrangement with Mimi's Rock.
- Dr Tobias™ Beta Blend - Marketed using a combination of internet and social media through Centre Beach, Inc a joint venture arrangement with Mimi's Rock.

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, USA.

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™ Livestock 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 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.

There are two OxBC-based companion animal health products: Vivamune™ Health Chews and Dr. Tobias™ All-In-One Dog Chews. Online direct-to-consumer sales of the Dr. Tobias™ product line are facilitated through the Corporation's joint venture with Mimi's Rock. The joint venture is responsible for determining the retail price for online direct-to-consumer sales. The Vivamune™ Health Chews product line is sold internationally by Avivagen via distribution agreements in various countries.

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.

Avivagen's human health supplement product, Beta Blend, is sold online direct-to-consumer as part of the Dr. Tobias™ product line. These sales are conducted through the Corporation's joint venture with Mimi's Rock. The joint venture is responsible for determining the retail price for online direct-to-consumer sales.

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, 2021, the Corporation had eight employees at its head office in Ottawa, Ontario, Canada, and two employees in Prince Edward Island, Canada. 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.

IMPACTS OF COVID-19

The COVID-19 pandemic has spread across the globe and is impacting worldwide economic activity. Conditions surrounding the pandemic continue to rapidly evolve and government authorities have implemented emergency measures to mitigate the spread of the virus. The Corporation's business, operations and financial condition could be materially adversely affected by the COVID-19 pandemic or the outbreak of other epidemics, pandemics or other health crises. However, as conditions surrounding the pandemic continue to evolve, the Corporation may in the future experience unexpected negative impacts from the COVID-19 pandemic. Such impacts could include, with respect to its operations, its suppliers' operations and its customers' operations, forced closures, mandated social distancing, isolation and/or quarantines, impacts of declared states of emergency, public health emergency and similar declarations and could include other increased government regulations, a material reduction in demand for the Corporation's products, reduced sales, higher costs for new capital, licencing delays, increased operating expenses, delayed performance of contractual obligations, product shipping delays, and potential supply and staff shortages, all of which would be expected to negatively impact the business, financial condition and results of operations of the Corporation and its ability to satisfy its obligations and to continue as a going concern. The risks to the Corporation of such public health crises also include risks to employee and consultant health and safety and a slowdown or temporary suspension of operations in the Corporation's facility or a supplier's facilities. Should an employee, consultant, or visitor in the Corporation's facility or a supplier's facilities become infected with a serious illness that has the potential to spread rapidly, this could place the Corporation's workforce at risk.

The Corporation assessed possible and future impacts to its operations as a result of the COVID-19 pandemic. Certain business development travel and trade show services were deferred as a result of COVID-19. These expenses were refunded with vouchers or future credits. Except for normal operational requirements such as account payables and accrued liabilities, no provisions or contingent liabilities are recognized within the financial statements as a direct result of COVID-19.

The Corporation has applied for and received funding from various government programs designed to provide relief to employers and businesses, including non-interest bearing loans from the Canadian Emergency Business Account and the Regional Relief and Recovery Fund.

The Corporation applied for and received government grants from the Canadian Emergency Wage Subsidy (CEWS) program. The Corporation does not expect to receive any additional funding from the CEWS program in any future periods.

ACOA deferred the collection of repayment obligations related to the 2019 fiscal year originally due on June 30, 2020 to June 30, 2021. The deferred ACOA repayment was remitted on June 30, 2021. The National Research Council has provided rent concessions by deferring and reducing certain rent payments.

The Corporation has experienced delays in the arrival of shipments of products to its customers, as the global supply chain issues continue to impact global shipping networks. As a result the Corporation has not been able to recognize certain revenues within the 2021 fiscal year reporting period, however the Corporation does not expect the supply chain issues will result in decreased demand for its products.

