NEOGEN CORP
Form 10-K
July 27, 2018
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended May 31, 2018

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For The Transition Period From _____To _____.

COMMISSION FILE NUMBER 0-17988

NEOGEN CORPORATION

(Exact name of registrant as specified in its charter)

MICHIGAN	**38-2367843**
(State or other jurisdiction of incorporation or organization)	***(I.R.S. Employer Identification No.)***

620 Lesher Place

Lansing, Michigan 48912

(Address of principal executive offices, including zip code)

517-372-9200

(Registrant s telephone number, including area code)

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT: NONE

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

COMMON STOCK, $0.16 par value per share

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by a check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

(Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

Based on the closing sale price on November 30, 2017 the aggregate market value of the voting stock held by non-affiliates of the registrant was $3,242,762,000. For these purposes, the registrant considers its Directors and executive officers to be its only affiliates.

The number of outstanding shares of the registrant s Common Stock was 51,756,964 on June 30, 2018.

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DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant s definitive proxy statement to be prepared pursuant to Regulation 14a and filed in connection with solicitation of proxies for its October 4, 2018 annual meeting of shareholders is incorporated by reference into part III of this Form 10-K.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

Forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, are made throughout this Annual Report on Form 10-K, including statements relating to management s expectations regarding new product introductions; the adequacy of our sources for certain components, raw materials and finished products; and our ability to utilize certain inventory. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words believes, anticipates, plans, expects, seeks, estimates, and similar expressions are intended to identify forward-looking statements. There are a number of important factors that could cause Neogen Corporation s results to differ materially from those indicated by such forward-looking statements, including those detailed in ITEM 1A. RISK FACTORS and under the captions Management s Discussion and Analysis of Financial Condition and Results of Operations , Critical Accounting Policies and Estimates , and Future Operating Results .

In addition, any forward-looking statements represent management s views only as of the day this Annual Report on Form 10-K was first filed with the Securities and Exchange Commission and should not be relied upon as representing management s views as of any subsequent date. While management may elect to update forward-looking statements at some point in the future, it specifically disclaims any obligation to do so, even if its views change.

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PART I

ITEM 1. BUSINESS

Neogen Corporation and subsidiaries (collectively referred to as we, Neogen or the Company) develop, manufacture and market a diverse line of products dedicated to food and animal safety. Our Food Safety segment consists primarily of diagnostic test kits and complementary products (e.g., culture media) sold to food producers and processors to detect dangerous and/or unintended substances in human food and animal feed, such as foodborne pathogens, spoilage organisms, natural toxins, food allergens, genetic modifications, ruminant by-products, meat speciation, drug residues, pesticide residues and general sanitation concerns. Our diagnostic test kits are generally less expensive, easier to use and provide greater accuracy and speed than conventional diagnostic methods. The majority of the test kits are disposable, single-use, immunoassay and DNA detection products that rely on our proprietary antibodies and RNA and DNA testing methodologies to produce rapid and accurate test results. Our expanding line of food safety products also includes bioluminescence-based diagnostic technology.

Neogen s Animal Safety segment is engaged in the development, manufacture, marketing and distribution of veterinary instruments, pharmaceuticals, vaccines, topicals, diagnostic products, rodenticides, cleaners, disinfectants, insecticides and genomics testing services for the worldwide animal safety market. The majority of these consumable products are marketed through a network of national and international distributors, as well as a number of large farm supply retail chains in the United States and Canada. Our USDA-licensed facility in Lansing, Michigan, produces immunostimulant products for horses and dogs, and a unique equine botulism vaccine. Our line of drug detection products is sold worldwide for the detection of abused and therapeutic drugs in animals and animal products, and has expanded into the human forensic market.

Neogen s products are marketed by our sales personnel in the U.S., Canada, Mexico, Central America, the United Kingdom and other parts of Europe, Brazil, China, India and Australia, and by distributors throughout the rest of the world.

Our mission is to be the leading company in the development and marketing of solutions for food and animal safety. To meet this vision, a growth strategy consisting of the following elements has been developed: (i) increasing sales of existing products; (ii) introducing new products and product lines; (iii) expanding international sales; and (iv) acquiring businesses and forming strategic alliances. We have historically been successful at increasing product sales organically and maintain an active acquisition program to identify and capitalize on opportunities to acquire new products and/or businesses.

Neogen Corporation was formed as a Michigan corporation in June 1981 and actual operations began in 1982. Our principal executive offices are located at 620 Lesher Place, Lansing, Michigan 48912-1595 and our telephone number is (517) 372-9200.

Neogen s Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports are available free of charge via our website (www.neogen.com) as soon as reasonably practicable after such information is filed with, or furnished to, the United States Securities and Exchange Commission. The content of our website or the websites of any third parties that may be noted herein are not incorporated by reference in this Form 10-K.

PRODUCTS

Product trademarks and registered trademarks owned by Neogen include: **CORPORATE:** Neogen®, Neogen flask logo®; **FOOD SAFETY**: AccuClean®, AccuPoint®, AccuScan®, Acumedia®, Agri-Screen®, Alert®, ANSR® , BetaStar®, BioLumix® , F.A.S.T.®, GeneQuence®, GENE-TRAK®, Harlequin®, ISO-GRID®, Lab M®, *Listeria* Right Now , NeoCare , NeoColumn , NeoFil®, NeoNet®, NeoSeek , NEO-GRID®, Penzyme®, Raptor®, Reveal®, Soleris®, µPREP®, Veratox®, Simple. Accurate. Supported. Food Safety Solutions℠; **LIFE SCIENCES**: Alert®, K-Blue®, K-Blue Substrate®, K-Gold®, NeoSal®; **ANIMAL SAFETY**: Acid-A-Foam , Aero-ssault , Ag-Tek®, AluShield , AquaPrime®, Assault®, Barnstorm® , BioCres 50, BioPhene , BioQuat , Bot-Vax®, Breeder-Sleeve® , Bromethalin One Meal Is All It Takes(design)®, Calf Eze , Chem-Tech, Ltd. , Chem-Tech s CT logo (with circle) , Chlor-A-Foam , COMPANION , Cowboy Syringe®, CT-511®, Cykill , D3 Needles, DC&R®, DeciMax®, Di-Kill®, Dr. Frank s®, Dy-Fly®, Dyne-O-Might®, Earth City Resources (design)®, ElectroJac®, ELISA Technologies (design)®, EqStim®, EquiSleeve®, E-Z Bond , E-Z Catch®, Farmphene®, Final-Fly-T®, Fly-Die Defense , Fly-Die Ultra , Fura-Zone®, GenQuat , Horse Sense®, Ideal®, ImmunoRegulin®, Insectrin®, Insight , Iodis®, Jolt®, LD-44®, LD-44T , Maxi Sleeve®, MaxKlor®, MegaShot , MycAseptic , NeedleGard , NFZ , Nu-Tyme®, PanaKare , Pantek , ParlorMint , Parvo-Bac®, Place Pack®, PolyPetite , PolyShield , PolySleeve®, Preserve®, Preserve International®, Preserve International(design)®, Prima®, Prima Marc , Prima-Shot , Prima Tech®, Prima Tech logo®, Pro-Fix®, Pro-Flex®, Promar , Pro-Shot , PRO-TECT 6 MIL®, PRO-TECT 6 MIL logo®, Prozap®, Prozap (stylized mark w/fancy Z) , PY-75 , Quat-Chem®, Ramik®, Rat & Mouse-A-Rest II®, RenaKare , Rodent Elimination Station , Rodex , Rot-Not , Safe-T-Flex , Silo-Cide®, Spectrasol , Spec-Tuss , Squire®, Starlicide®, Stress-Dex®, SureBond®, SureKill®, Swine-O-Dyne® , Synergize®, SyrVet®, Tetrabase®, Tetracid®, Tetradyne®, ThyroKare , TopHoof , Tri-His®, Tri-Seal , Tryad®, Turbocide®, Turbocide Gold®, Uniprim®, UriKare , VAP-5 , VAP-20 , Vet-Tie , Viroxide®, Viroxide Super , Vita-15 , War Paint®, We keep em movin®, X-185 , Zipcide®; **GENOMICS**: Deoxi , GeneSeek®, Genomic Profiler , Genomic Solutions for Food Security®, Igenity®, SeekGain , SeekSire , SeekTrace , Tru-Point®, and **LOGOTYPES:** BioSentry barn logo®, BioSentry chicken logo®, BioSentry pig logo®, Circular design®, TurboCide® (stylized).

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Neogen operates in two business areas: the Food Safety and the Animal Safety segments. See Notes to Consolidated Financial Statements elsewhere in this Form 10-K for financial information about our business segments and international operations.

FOOD SAFETY SEGMENT

Neogen s Food Safety segment is primarily engaged in the production and marketing of diagnostic test kits and complementary products marketed to food and feed producers and processors to detect dangerous and/or unintended substances in food and animal feed, such as foodborne pathogens, spoilage organisms, natural toxins, food allergens, genetic modifications, ruminant by-products, meat speciation, drug residues, pesticide residues and general sanitation concerns.