On March 18, 2020, the Corporation took the decision to temporarily close the physical offices and require all staff to work from home in compliance with guidance from the Governments of Ontario and Prince Edward Island. On March 31, 2021, the Corporation's lease for facilities in Prince Edward Island expired, and the Corporation chose not to renew. Most of the Corporation's operations allowed for all staff to work from home and the disruption to operations by COVID-19 was not significant for the Corporation. However, business development has continued to be challenging due to restrictions on travel, shelter at home orders, and other operational disruptions affecting our current and potential customers. The Corporation will continue working primarily in this remote fashion until such time as management believes, based on the stages of COVID-19 and the advice of government health authorities, that the risk to staff, suppliers, customers and stakeholders is reduced sufficiently. At such time, all government guidance and recommended safety precautions, including physical distancing measures, will continue to be implemented.

The Corporation is conducting business with substantial modifications to employee travel, employee work locations and virtualization or cancellations of such activities as business development, marketing, and investor relations events. The Corporation has altered its interactions with customers and suppliers, among other modifications. Management has taken further actions that alter business operations as required by various levels of government, or that it determines are in the best interest of the Corporation's employees, customers, partners, suppliers, and shareholders. However, there is no certainty that such measures will be sufficient to mitigate the direct and indirect effects of COVID-19 and the Corporation's financial condition and results of operations could be affected. The degree to which COVID-19 will affect results and operations will depend on future developments that are highly uncertain and cannot currently be predicted, including, but not limited to, the duration, extent and severity of the COVID-19 pandemic, actions taken to contain COVID-19, the impact of the pandemic and related restrictions on economic activity and the extent of the impact of these and other factors on the Corporation's employees, partners, suppliers and customers. COVID-19 has also caused heightened uncertainty and volatility in the global economy. If economic growth slows further, inflation increases, or a recession develops, customers may not have the financial means to purchase the Corporation's products, negatively impacting the statement of comprehensive loss and the statement of financial position. Since the impact of COVID-19 is ongoing, the effect of the COVID-19 outbreak and the related impact on the global economy may not be fully reflected in the Corporation's statement of comprehensive loss and statement of financial position until future periods. Further, volatility in the capital markets has been heightened since March 2020 and such volatility may continue, which may cause declines in the price of the Corporation's shares and may affect its ability to raise working capital through equity or debt transactions, which would impact the ability of the Corporation to continue as a going concern, its ability to fund operations, and its ability to repay its debt obligations.

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, 2021, the Corporation had an accumulated deficit of $40,473,006

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 will need to raise additional capital.

The need for capital will 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;
- raise debt and/or refinance existing debt;
- considerably reduce operations; or
- cease operations.

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, consumers seeking health supplements for their own consumption or for their pets may choose to use 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'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 held by the Corporation and its ability to secure future financing and repay existing debt;
- 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.

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 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 on 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 and humans, 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 and humans. 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.

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 (such as COVID-19), 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, including the COVID-19 pandemic, 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.

The degree to which the COVID-19 pandemic will affect our results and operations will depend on future developments that are highly uncertain and cannot currently be predicted, including, but not limited to, the duration, extent and severity of the COVID-19 pandemic, actions taken to contain the virus, the impact of the pandemic and related restrictions on economic activity and the extent of the impact of these and other factors on our employees, partners, suppliers and customers. COVID-19 has also caused heightened uncertainty in the global economy. If economic growth slows further or if a recession develops, customers may not have the financial means to purchase our products, negatively impacting our results of operations. Since the impact of COVID-19 is ongoing, the effect of the COVID-19 outbreak and the related impact on the global economy may not be fully reflected in our results of operations until future periods. Further, volatility in the capital markets has been heightened during recent months and such volatility may continue, which may cause declines in the price of our shares.

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, 2021 and January 18, 2022, there were 56,959,495 (41,766,212 as at October 31, 2020) 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, 2021, the Corporation had 14,148,310 warrants outstanding. The details are as follows:

Date of Issue	Subscriber Warrants	Agent Warrants	Underlying Warrants	Term (Years)	Date of Expiry	Exercise Price
30-Nov-2017	2,029,250			4.2	28-Jan-2022[1]	$ 1.20
2-Jan-2020	1,250,000			3.0	2-Jan-2023	$ 0.75
2-Jan-2020[2]		186,000		2.0	2-Jan-2022	$ 0.50
2-Jan-2020[2]			100,000	2.0	2-Jan-2022	$ 0.75
27-Jan-2020	1,750,000			3.0	27-Jan-2023	$ 0.75
27-Jan-2020[2]		189,240		2.0	27-Jan-2022	$ 0.50
27-Jan-2020[2]			94,620	2.0	27-Jan-2022	$ 0.75
16-Feb-2021	7,500,000			3.0	16-Feb-2024	$ 0.75
16-Feb-2021		1,049,200		2.0	16-Feb-2023	$ 0.50
	12,529,250	**1,424,440**	**194,620**			

Note 1: On June 11, 2021, the Corporation received approval from the TSX Venture Exchange to extend the expiry date of 2,029,250 subscriber warrants from June 30, 2021 to January 28, 2022.

Note 2: Each of the 186,000 outstanding agent warrants issued on January 2, 2020 and 189,240 agent warrants issued on January 27, 2020 entitle the holder to purchase one finder unit, which consists of one

common share of the Corporation and one additional half-share purchase warrant (or the underlying warrant).

As at January 18, 2022, the Corporation had 12,529,250 investor warrants 1,238,440 agent warrants, and 94,620 underlying warrants for a total of 13,862,310 warrants outstanding.

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 maximum number of common shares reserved for issuance for options that may be granted under the Plan is 5,600,000. The following table represents options granted and expired.

	Total	Weighted average exercise price
Balance Outstanding as at October 31, 2019	**2,291,062**	**$ 0.81**
Granted on March 6, 2020	555,000	0.71
Expired on May 19, 2020	(60,000)	0.90
Expired on August 20, 2020	(132,900)	0.65
Balance Outstanding as at October 31, 2020	**2,653,162**	**$ 0.80**
Granted on March 8, 2021	577,500	0.56
Granted on March 27, 2021	300,000	0.60
Granted on June 4, 2021	200,000	0.50
Expired on March 31, 2021	(4,687)	0.69
Expired on April 30, 2021	(25,313)	0.67
Expired on June 22, 2021	(231,250)	0.80
Balance Outstanding as at October 31, 2021	**3,469,412**	**$ 0.72**

Options exercisable as at:	**Total**	**Weighted average exercise price**
October 31, 2021	2,724,412	$ 0.76
October 31, 2020	2,032,537	$ 0.83

Exercise price	**Options Outstanding**	**Options Exercisable**	**Weighted average remaining contractual life in months**
$1.00	60,000	60,000	3.9
$0.60	300,000	300,000	4.9
$1.10	364,372	364,372	7.0
$0.90	60,000	60,000	13.7
$0.90	622,540	622,540	17.3
$0.57	200,000	200,000	22.4
$0.61	537,500	537,500	31.2
$0.71	547,500	410,625	40.2
$0.56	577,500	144,375	52.3
$0.50	200,000	25,000	55.1
	3,469,412	**2,724,412**	

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 advance of the maturity date. Any early repayments issued prior to March 27, 2022 are 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 84.6%. 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 20.8%.

Initial recognition of the debt component of the First Closing Debentures was at its fair value at a discount rate of 20.8%. $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 at a rate of 23.6% to also account for transaction costs allocated on a pro-rata basis to the debt portion of the First Closing.

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 in advance of the maturity date 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 84.6%. 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 20.2%.

Initial recognition of the debt component of the Second Closing Debenture was at its fair value at a discount rate of 20.2%. $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 to also account for transaction costs allocated on a pro-rata basis to the debt portion of the Second Closing.

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, 2019	**$ 4,252,649**
Interest accretion during the year	1,048,261
Interest paid during the year	(537,987)
Maintenance fees settled in equity during the year	(107,560)
Balance as at October 31, 2020	**$ 4,655,363**
Interest accretion during the year	1,176,202
Interest paid during the year	(537,800)
Maintenance fees settled in equity during the year	(107,560)
Balance as at October 31, 2021	**$ 5,186,205**

Current portion of debt	$ 5,186,205
Non-current portion of debt	-
Balance as at October 31, 2021	**$ 5,186,205**

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

March & April 2022	5,702,528
Total	**$ 5,702,528**

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, 2021 was $0.40.