Our test kits are used to detect potential hazards in food and animal feed by testers ranging from small local grain elevators to the largest, best-known food and feed processors in the world, and numerous regulatory agencies. Neogen s products include tests for:

Mycotoxins. Grain producers and processors of all types and sizes use our Veratox, Agri-Screen, Reveal, Reveal Q+ and Reveal Q+ MAX tests to detect the presence of mycotoxins, including aflatoxin, deoxynivalenol, fumonisin, ochratoxin, zearalenone and T-2/HT-2 toxin, to help ensure product safety and quality in food and animal feed.

Food allergens. The world s largest producers of cookies, crackers, candy, ice cream and many other processed foods use our Veratox, Alert, Reveal, Reveal 3-D and BioKits testing products for food allergens to help protect their food-allergic customers from the inadvertent contamination of products with food allergens, such as peanut, milk, egg, almond, gliadin (gluten), soy and hazelnut residues.

Dairy antibiotics. Dairy processors are the primary users of Neogen s BetaStar S, BetaStar Advanced and BetaStar 4D diagnostic tests to detect the presence of veterinary antibiotics in milk. The presence of these drugs in milk is a public health hazard and an economic risk to processors as it limits the milk s further processing.

Foodborne pathogens. Meat and poultry processors, seafood processors, fruit and vegetable producers and many other market segments are the primary users of Neogen s ANSR and Reveal tests for foodborne bacteria, including *E. coli* O157:H7, *Salmonella*, *Listeria* and *Campylobacter*. Neogen s ANSR pathogen detection system is an isothermal amplification reaction test method which exponentially amplifies the DNA of any bacteria present in food and environmental samples to detectable levels in 10 minutes. Combined with ANSR s single enrichment step, Neogen s pathogen detection method provides DNA-definitive results in a fraction of the time of other molecular detection methods. Our new *Listeria* Right Now test detects the pathogen in less than 60 minutes without sample enrichment. Reveal s lateral flow device combines an immunoassay with chromatography for a rapid and accurate one-step result.

Spoilage microorganisms. Neogen s Soleris and BioLumix products are used by food processors to identify the presence of spoilage organisms (e.g., yeast and mold) and other microbiological contamination in food. The systems measure microbial growth by monitoring biochemical reactions that generate a color change in the media as microorganisms grow. The sensitivity of the system allows detection in a fraction of the time needed for traditional methods, with less labor and handling time. Our NeoSeek genomics services utilize a novel application of 16s metagenomics to determine all bacteria in a sample, without introducing biases from culture media, and without the need to generate a bacterial isolate for each possible microbe in a sample.

Sanitation monitoring. Neogen manufactures and markets our AccuPoint Advanced rapid sanitation test to detect the presence of adenosine triphosphate (ATP), a chemical found in all living cells. This easy-to-use and inexpensive test

uses bioluminescence to quickly determine if a contact surface has been completely sanitized. When ATP comes into contact with the reagents contained in the test device, a reaction takes place that produces light. More light is indicative of higher levels of ATP and a need for more thorough sanitation. Our worldwide customer base for ATP sanitation testing products includes food and beverage processors, the food service and healthcare industries, as well as many other users.

Culture media. Neogen Culture Media, formerly Neogen s Acumedia and Lab M products, offers culture media for varied purposes, including traditional bacterial testing and the growth of beneficial bacteria, such as cultures for sausages and beer. Our customers for culture media also include commercial and research laboratories and producers of pharmaceuticals, cosmetics and veterinary vaccines.

Seafood contaminants. Neogen s specialty products for the seafood market include tests for histamine, a highly allergenic substance that occurs when certain species of fish begin to decay; chloramphenicol, a banned antibiotic in most of the world, but still used by some shrimp farmers to improve the yield of their products; sulfite, an effective but potentially allergenic shrimp preservative; and shellfish toxins.

The majority of Neogen s food safety test kits use immunoassay technology to rapidly detect target substances. Our ability to produce high quality antibodies sets our products apart from immunoassay test kits produced and sold by other companies. Our kits are available in microwell formats, which allow for automated and rapid processing of a large number of samples, and lateral flow and other similar devices that provide distinct visual results. Typically, test kits use antibody-coated test devices and chemical reagents to indicate a positive or negative result for the presence of a target substance in a test sample; the simplicity of the tests makes them accessible to all levels of food producers, processors and handlers. Neogen also offers other test methods and products to complement its immunoassay tests.

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Our test kits are generally based on internally developed technology, licensed technology, or technology that is acquired in connection with acquisitions. In fiscal 2018, the Food Safety segment incurred expense totaling $2,038,000 for licenses and royalties for technology used in our products, including expense of $829,000 for allergen products, $241,000 for the pathogen product line and $409,000 for licenses related to the dairy antibiotics product line. Generally, royalty rates are in the range of 2% to 10% of revenues on products containing the licensed technology. Some licenses involve technology that is exclusive to Neogen s use while others are non-exclusive and involve technology licensed to multiple licensees.

Neogen s international operations in the United Kingdom, Mexico, Brazil, China and India originally focused on food safety products, and each of these units reports through the Food Safety segment. In recent years, these operations have expanded to offer our complete line of products and services, including those usually associated with the Animal Safety segment such as cleaners, disinfectants, rodenticides, insecticides, veterinary instruments and genomics services. These additional products and services are managed and directed by existing management at our international operations, and report through the Food Safety segment.

Revenues from Neogen s Food Safety segment accounted for 48.7%, 47.4% and 45.6% of our total revenues for fiscal years ended May 31, 2018, 2017 and 2016, respectively.

ANIMAL SAFETY SEGMENT

Neogen s Animal Safety segment is primarily engaged in the development, manufacture, marketing and distribution of veterinary instruments, pharmaceuticals, vaccines, topicals, diagnostic products, a full suite of agricultural biosecurity products such as rodenticides, cleaners, disinfectants and insecticides, and genomics services.

Veterinary instruments. Neogen markets a broad line of veterinary instruments and animal health delivery systems under the Ideal brand name. Approximately 250 different products are offered, many of which are used to deliver animal health products, such as antibiotics and vaccines. Ideal s D3 Needles are stronger than conventional veterinary needles and are uniquely detectable by metal detectors at meat processing facilities a potential market advantage in the safety-conscious beef and swine industries. Neogen s Prima Tech product line consists of highly accurate devices used by farmers, ranchers and veterinarians to inject animals, provide topical applications and to use for oral administration. Prima Tech is also a supplier of products used in artificial insemination in the swine industry. Other products include animal identification and handling equipment.

Veterinary pharmaceuticals. Animal Safety s NeogenVet product line provides innovative, value-added, high quality products to the veterinary market. Top NeogenVet products include PanaKare, a digestive aid that serves as a replacement therapy where digestion of protein, carbohydrate and fat is inadequate due to exocrine pancreatic insufficiency; Natural Vitamin E-AD, which aids in the prevention and treatment of vitamin deficiencies in swine, cattle and sheep; and RenaKare, a supplement for potassium deficiency in cats and dogs. Other products sold under the NeogenVet brand include Vita-15 and Liver 7, which are used in the treatment and prevention of nutritional deficiencies. We also manufacture and market Uniprim, a leading veterinary antibiotic.

Veterinary biologics. Neogen s BotVax B vaccine has successfully protected thousands of high-value horses and foals against Type B botulism, commonly known as Shaker Foal Syndrome. Our product is the only USDA-approved vaccine for the prevention of Type B botulism in horses. Years of research and many thousands of doses have proven Neogen s EqStim immunostimulant to be safe and effective as a veterinarian-administered adjunct to conventional treatment of equine bacterial and viral respiratory infections. Our ImmunoRegulin product uses similar immunostimulant technology to aid in the treatment of pyoderma (a bacterial skin inflammation) in dogs.

Veterinary OTC products. Animal Safety products offered by Neogen to the retail over-the-counter (OTC) market include Ideal brand veterinary instruments packaged for the retail market. OTC products also include Stress-Dex, an oral electrolyte replacer for performance horses, and Fura-Zone, for the prevention and treatment of surface bacterial infections in wounds, burns and cutaneous ulcers. Ag-Tek and other hoof care, disposables and artificial insemination supplies are marketed to the dairy and veterinary industries.

Rodenticides. Neogen s comprehensive line of proven rodenticides, sold under brand names such as Ramik and Havoc, effectively address rodent problems of any size and serve as a critical component of an overall biosecurity plan for animal protein production operations. Neogen offers several rodenticide active ingredients including diphacinone, bromethalin, brodifacoum, and zinc phosphide formulated with food grade ingredients to generate the highest acceptance and most palatable bait possible.

Cleaners and disinfectants. Used in animal and food production facilities, Neogen s cleaners and disinfectants, including DC&R, 904 Disinfectant, Acid-A-Foam, Synergize, BioPhene and FarmFluid S, can stop a disease outbreak before it starts. The products are also used in the veterinary clinic market to maintain sanitary conditions and limit the potential hazards of bacteria, fungi and viruses.

Insecticides. Neogen s highly effective insecticides utilize environmentally friendly technical formulas, and several are approved for use in food establishments. The Company s Prozap insecticide brand is well known in the large animal production industry, particularly with dairy and equine producers.

Animal genomics services. Neogen Genomics, formerly known as GeneSeek and Igenity, provides value-added services to leading agricultural genetics providers, large national cattle associations, companion animal breed registries, university researchers, and numerous commercial beef and dairy cattle, swine and poultry producers. With state-of-the-art genomics laboratories and the comprehensive bioinformatics to interpret genomics test results, Neogen offers identity and trait determination and analysis. Our technology employs high-resolution DNA genotyping for identity and trait analysis in a variety of important animal and agricultural plant species. Our extensive bioinformatics database identifies and predicts an animal s positive or negative traits based on DNA test results. This information has helped livestock producers make significant improvements in the genomic makeup and overall quality of their animals.

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Life sciences. Neogen s line of approximately 100 drug detection immunoassay test kits is sold worldwide for the detection of approximately 300 abused and therapeutic drugs in farm animals and racing animals, and for detection of drug residues in meat and meat products. The test kits are also used for human forensic toxicology drug screening applications. This line includes tests for narcotics, analgesics, stimulants, depressants, tranquilizers, anesthetics, steroids and diuretics. Neogen also has several products used by researchers for the detection of biologically active substances.

Many of the products and services in the Animal Safety segment use licensed technology. In fiscal year 2018, Animal Safety incurred expense totaling $838,000 for licenses and royalties for technology used in our products and services, including expense of $410,000 for licenses related to the genomics services line.

Revenues from Neogen s Animal Safety segment accounted for 51.3%, 52.6% and 54.4% of our total revenues for fiscal years ended May 31, 2018, 2017 and 2016, respectively.

GENERAL SALES AND MARKETING

Neogen is organized under two segments Food Safety and Animal Safety. Within these segments, our sales efforts are generally organized by specific markets, rather than by products or geography. During the fiscal year that ended May 31, 2018, we had approximately 27,000 customers for our products. Since many customers for animal safety products are distributors, and certain animal safety products are offered to the general retail market, the total number of end users of our products is considerably greater than 27,000. As of May 31, 2018, a total of 401 employees were assigned to sales and marketing functions, compared to 375 at the end of May 2017. During the fiscal years ended May 31, 2018, 2017 and 2016, no single customer or distributor accounted for 10% or more of our revenues.

DOMESTIC SALES AND MARKETING

FOOD SAFETY

To reach each customer and prospect with expertise and experience, Neogen has a staff of specialized food safety sales and technical service representatives assigned to specific markets. This staff sells our products directly to end users, and also handles technical support issues that arise with customers in the United States and Canada.

Neogen s food safety markets are primarily comprised of:

Milling and grain, including grain elevators, feed mills, pet food manufacturers, and grain inspection companies;

Meat and poultry, including meat and poultry processors, producers of ready-to-eat meat and poultry products, and the USDA s Food Safety Inspection Service (FSIS);

Grocery products, including flour millers, malters, bakeries, candy and confection manufacturers, manufacturers of prepared meals, nuts, spices, cookies, crackers and other snack foods;

Fruits and vegetables, including growers and processors of juice and packaged fresh cut grocery items;

Seafood, including harvesters and processors of a wide variety of seafood products;

Dairy, including milk and yogurt processors;

Beverage, including soft drink bottlers and beer and wine producers;

Healthcare, including hospitals and distributors to the healthcare industry;

Traditional culture media markets, including commercial and research laboratories and producers of pharmaceuticals, cosmetics and veterinary vaccines;

Food service, including fast food service establishments and retail grocery market chains; and

Nutraceuticals, including producers and marketers of a wide variety of nutritional and holistic consumer products.

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ANIMAL SAFETY

Neogen markets a broad range of pharmaceuticals, vitamin injectables, wound care products, topicals, instruments, genomics services and biologicals to the veterinary market. The product range is focused on the food (e.g., cattle, swine and poultry) and companion (e.g., horses, dogs and cats) animal markets. Neogen s sales group works directly with veterinarians, clinics and universities, and markets through established ethical distributors by supporting the efforts of over 1,000 domestic distributor sales representatives calling on 35,000 plus veterinarians. Neogen further supports its veterinary distribution channel through product training, field support, promotions and technical service.

We believe the animal health market offers growth opportunities for Neogen and its products. Neogen offers a broad range of products including well-recognized brands of rodenticides, cleaners and disinfectants, insecticides, instruments and horse care products. To reach the OTC market, Neogen s sales team works with a large network of animal health distributors including marketing groups, traditional two-step distributors, catalogers and large retail chains. Support includes product training, field support, planogram solutions, promotions and advertising.

As a commercial laboratory, Neogen provides genomics services direct to large-herd beef and dairy cattle, swine, poultry and sheep producers, universities and other research organizations, and various livestock and canine breed associations.

INTERNATIONAL SALES AND MARKETING

Neogen maintains 12 Company-owned locations outside of the United States to provide a direct presence in regions of particular importance to us, and maintains an extensive network of distributors to reach countries where we do not have a direct presence.

Neogen Europe. Neogen Europe, Ltd., located in Ayr, Scotland, sells products and services to our network of customers and distributors throughout the European Union (E.U.). Customers in the United Kingdom (U.K.), France, Germany and the Netherlands are served by our employees. In other European regions, customers are generally serviced by distributors managed by Neogen Europe personnel. Neogen Europe s research and development team continues to be a strong asset in the development of products tailored to meet the unique requirements of the European market. Neogen Europe management is also responsible for sales and marketing for our England-based Lab M and Quat-Chem businesses. In August 2015, Neogen acquired the stock of Lab M Holdings (Lab M), a developer, manufacturer and supplier of microbiological culture media and diagnostic systems located in Heywood, England. Lab M s extensive range of microbiological culture media, supplements, immunomagnetic separation techniques and proficiency testing systems are used in laboratories around the world. In December 2016, Neogen acquired Quat-Chem Ltd., a Rochdale, England-based chemical company specializing in the development, manufacture and sale of agricultural, industrial, and food processing biocidal hygiene products, including cleaners and disinfectants. Quat-Chem sells its products on a global basis, with a focus on the U.K., E.U., Middle East and Asia.

Neogen Latinoamérica. Our subsidiary in Mexico, Neogen Latinoamérica, is headquartered near Mexico City and distributes Neogen s products throughout Mexico and Central America. Neogen Latinoamérica manages our business activities throughout the region by marketing to animal and crop producers and food processors, utilizing our direct sales representatives to sell Food Safety products and genomics services, while marketing cleaners, disinfectants and other Animal Safety products primarily through distributors.

Neogen do Brasil. Neogen do Brasil, headquartered near São Paulo, distributes Neogen s products throughout Brazil. Brazil is one of the world leaders in the export of numerous food commodities, including beef, poultry, soybeans, coffee, sugar and orange juice, and this operation gives us direct sales representation to these important markets.

Neogen do Brasil management is also responsible for sales and marketing for our Brazil-based Deoxi and Rogama businesses. Neogen owns Deoxi Biotecnologia Ltda, a genomics testing laboratory located in Aracatuba, Brazil, which we purchased in April 2016. In December 2016, we acquired Brazil-based Rogama Indústria e Comércio Ltda., a company which develops, manufactures and markets rodenticides and insecticides. Rogama was founded in 1979 and offers more than 70 registered pest control products to Brazil s agronomic, professional, and retail markets.

Neogen China. Our Chinese subsidiary, with offices in Shanghai and Beijing, employs sales representatives who sell directly to Chinese customers. China s burgeoning middle class, with its rapidly growing demand for higher quality meat and dairy products, makes the country a substantial growth opportunity for Neogen products both for animal production on the country s farms, and in processing plants throughout China s food production and distribution channels. We utilize both direct sales representatives and distributors to sell our complete portfolio in this growing market.

Neogen India. In June 2015, Neogen acquired the assets of Sterling Test House, a leading commercial food testing laboratory based in southwest India, to serve as a base for our operations in India. This business, which was renamed Neogen India, includes food safety and water quality testing for major hotels and restaurants in its home region, as well as safety and quality analysis for the country s expanding nutraceutical market, and growing food export businesses. The laboratory is located in Kochi, in the state of Kerala, which is India s leading region for the export of spices, tea, and fresh fruits and vegetables. In late fiscal 2016, Neogen transferred sales responsibility for our Food Safety products directly to sales representatives at Neogen India.

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Neogen Canada. In September 2015, Neogen opened a Canadian location in Guelph, Ontario. Currently, this office is used for genomics sales and sample reception, and reports through the Animal Safety segment.

Neogen Australasia. In September 2017, Neogen acquired the assets of The University of Queensland Animal Genetics Laboratory (AGL) the leading animal genomics laboratory in Australia, a country with large cattle and sheep markets. The acquisition of AGL was intended to help accelerate the growth of our animal genomics business in Australia and New Zealand. With the acquisition, AGL was renamed Neogen Australasia, and became Neogen s fourth animal genomics laboratory joining existing locations in the U.S., Scotland and Brazil.

Dairy antibiotics distributor. Neogen s dairy antibiotics diagnostic products are marketed directly to customers in North America, Brazil and China, and distributed elsewhere internationally by Denmark based Chr. Hansen, an international supplier of natural ingredient solutions for the food, health and nutritional industries.

Other distributor partners. Outside of our physical locations and dairy antibiotics distributor mentioned above, Neogen uses our own sales managers in both the Food Safety and Animal Safety segments to work closely with and coordinate the efforts of a network of approximately 150 distributors in more than 100 countries. The distributors provide local training and technical support, perform market research and promote Company products within designated countries around the world.