The following table sets out the high and low trading of the common shares for each month of the fiscal year ended October 31, 2021, as reported by the TSX Venture Exchange in Canadian dollars.

Period	High	Low	Trading Volume
November 2020	$ 0.55	$ 0.39	1,462,107
December 2020	$ 0.66	$ 0.50	935,765
January 2021	$ 0.68	$ 0.51	1,573,714
February 2021	$ 0.77	$ 0.57	5,684,824
March 2021	$ 0.67	$ 0.48	2,971,136
April 2021	$ 0.55	$ 0.43	609,995
May 2021	$ 0.58	$ 0.42	948,633
June 2021	$ 0.46	$ 0.33	2,999,904
July 2021	$ 0.45	$ 0.36	304,513
August 2021	$ 0.39	$ 0.29	558,839
September 2021	$ 0.46	$ 0.33	465,480
October 2021	$ 0.47	$ 0.32	791,566

PRIOR SALES

During the fiscal year ended October 31, 2021 the Corporation issued the following securities which are not listed or quoted on a marketplace:

On March 8, 2021, the Corporation granted 577,500 stock options to 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 $0.56 per share.

On March 27, 2021, the Corporation granted 300,000 stock options to a consultant. The stock options were granted pursuant to the terms of the stock option plan, were subject to a 4-month hold period at the date of grant, and are exercisable at $0.60 per share.

On June 4, 2021, the Corporation granted 200,000 options to the Chief Executive Officer of the Corporation. The stock options were granted pursuant to the terms of the stock option plan and are exercisable at $0.50 per share. The options vest at a rate of 1/8 per fiscal quarter over two years from the date of issue.

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, 2021.

DIRECTORS AND OFFICERS

Directors and Officers of the Corporation

As of October 31, 2021, the Directors and Executive Officers of the Corporation (as a group) beneficially owned, or controlled or directed, directly or indirectly, a total of 1,218,209 common shares, representing 2.1% 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, 2021.

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	266,667
Chris Boland Ontario, Canada not a director	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

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]
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 4, 2005	245,845
Aubrey Dan Ontario, Canada independent	Director Chair of Corporate Governance and Compensation Committee Member, Audit Committee	2002 to present – President of Dancap Private Equity Inc. Family Investment Office 2018 to Present – Executive Chairman of EmpowerPharm Inc. 2014 to February 2019 – Director of Porter Aviation Holdings Inc. 2015 to January 2018 – Director of CannTrust Holdings Inc.	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	October 2016 to present – Vice Chairman of the Board of Directors of the Corporation 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	2021 – Present. Chief Financial Officer, Psygen Industries Ltd. 2012 to present – Managing Principal and Chief Investment Officer of Empyrean Capital 2019 to 2021 – 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.	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 not independent as he is Chief Executive Officer and President of the Corporation. Dr. Burton is not independent as he is the Chief Scientific Officer of the Corporation.

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.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

From time to time, the Corporation may be the subject of litigation or regulatory actions arising out of its operations. See "Risk Factors" above. The Corporation knows of no material current or threatened legal proceedings or regulatory actions as of October 31, 2021.

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 2020, and fiscal 2021:

Financial Year Ending	Audit Fees	Audit Related Fees	Tax Fees	All Other Fees	Total
October 31, 2021	$57,970	NIL	NIL	$8,160	$66,130
October 31, 2020	$33,400	NIL	NIL	NIL	$33,400

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, 2021 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.
- 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.
- Distribution and sales agreement dated September 30, 2021 with AB Vista.

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 3, 2021 in respect of the annual meeting of the holders of shareholders held on April 8, 2021. Additional financial information is provided in the audited annual financial statements and management's discussion and analysis for the year ended October 31, 2021 and issued on January 18, 2022.

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