Sales to customers outside the United States accounted for 37.6%, 35.8% and 33.5% of our total revenues for fiscal years ended May 31, 2018, 2017 and 2016, respectively. No individual foreign country contributed 10% or more of our revenues for those same periods.

RESEARCH AND DEVELOPMENT

Management maintains a strong commitment to Neogen s research and development activities. Our product development efforts are focused on the enhancement of existing products and in the development of new products that fit our business strategy. As of May 31, 2018, we employed 100 individuals in our worldwide research and development group, including immunologists, chemists and microbiologists. Research and development costs were approximately $10.9 million, $10.4 million and $9.9 million representing 2.7%, 2.9% and 3.1% of total revenues in fiscal years 2018, 2017 and 2016, respectively. Management currently expects our future research and development expenditures to approximate 3% of total revenues annually.

Neogen has ongoing development projects for several new and improved diagnostic tests and other complementary products for both the Food Safety and Animal Safety markets. Management expects that a number of these products will be commercially available at various times during fiscal years 2019 and 2020.

Portions of certain technologies utilized in some products manufactured and marketed by Neogen were acquired from or developed in collaboration with affiliated partnerships, independent scientists, governmental units, universities and other third parties. We have entered into agreements with these parties that provide for the payment of license fees and royalties based upon sales of products that utilize the pertinent technology. License fees and royalties, expensed to sales and marketing, under these agreements amounted to $2,876,000, $2,659,000 and $1,969,000 in fiscal years 2018, 2017 and 2016, respectively.

PROPRIETARY PROTECTION AND APPROVALS

Neogen uses trade secrets as proprietary protection in many of its food and animal safety products. In many cases, we have developed unique antibodies capable of detecting microorganisms and residues at minute levels. The supply of

these antibodies, and the proprietary techniques utilized for their development, may offer better protection than the filing of patents. Such proprietary reagents are maintained in secure facilities and stored in more than one location to reduce exposure to complete destruction by natural disaster or other means.

Patent and trademark applications are submitted whenever appropriate. Since its inception, Neogen has acquired and received numerous patents and trademarks, and has several pending patents and trademarks. The patents expire at various times over the next 24 years.

A summary of patents by product categories follows:

	USA	International	Expiration
Natural Toxins, Allergens, & Drug Residues	24	48	2018-2042
Bacterial & General Sanitation	1	9	2018-2021
Life Sciences	0	4	2024
Vaccine	2	0	2018-2028
Veterinary Instruments & Other	13	33	2019-2039
Genomics Services	18	4	2021-2029

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We do not expect the near-term expiration of any single patent to have a significant effect on future results of operations.

Management believes that Neogen has adequate protection regarding proprietary rights for our products. However, we are aware that substantial research has taken place at universities, governmental agencies and other companies throughout the world and that numerous patents have been applied for and issued for technologies which may be used in our products. To the extent some of our products may now, or in the future, embody technologies protected by patents, copyrights or trade secrets of others, licenses to use such technologies may need to be obtained to continue to sell the products. These licenses may not be available on commercially reasonable terms. Failure to obtain any such licenses may delay or prevent the sale of certain new or existing products. In addition, patent litigation is not uncommon. Accordingly, there can be no assurance that our existing patents will be sufficient to completely protect our proprietary rights.

One of the major areas affecting the success of biotechnology development involves the time, cost and uncertainty surrounding regulatory approvals. Neogen products requiring regulatory approval, which we currently have in place, include BotVax B, EqStim, ImmunoRegulin, Uniprim and BetaStar. Our general strategy is to select technical and proprietary products that do not require mandatory approval by regulatory bodies to be marketed. Neogen s rodenticide, disinfectant and insecticide products are subject to registration in the United States and internationally.

Neogen utilizes third-party validations on many of our disposable test kits as a marketing tool to provide our customers with assurances that our products perform to specified levels. These include validation by the AOAC International, independently administered third-party, multi-laboratory collaborative studies and approvals by the U.S. Federal Grain Inspection Service and the USDA Food Safety Inspection Service for the use of our products in their operations.

PRODUCTION AND SUPPLY

Neogen manufactures our products in Michigan, Kentucky, Wisconsin, North Carolina, Iowa, Tennessee, California, the United Kingdom and Brazil and provides genomics services in Nebraska, Scotland, Brazil and Australia. As of May 31, 2018, there were approximately 764 full-time employees assigned to manufacturing and providing of services in these locations, operating on one or two shifts; with occasional 24/7 production during high demand periods. Future demand increases could be accommodated by adding shifts. Management believes we could increase the current output of our primary product lines by more than 50% using the current space available; however, to do so would require investment in additional equipment.

Food safety diagnostics. Manufacturing of diagnostic tests for the detection of natural toxins, pathogens, food allergens, dairy antibiotics, spoilage organisms and pesticides, final kit assembly, quality assurance and shipping takes place at our facilities in Lansing, Michigan. Proprietary monoclonal and polyclonal antibodies for Neogen s diagnostic kits are produced on a regular schedule in our immunology laboratories in Lansing. Generally, final assembly and shipment of diagnostic test kits to customers in Europe is performed in our Ayr, Scotland facility. Assembly and shipment of electronic readers and disposable single-use samplers takes place in our facilities in Lansing. Soleris and BioLumix instrument readers are produced by third-party vendors to our specifications, quality tested in Lansing, and then shipped to customers. Culture media products are manufactured in a FDA-registered facility in Lansing and in Heywood, England. Products are blended following strict formulations or custom blended to customer specification and shipped directly to customers from Lansing and Heywood.

Animal health products. Manufacturing of animal health products, pharmacological diagnostic test kits and test kits for drug residues takes place in our FDA-registered facilities in Lexington, Kentucky. In general, manufacturing

operations including reagent manufacturing, quality assurance, final kit assembly and packaging are performed by Neogen personnel. Certain animal health products and veterinary instruments that are purchased finished or that are toll manufactured by third party vendors are warehoused and shipped from our Lexington facilities. Other veterinary instruments are produced in our facilities in Lansing, and are generally then shipped to Lexington, for distribution to customers. Manufacturing and shipment of devices used for animal injections, topical applications and oral administration occurs in Kenansville, North Carolina.

Veterinary biologics. Neogen maintains a Lansing-based USDA-approved manufacturing facility devoted to the production of the biologic products EqStim and ImmunoRegulin. *P.acnes* seed cultures are added to media and then subjected to several stages of further processing resulting in a finished product that is filled and packaged within the facility. Our BotVax B vaccine is also produced in the Lansing facility utilizing Type B botulism seed cultures and a traditional fermentation process. All completed biologic products are then shipped to Neogen s Lexington facilities where they are inventoried prior to distribution to customers.

Agricultural genomics services. Neogen offers agricultural genomics laboratory services and bioinformatics at our locations in Nebraska, Scotland, Brazil and Australia. Through our laboratory services and bioinformatics (primarily in beef and dairy cattle, pigs, sheep, poultry, horses and dogs), Neogen Genomics allows our customers to speed genetic improvement efforts, as well as identify economically important diseases.

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Cleaners, disinfectants and rodenticides. Manufacturing of rodenticides and/or cleaners and disinfectants takes place in the following locations: Randolph, Wisconsin; Memphis, Tennessee; Turlock, California; Rochdale, England; and Pindamonhangaba, Brazil. Manufacturing of rodenticides consists of blending technical material (active ingredient) with bait consisting principally of various grains. Certain cleaners and disinfectants are manufactured in Neogen facilities, while others are purchased from other manufacturers for resale, or toll manufactured by third parties.

Pesticides. Neogen manufactures insecticides and other pesticides at its facilities in Pleasantville, Iowa and Pindamonhangaba, Brazil.

Neogen purchases component parts and raw materials from more than 1,000 suppliers. Though many of these items are purchased from a single source to achieve the greatest volume discounts, we believe we have identified acceptable alternative suppliers for most of our key components and raw materials where it is economically feasible to do so. There can be no assurance that we would avoid a disruption of supply in the event a supplier discontinues shipment of product. Shipments of products are generally accomplished within a 48-hour turnaround time. Because of this quick response time, our backlog of unshipped orders at any given time has historically not been significant.

COMPETITION

Although competitors vary in individual markets, management knows of no competitor that is pursuing Neogen s fundamental strategy of developing and marketing a broad line of products, ranging from disposable tests and culture media to veterinary pharmaceuticals and instruments for a large number of food safety and animal safety concerns. For each of our individual products or product lines, we face intense competition from companies ranging from small businesses to divisions of large multinational companies. Some of these organizations have substantially greater financial resources than Neogen. We compete primarily on the basis of ease of use, speed, accuracy and other similar performance characteristics of our products. The breadth of our product line, the effectiveness of our sales and customer service organizations, and pricing are also components in management s competitive strategy.

Future competition may become even more intense, and could result from the development of new technologies, which could affect the marketability and profitability of Neogen s products. Our competitive position will also depend on management s ability to continue to develop proprietary products, attract and retain qualified scientific and other personnel, develop and implement production and marketing plans and obtain patent protection for new products. Additionally, we must have adequate capital resources to execute our strategy.

FOOD SAFETY:

With a large professional sales organization offering a comprehensive catalog of food safety solutions, management believes we maintain a general advantage over competitors offering only limited product lines. In most cases, Neogen sales and technical service personnel can offer unique insight into a customer s numerous safety and quality challenges, and offer testing and other solutions to help the customer overcome those challenges.

Competition for pathogen detection products includes traditional methods and antibody and genetic-based platforms; competition for natural toxins and allergen detection products include instrumentation and antibody-based tests. While our offerings will not always compete on all platforms in all markets, the products we offer provide tests that can be utilized by most customers to meet their testing needs.

In addition to our extensive product offerings and robust distribution network, we focus our competitive advantage in the areas of customer service, product performance, speed and ease of use of our products. Additionally, by

aggressively maintaining Neogen as a low-cost producer, we believe that we can be competitive with new market entrants that may choose a low pricing strategy in an attempt to gain market share.

ANIMAL SAFETY:

Neogen s Animal Safety segment faces no one competitor across the products and markets we serve. In the racing industry market, we believe we hold a leading market share position. In the life sciences and forensics markets, we compete against several other diagnostic and reagent companies with similar product offerings.

In the veterinary market, Neogen markets BotVax B, the only USDA-approved vaccine for the prevention of botulism Type B in horses. We compete on other key products through differentiated product performance and superior customer and technical support. With some of our products, we provide solutions as a lower cost alternative and offer a private label option for our distributors.

Competition in the rodenticide market includes several companies of comparable size that offer products into similar market segments. The retail rodenticide market is not dominated by a single brand. While the technical materials used by competing companies are similar, Neogen uses manufacturing and bait formula techniques which we believe may better attract rodents to the product and thereby improves overall product performance.

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Within the insecticide market, Chem-Tech products specifically focus on the area of insect control for food and animal safety applications. There are several competitors offering similar products, however, we have a proprietary formulation chemistry that optimizes the delivery and safe application of insecticides at the customer s location. These products are currently only sold in the U.S. through a combination of direct sales and distributors.

Numerous companies, including a number of large multinationals, compete for sales in the cleaner and disinfectant product segment. Neogen s broad line of products are sold through our distributor network around the world, primarily to assist in the cleaning and disinfecting of animal production facilities.

In addition to our extensive portfolio of Animal Safety products, Neogen also competes in the retail market by providing solutions to common retail problems, such as stock outs, wasted floor space and inconsistent brand identity. We differentiate ourselves by offering planograms and convenient reordering systems to maximize turns and profitability for our retail customers.

Neogen Genomics, which includes the leading commercial agricultural genomics laboratory in the U.S., employs cutting-edge technology in the area of genomics. The result of this technology allows the acceleration of natural selection through selective breeding of traits such as disease resistance, yield improvement and meat quality. Competition comes mainly from a number of service providers, some significantly larger than us, whose primary focus are the human and pharmaceutical industries, as well as several smaller companies offering genomics services. Neogen Genomics is not involved in cloning or the development of transgenic animals.

GOVERNMENT REGULATION

A significant portion of Neogen s products and revenues are affected by the regulations of various domestic and foreign government agencies, including the U.S. Department of Agriculture (USDA), the Environmental Protection Agency (EPA), and the U.S. Food and Drug Administration (FDA). Changes in these regulations could affect revenues and/or costs of production and distribution.

Neogen s development and manufacturing processes involve the use of certain hazardous materials, chemicals and compounds. Management believes that our safety procedures for handling and disposing of such commodities comply with the standards prescribed by federal, state and local regulations; however, changes in such regulations or rules could involve significant costs to us and could be materially adverse to our business.

The rodenticides, insecticides, cleaners, disinfectants and sanitizers manufactured and distributed by Neogen are subject to EPA and various state regulations. In general, any international sale of our products must also comply with similar regulatory requirements in the country of destination. Each country has its own individual regulatory construct with specific requirements (e.g., label in the language of the importing country). To the best of our knowledge, Neogen products are in compliance with applicable regulations in the countries where such products are sold.

Dairy diagnostic products used in National Conference on Interstate Milk Shipments (NCIMS), a cooperative program involving FDA, state governments, and the industry must first be approved. Before products requiring NCIMS approval can be sold in the U.S., extensive product performance data must be submitted in accordance with the FDA-approved protocol administered by the AOAC Research Institute (AOAC RI). Following approval of a product by NCIMS, the product must be reviewed by the FDA. Our BetaStar Advanced U.S. dairy antibiotic residue testing product has been reviewed and/or approved by the appropriate regulatory bodies.

Many of the food safety diagnostic products do not require direct government approval. However, we have pursued AOAC approval for a number of these products to enhance their marketability.

Neogen s veterinary vaccine products and some pharmaceutical products require government approval to allow for lawful sales. The vaccine products are approved by the U.S. Department of Agriculture, Center for Veterinary Biologics (USDA-CVB) and the pharmaceutical products are approved by the FDA. The products, and the facilities in which they are manufactured, are in a position of good standing with both agencies. We have no warning letters based on any review of these products or facility inspection, no recalls on any of these products, and are not aware of any reason why we could not manufacture and market such products in the future.

Other animal safety and food safety products generally do not require additional registrations or approvals. However, Neogen s regulatory staff routinely monitors amendments to current regulatory requirements to ensure compliance.

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EMPLOYEES

As of May 31, 2018, we employed 1,546 full-time persons worldwide. None of the employees are covered by collective bargaining agreements. There have been no work stoppages or slowdowns due to labor-related problems, and management believes that our relationship with our employees is generally good. Employees with access to proprietary information have executed confidentiality agreements with Neogen.

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ITEM 1A. RISK FACTORS

An investment in Neogen Corporation s common shares involves a high degree of risk. The risks described below are not the only ones that an investor faces. Additional risks that are not yet known to us or that we currently think are immaterial could also impair our business, financial condition or results of operations. If any of the following risks actually occurs, our business, financial condition or results of operations could be adversely affected.

Risks Relating to Our Business

Our business strategy is dependent on successfully promoting internal growth and identifying and integrating acquisitions.

Our business has grown significantly over the past several years as a result of both internal growth and acquisitions of existing businesses and their products. Management initiatives may be attempted to augment internal growth, such as strengthening our presence in select markets, reallocating research and development funds to higher growth potential products, development of new applications for our technologies, enhancing our service offerings, continuing key customer efforts, and finding new markets for our products. Failure of these management initiatives may have a material adverse effect on our operating results and financial condition.

Identifying and pursuing acquisition opportunities, integrating these acquisitions into our business and managing their growth requires a significant amount of management s time and skill. We cannot assure that we will be effective in identifying, integrating or managing future acquisition targets. Our failure to successfully integrate and manage a future acquisition may have a material adverse effect on our operating results and financial condition.

In addition, if we continue to experience growth in our business, such growth could place a significant strain on our management, customer service, operations, sales and administrative personnel, and other resources. To serve the needs of our existing and future customers we will be required to recruit, train, motivate and manage qualified employees. We have incurred and will continue to incur significant costs to retain qualified management, sales and marketing, engineering, production, manufacturing and administrative personnel, as well as expenses for marketing and promotional activities. Our ability to manage our planned growth depends upon our success in expanding our operating, management, information and financial systems, which might significantly increase our operating expenses.

We may not be able to effectively manage our future growth, and if we fail to do so, our business, financial condition and results of operations could be adversely affected.

We rely significantly on our information systems infrastructure to support our operations and a failure of these systems and infrastructure and/or a security breach of our information systems could damage our reputation and have an adverse effect on operations and results.

We rely on our information systems infrastructure to integrate departments and functions, to enhance our ability to service customers, to improve our control environment and to manage our cost reduction initiatives. If a security breach or cyberattack of our IT networks and systems occurs, our operations could be interrupted. Any issues involving our critical business applications and infrastructure may adversely impact our ability to manage our operations and the customers we serve. Although we have controls and security measures in place to prevent such attacks, experienced computer hackers are increasingly organized and sophisticated. Malicious attack efforts operate on a large-scale and sometimes offer targeted attacks as a paid-for service. In addition, the techniques used to access or sabotage networks change frequently and generally are not recognized until launched against a target.

We rely on several information systems throughout our company, as well as our third-party business partners , to provide access to our web-based products and services, keep financial records, analyze results of operations, process customer orders, manage inventory, process shipments to customers, store confidential or proprietary information and operate other critical functions. Although Neogen employs system backup measures and engages in information system redundancy planning and processes, such measures, planning and processes, as well as our current disaster recovery plan, may be ineffective or inadequate to address all vulnerabilities. Further, our information systems and our business partners and suppliers information systems may be vulnerable to attacks by hackers and other security breaches, including computer viruses and malware, through the Internet (including via devices and applications connected to the Internet), email attachments and persons with access to these information systems, such as our employees or third parties with whom we do business. As information systems and the use of software and related applications by us, our business partners, suppliers, and customers become more cloud-based, there has been an increase in global cybersecurity vulnerabilities and threats, including more sophisticated and targeted cyber-related attacks that pose a risk to the security of our information systems and networks and the confidentiality, availability and integrity of data and information.

While we have implemented network security and internal control measures, especially for the purpose of protecting our connected products and services from cyberattacks, and invested in our data and information technology infrastructure, there can be no assurance that these efforts will prevent a system disruption, attack, or security breach and, as such, the risk of system disruptions and security breaches from a cyberattack remains.

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In addition, if our security and information systems are compromised, or employees fail to comply with the applicable laws and regulations, or this information is obtained by unauthorized persons or used inappropriately, it could adversely affect our reputation, as well as results of operations, and could result in litigation, the imposition of penalties, or significant expenditures to remediate any damage to persons whose personal information has been compromised.

Disruption of our manufacturing and service operations could have an adverse effect on our financial condition and results of operations.

We manufacture our products at several manufacturing facilities located in the following locations: Lansing, Michigan; Lexington, Kentucky; Randolph, Wisconsin; Kenansville, North Carolina; Pleasantville, Iowa; Memphis, Tennessee; Turlock, California; Heywood, England; Ayr, Scotland; Rochdale, England; and Pindamonhangaba, Brazil. We offer genomics services from facilities located in: Lincoln, Nebraska; Ayr, Scotland; Aracatuba, Brazil and Gatton, Australia. These facilities and our distribution systems are subject to catastrophic loss due to fire, flood, terrorism or other natural or man-made disasters. If any of these facilities were to experience a catastrophic loss, it could disrupt our operations, delay production, shipments and revenue and result in significant expenses to repair or replace the facility and/or distribution system. If such a disruption were to occur, we could breach agreements, our reputation could be harmed, and our business and operating results could be adversely affected. Although we carry insurance for property damage and business interruption, we do not carry insurance or financial reserves for interruptions or potential losses arising from terrorism. Economic conditions and uncertainties in global markets may adversely affect the cost and other terms upon which we are able to obtain third party insurance. If we are unable to obtain sufficient and cost-effective third-party insurance coverage, or to the extent we have elected to self-insure, we may be at greater risk that our operations will be harmed by a catastrophic loss.

Our dependence on suppliers could limit our ability to sell certain products or negatively affect our operating results.

We rely on third-party suppliers to provide components in our products, manufacture products that we do not manufacture ourselves and perform services that we do not provide ourselves, including package delivery services. Because these suppliers are independent third parties with their own financial objectives, actions taken by them could have a negative effect on our results of operations. The risks of relying on suppliers include our inability to enter into contracts with third party suppliers on reasonable terms, inconsistent or inadequate quality control, relocation of supplier facilities, supplier work stoppages and suppliers failure to comply with their contractual obligations. In addition, we currently purchase some raw materials and products from sole or single sources. Some of the products that we purchase from these sources are proprietary and, therefore, cannot be readily or easily replaced by alternative sources. Problems with suppliers could negatively impact our ability to supply the market, substantially decrease sales, lead to higher costs or damage our reputation with our customers.

We rely heavily on third-party package delivery services, and a significant disruption in these services or significant increases in prices may disrupt our ability to ship products, increase our costs and lower our profitability.

We ship a significant portion of our products to customers through independent package delivery companies, such as UPS, Federal Express and DHL. We also ship our products through other carriers, including national and regional trucking firms, overnight carrier services and the U.S. Postal Service. If one or more of these third-party package delivery providers were to experience a major work stoppage, preventing our products from being delivered in a timely fashion or causing us to incur additional shipping costs we could not pass on to our customers, our costs could increase and our relationships with some of our customers could be adversely affected. In addition, if one or more of

our third-party package delivery providers were to increase prices, and we were not able to find comparable alternatives or make adjustments within our delivery network, our profitability could be adversely affected.

Our business sells many products through distributors, which present risks that could negatively affect our operating results.

We sell many of our products, both within and outside of the U.S., through distributors. As a result, we are dependent on these distributors to sell our products and assist us in promoting and creating a demand for our products. Our distributors sometimes offer products from several different companies, and those distributors may carry our competitors products and promote our competitors products over our own. We have limited ability, if any, to cause our distributors to devote adequate resources to promoting, marketing, selling and supporting our products. We cannot assure that we will be successful in maintaining and strengthening our relationships with our distributors or establishing relationships with new distributors who have the ability to market, sell and support our products effectively. We may rely on one or more key distributors for a product or region, and the loss of one or more of these distributors could reduce our revenue. Distributors may face financial difficulties, including bankruptcy, which could impact our ability to collect our accounts receivable and negatively impact our financial results. In addition, violations of anti-corruption laws or similar laws by our distributors could have a material impact on our business, and any termination of a distributor relationship may result in increased competition in the applicable jurisdiction. Failing to manage the risks associated with our use of distributors may reduce sales, increase expenses and weaken our competitive position, which could have a negative impact on our operating results.

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The development of new products entails substantial risk of failure due to the production of non-viable products, lack of properly identifying market potential, and competitors better serving the marketplace.

Our growth strategy includes significant investment in and expenditures for product development. To execute this strategy, we are continually developing new products for which we believe there should be significant market demand. We cannot assure that we will successfully develop commercially viable products, that the products will be developed on a timely basis to meet market demand or that the relevant market will be properly identified. Our competitors may also adapt more quickly, and deliver superior technologies, price and/or service to better fit our customers requirements. If we expend substantial resources in developing an unsuccessful product, whether that lack of success is the result of our production of a non-viable product, a misidentified market, or a competitor s superior ability to meet our customers requirements, operating results could be adversely affected.

Our international operations are subject to different product standards as well as other operational risks.

In fiscal 2018, sales to customers outside of the U.S. accounted for 37.6% of our total revenue. We expect that our international business will continue to account for a significant portion of our total sales. Foreign regulatory bodies may establish product standards different from those in the U.S. and with which our current products do not comply. Our potential inability to design products that comply with foreign standards could have a material adverse effect on our future growth. Other risks related to sales to customers outside of the U.S. include possible disruptions in transportation, difficulties in building and managing foreign distribution, fluctuation in the value of foreign currencies, changes in import duties and quotas and unexpected economic and political changes in foreign markets. These factors could adversely affect international sales and our overall financial performance.

The markets for our products are extremely competitive, and our competitors may be able to utilize existing resource advantages to our detriment.

The markets in which we compete are subject to rapid and substantial changes in technology and are characterized by extensive research and development and intense competition. Many of our competitors and potential competitors have greater financial, technical, manufacturing, marketing, research and development and management resources than we do. These competitors might be able to use their resources, reputations and ability to leverage existing customer relationships to give them a competitive advantage over us. They might also succeed in developing products that are more reliable and effective than our products, make additional measurements, are less costly than our products or provide alternatives to our products.

We are dependent on the agricultural marketplace, which is affected by factors beyond our control.

Our primary customers are in the agricultural and food production industries. Economic conditions affecting agricultural industries are cyclical and are dependent upon many factors outside of our control, including weather conditions, changes in consumption patterns or commodity prices. Any of these factors in the agricultural marketplace could affect our sales and overall financial performance.

Our quarterly operating results are subject to significant fluctuations.

We have experienced, and may experience in the future, significant fluctuations in our quarterly operating results. The mix of products sold and the acceptance of new products, in addition to other factors, could contribute to this quarterly variability. We operate with relatively little backlog and have few long-term customer contracts. Substantially all our product revenue in each quarter results from orders received in that quarter. In addition, our expense levels are based, in part, on our expectation of future revenue levels. A shortfall in expected revenue could, therefore, result in a

disproportionate decrease in our net income.

Our success is highly dependent on our ability to obtain protection for the intellectual property utilized in our products.

Our success and ability to compete depends in part upon our ability to obtain protection in the U.S. and other countries for our products by establishing and maintaining intellectual property rights relating to or incorporated into our technology and products. Patent applications filed by us may not result in the issuance of patents or, if issued, may not be issued in a form that will be commercially advantageous to us. Even if issued, patents may be challenged, narrowed, invalidated or circumvented, which could limit our ability to stop competitors from marketing similar products or limit the length of time we may have patent protection for our products. We also cannot assure that our nondisclosure agreements, together with trade secrets and other common law rights, will provide meaningful protection for our trade secrets and other proprietary information. Moreover, the laws of some foreign jurisdictions may not protect intellectual property rights to the same extent as in the U.S., and many companies have encountered significant difficulties in protecting and defending such rights in foreign jurisdictions. If we encounter such difficulties or we are otherwise precluded from effectively protecting our intellectual property rights domestically or in foreign jurisdictions, we may incur substantial costs and our business, including our business prospects, could be substantially harmed.

From time to time, we have received notices alleging that our products infringe third-party proprietary rights. Whether the manufacture, sale or use of current products, or whether any products under development would, upon commercialization, infringe any patent claim will not be known with certainty unless and until a court interprets the patent claim in the context of litigation. When an infringement allegation is made against us, we may seek to invalidate the asserted patent claim and/or to allege non-infringement of the asserted patent claim. For us to invalidate a U.S. patent claim, we would need to rebut the presumption of validity afforded to issued patents in the U.S. with clear and convincing evidence of invalidity, which is a high burden of proof. The outcome of infringement litigation is subject to substantial uncertainties, and also the testimony of experts as to technical facts upon which experts may reasonably disagree. Our defense of an infringement litigation lawsuit could result in significant expense. Regardless of the outcome, infringement litigation could significantly disrupt our marketing, development and commercialization efforts, divert management s attention and consume our financial resources. In the event that we are found to infringe any valid claim in a patent held by a third party, we may, among other things, be required to:

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Pay damages, including up to treble damages and the other party s attorneys fees, which may be substantial;

Cease the development, manufacture, importation, use and sale of products that infringe the patent rights of others, through a court-imposed injunction;

Expend significant resources to redesign our technology so that it does not infringe others patent rights, or develop or acquire non-infringing intellectual property, which may not be possible;

Discontinue manufacturing or other processes incorporating infringing technology; and/or

Obtain licenses to the infringed intellectual property, which may not be available to us on acceptable terms, or at all.

Any development or acquisition of non-infringing products, technology or licenses could require the expenditure of substantial time and other resources and could have a material adverse effect on our business and financial results. If we are required to, but cannot, obtain a license to valid patent rights held by a third party, we would likely be prevented from commercializing the relevant product, or from further manufacture, sale or use of the relevant product.

We are subject to substantial governmental regulation.

A portion of our products and facilities are regulated by various domestic and foreign government agencies, including the U.S. Department of Agriculture, the U.S. Food and Drug Administration and the Environmental Protection Agency. A significant portion of our revenue is derived from products used to monitor and detect the presence of residues that are regulated by various government agencies. Furthermore, our growth may be adversely affected by the implementation of new regulations. We are not aware of any failures to comply with applicable laws and regulations; the costs of compliance or failure to comply with any obligations could adversely impact our business.

We are dependent on key employees.

Our success depends, in large part, on members of our management team. Our loss of any of these, or other, key employees could have a material adverse effect on us. We maintain certain incentive plans for key employees, and many of these employees have been with us in excess of five years. However, we have not executed long-term employment agreements with any of these employees and do not expect to do so in the foreseeable future. Our success depends, significantly, on our ability to continue to attract such personnel. We cannot assure that we will be able to retain our existing personnel or attract additional qualified persons when required and on acceptable terms.

Our business may be subject to product liability claims.

The manufacturing and distribution of our products involve an inherent risk of product liability claims being asserted against us. Regardless of whether we are ultimately determined to be liable or our products are determined to be defective, we might incur significant legal expenses not covered by insurance. In addition, product liability litigation could damage our reputation and impair our ability to market our products, regardless of the outcome. Litigation could also impair our ability to retain product liability insurance or make our insurance more expensive. Although we currently maintain liability insurance, we cannot assure that we will be able to continue to obtain such insurance on acceptable terms, or that such insurance will provide adequate coverage against all potential claims. If we are subject

to an uninsured or inadequately insured product liability claim, our business, financial condition and results of operations could be adversely affected.

Market prices for securities of technology companies are highly volatile.

The market prices for securities of technology companies have been volatile in the past and could continue to be volatile in the future. Fluctuations in our financial performance from period to period could have a significant impact on the market price of our common shares.

Operating results could be negatively impacted by economic, political or other developments in countries in which we do business.

Future operating results could be negatively impacted by unstable economic, political and social conditions, including but not limited to fluctuations in foreign currency exchange rates, political instability, or changes in the creation or interpretation of laws and regulations or administrative actions in each of the countries where we conduct business, including the U.S.

These potential negative impacts include, but are not limited to, the following: reduction of demand for some of our products, increase in the rate of order cancellations or delays, increased risk of excess and obsolete inventories, increased pressure on prices for our products and services, and longer sales cycles and greater difficulty in collecting accounts receivable.

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Tax legislation could materially adversely affect our financial results and tax liabilities.

We are subject to the tax laws and regulations of the U.S., including state and local governments, as well as foreign jurisdictions. From time to time, legislation may be proposed that could materially adversely affect our financial results. There can be no assurance that our effective tax rate will not be adversely affected by legislation. On December 22, 2017, the President signed into law the Tax Cut and Jobs Act, which contains a broad range of tax reform provisions that impact corporate tax rates, international tax provisions, income tax add-back provisions and deductions. We are still evaluating this complex new law to determine its long-term impact.

In addition, tax laws and regulations are extremely complex and subject to varying interpretations. Although we believe that our historical tax positions are sound and consistent with applicable laws, regulations and existing precedent, there can be no assurance that our tax positions will not be challenged by relevant tax authorities or that we would be successful in any such challenge. Additionally, we operate in multiple income tax jurisdictions and must determine the appropriate allocation of income to each of these jurisdictions based on current interpretations of complex income tax regulations. Income tax audits associated with the allocation of income and other complex issues may result in significant income tax adjustments that could negatively impact our future operating results.

ITEM 1B. UNRESOLVED STAFF COMMENTS NONE

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ITEM 2. PROPERTIES
Principal Manufacturing, Distribution and Administrative locations

Location	Approximate Square Feet	Operations	Ownership
Lansing, Michigan	300,000	Corporate, Food Safety, Animal Safety	Owned
Lexington, Kentucky	210,000	Animal Safety	Owned
Kenansville, North Carolina	33,500	Animal Safety	Leased, expires 3/2019
St Joseph, Michigan	7,000	Animal Safety	Leased, expires 5/2019
Randolph, Wisconsin	137,000	Animal Safety	Owned
Pleasantville, Iowa	59,000	Animal Safety	Leased, expires 12/2018
Lincoln, Nebraska	41,000	Animal Safety	Owned
Memphis, Tennessee	66,100	Animal Safety	Owned
Turlock, California	29,500	Animal Safety	Leased, expires 9/2022
Guelph, Ontario, Canada	700	Animal Safety	Leased, expires 7/2019
Ayr, Scotland, United Kingdom	74,000	Food Safety	Owned
Heywood, England, United Kingdom	24,800	Food Safety	Owned
Rochdale, England, United Kingdom	60,000	Food Safety	Owned
Indaiatuba, Brazil	6,800	Food Safety	Leased, expires 5/2021
Aracatuba, Brazil	2,000	Food Safety	Leased, month to month
Pindamonhangaba, Brazil	55,300	Food Safety	Owned

Naucalpan, Mexico	27,000	Food Safety	Leased, expires 10/2018
Shanghai, China	4,900	Food Safety	Leased, expires 4/2019
Beijing, China	1,100	Food Safety	Leased, expires 12/2018
Kochi, India	5,500	Food Safety	Leased, expires 4/2019
Gatton, Australia	4,600	Animal Safety	Leased, expires 1/2023

Our corporate headquarters are located in Lansing, Michigan, with administrative, sales, manufacturing and warehousing in other locations domestically and globally. These properties are in good condition, well-maintained, and generally suitable and adequate to support our business.

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ITEM 3. LEGAL PROCEEDINGS

Neogen is subject to certain legal proceedings in the normal course of business that, in the opinion of management, should not have a material effect on our future results of operations or financial position.

ITEM 4. MINE SAFETY DISCLOSURES NOT APPLICABLE

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PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION:

Neogen Common Stock is traded on the NASDAQ Global Select Market under the symbol NEOG . The following table sets forth, for the fiscal periods indicated, the high and low sales prices for the Common Stock as reported on the NASDAQ Stock Market.

	High	Low
Year ended May 31, 2018		
First Quarter	$ 52.28	$ 48.30
Second Quarter	$ 63.25	$ 51.85
Third Quarter	$ 62.86	$ 54.64
Fourth Quarter	$ 76.13	$ 58.78
Year ended May 31, 2017		
First Quarter	$ 44.76	$ 38.00
Second Quarter	$ 47.47	$ 38.40
Third Quarter	$ 50.92	$ 46.20
Fourth Quarter	$ 51.43	$ 44.76

Neogen declared a 4-for-3 stock split effective on December 29, 2017. All share prices above have been adjusted as if the split had been in effect at the beginning of the periods presented.

HOLDERS:

As of June 30, 2018, there were approximately 266 stockholders of record of Common Stock and management believes there are a total of approximately 12,000 beneficial holders.

DIVIDENDS:

Neogen has never paid cash dividends on its Common Stock and does not anticipate paying cash dividends in the foreseeable future.

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The graph below matches Neogen Corporation s cumulative 5-Year total shareholder return on common stock with the cumulative total returns of the NASDAQ Composite index and the NASDAQ Medical Equipment index. The graph tracks the performance of a $100 investment in our common stock and in each index (with the reinvestment of all dividends) from 5/31/2013 to 5/31/2018.

	5/13	5/14	5/15	5/16	5/17	5/18
Neogen Corporation	**100.00**	**104.07**	**128.71**	**135.96**	**174.29**	**277.99**
NASDAQ Composite	**100.00**	**125.98**	**151.80**	**150.04**	**189.31**	**228.19**
NASDAQ Medical Equipment	**100.00**	**105.43**	**134.12**	**140.40**	**184.56**	**258.15**

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

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Issuer Purchases of Equity Securities

In December 2008, our Board of Directors authorized a program to purchase, subject to market conditions, up to 1,500,000 shares of our common stock. As of May 31, 2018, 149,368 cumulative shares have been purchased in negotiated and open market transactions for a total price, including commissions, of approximately $923,000. There were no purchases in fiscal years 2018, 2017 or 2016. Shares purchased under the program were retired.

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ITEM 6. SELECTED FINANCIAL DATA

The following tables set forth selected consolidated financial data of Neogen for the year ended May 31, 2018, and each of the four preceding fiscal years. The selected consolidated financial data presented below have been derived from our consolidated financial statements. This financial data should be read in conjunction with the consolidated financial statements, related notes and other financial information appearing elsewhere in this Form 10-K.

	Years Ended May 31				
(in thousands, except per share data)	**2018**	**2017**	**2016**	**2015**	**2014**
Income Statement Data:					
Food Safety Revenues	$ 196,047	$ 171,325	$ 146,421	$ 131,479	$ 116,290
Animal Safety Revenues	206,205	190,269	174,854	151,595	131,115
Total Revenues	402,252	361,594	321,275	283,074	247,405
Total Cost of Revenues	212,000	189,626	168,211	143,389	124,807
Sales and Marketing	70,909	62,424	57,599	51,757	46,432
General and Administrative	38,294	34,214	29,189	25,233	24,449
Research and Development	10,855	10,385	9,890	9,577	8,326
Operating Income	70,194	64,945	56,386	53,118	43,391
Other Income (Expense)	3,271	1,728	(873)	(1,042)	(360)
Income Before Income Taxes	73,465	66,673	55,513	52,076	43,031
Provision for Income Taxes	10,250	22,700	18,975	18,500	15,000
Net Income	63,215	43,973	36,538	33,576	28,031
Net (Income) Loss Attributable to Non-Controlling Interest	(70)	(180)	26	(50)	127
Net Income Attributable to Neogen	$ 63,145	$ 43,793	$ 36,564	$ 33,526	$ 28,158
Net Income per Share (basic) (1)	$ 1.23	$ 0.87	$ 0.73	$ 0.68	$ 0.58
Net Income per Share (diluted) (1)	$ 1.21	$ 0.86	$ 0.72	$ 0.67	$ 0.57
Weighted Average Shares Outstanding (diluted) (1)	52,149	51,165	50,500	49,926	49,689

	2018	**2017**	**2016**	**2015**	**2014**
Balance Sheet Data:					
Cash and Cash Equivalents and Marketable Securities	$ 210,810	$ 143,635	$ 107,796	$ 114,164	$ 76,496
Working Capital (2)	337,101	256,959	219,628	205,739	163,779
Total Assets	618,009	528,409	449,940	392,181	345,301
Long-Term Debt					
Total Equity	560,175	471,757	404,161	350,963	306,300

(1) On December 29, 2017, the Company effected a 4-for-3 stock split whereby stockholders of record on December 18, 2017 received a dividend of one additional share of stock for each three shares held. All share and per share amounts in this Form 10-K have been adjusted to reflect the stock split as if it had taken place at the

beginning of the period presented.

(2) Defined as current assets less current liabilities.

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ITEM 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The information in this Management s Discussion and Analysis of Financial Condition and Results of Operations contains both historical financial information and forward-looking statements. Neogen s management does not provide forecasts of future financial performance. While we are optimistic about our long-term prospects, historical financial information may not be indicative of our future financial results.

Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words believes, anticipates, plans, expects, seeks, estimates, a similar expressions are intended to identify forward-looking statements. There are a number of important factors, including competition, recruitment and dependence on key employees, impact of weather on agriculture and food production, identification and integration of acquisitions, research and development risks, patent and trade secret protection, government regulation and other risks detailed in Item 1A. RISK FACTORS in this Form 10-K and from time to time in the Company s reports on file at the Securities and Exchange Commission, that could cause Neogen Corporation s results to differ materially from those indicated by such forward-looking statements, including those detailed in this Management s Discussion and Analysis of Financial Condition and Results of Operations.

In addition, any forward-looking statements represent management s views only as of the day this Form 10-K was first filed with the Securities and Exchange Commission and should not be relied upon as representing management s views as of any subsequent date. While we may elect to update forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, even if our views change.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The discussion and analysis of our financial condition and results of operations are based on the consolidated financial statements that have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires that management make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, management evaluates the estimates, including but not limited to, those related to receivable allowances, inventories and intangible assets. These estimates are based on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The following critical accounting policies reflect management s more significant judgments and estimates used in the preparation of the consolidated financial statements.

Revenue Recognition

Revenue from products and services is recognized when the product has been shipped or the service performed, the sales price is fixed and determinable, and collection of any receivable is probable. To the extent that customer payment has been received before all recognition criteria are met, these revenues are initially deferred and later recognized in the period that all recognition criteria have been met. Customer credits for sales returns, pricing and other disputes, and other related matters (including volume rebates offered to certain distributors as marketing support) represent approximately 3% of reported net revenue for each period presented.

Accounts Receivable Allowance

Management attempts to minimize credit risk by reviewing customers credit history before extending credit and by monitoring credit exposure on a regular basis. An allowance for doubtful accounts receivable is established based upon factors surrounding the credit risk of specific customers, historical trends and other information. Collateral or other security is generally not required for accounts receivable. Once a receivable balance has been determined to be uncollectible, that amount is charged against the allowance for doubtful accounts.

Inventory

A reserve for obsolete and slow-moving inventory has been established and is reviewed at least quarterly based on an analysis of the inventory, considering the current condition of the asset as well as other known facts and future plans. The reserve required to record inventory at lower of cost or net realizable value may be adjusted as conditions change. Product obsolescence may be caused by shelf-life expiration, discontinuance of a product line, replacement products in the marketplace or other competitive situations.

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Goodwill and Other Intangible Assets

Goodwill represents the excess of purchase price over fair value of tangible net assets of acquired businesses after amounts are allocated to other identifiable intangible assets. Other intangible assets include customer relationships, trademarks, licenses, trade names, covenants not-to-compete and patents. Customer-based intangibles are amortized on either an accelerated or straight-line basis, reflecting the pattern in which the economic benefits are consumed, while all other amortizable intangibles are amortized on a straight-line basis; intangibles are generally amortized over 5 to 25 years. We review the carrying amounts of goodwill and other non-amortizable intangible assets annually, or when indications of impairment exist, to determine if such assets may be impaired by performing a quantitative assessment. If the carrying amounts of these assets are deemed to be less than fair value based upon a discounted cash flow analysis and comparison to comparable EBITDA multiples of peer companies, such assets are reduced to their estimated fair value and a charge is made to operations.

Long-lived Assets

Management reviews the carrying values of its long-lived assets to be held and used, including definite-lived intangible assets, for possible impairment whenever events or changes in business conditions warrant such a review. The carrying value of a long-lived asset is considered impaired when the anticipated separately identifiable undiscounted cash flows over the remaining useful life of the asset indicate that the carrying amount of the asset may not be recoverable. In such an event, fair value is determined using discounted cash flows and, if lower than the carrying value, impairment is recognized through a charge to operations.

Equity Compensation Plans

Share options awarded to employees and shares of stock awarded to employees under certain stock purchase plans are recognized as compensation expense based on their fair value at grant date. The fair market value of options granted under our stock option plans was estimated on the date of grant using the Black-Scholes option-pricing model with assumptions for inputs such as interest rates, expected dividends, volatility measures and specific employee exercise behavior patterns based on statistical data. Some of the inputs used are not market-observable and have to be estimated or derived from available data. Use of different estimates would produce different option values, which in turn would result in higher or lower compensation expense recognized.

To value options, several recognized valuation models exist. None of these models can be singled out as being the best or most correct one. The model applied by us can handle most of the specific features included in the options granted, which is the reason for its use. If a different model were used, the option values could differ despite using the same inputs. Accordingly, using different assumptions coupled with using a different valuation model could have a significant impact on the fair value of employee stock options. Fair value could be either higher or lower than the number provided by the model applied and the inputs used. Further information on our equity compensation plans, including inputs used to determine the fair value of options, is disclosed in Notes 1 and 5 to the consolidated financial statements.

Income Taxes

We account for income taxes using the asset and liability method. Under this method, deferred income tax assets and liabilities are determined based on differences between the financial reporting and tax bases of assets and liabilities and for tax credit carryforwards and are measured using the enacted tax rates in effect for the years in which the differences are expected to reverse. Deferred income tax expense represents the change in net deferred income tax assets and liabilities during the year.

Our wholly-owned foreign subsidiaries are comprised of Neogen Europe, Lab M Holdings, Quat-Chem, Neogen do Brasil, Deoxi Biotecnologia Ltda, Rogama Industria e Comercio Ltda, Acumedia do Brasil, Neogen Latinoamérica, Neogen Bio-Scientific Technology Co (Shanghai), Neogen Food and Animal Security (India), Neogen Canada, and Neogen Australasia Pty Limited. Based on historical experience, as well as our future plans, earnings from these subsidiaries are expected to be re-invested indefinitely for future expansion and working capital needs. Furthermore, our domestic operations have historically produced sufficient operating cash flow to mitigate the need to remit foreign earnings. On an annual basis, we evaluate the current business environment and whether any new events or other external changes might require a re-evaluation of the decision to indefinitely re-invest foreign earnings. At May 31, 2018, unremitted earnings of our foreign subsidiaries were $43,784,000.

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On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the Tax Act) was signed into law making significant changes to the Internal Revenue Code. Changes include a federal corporate tax rate from 35% to 21% for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of foreign earnings. On December 22, 2017, Staff Accounting Bulletin No. 118 (SAB 118) was issued to address the application of U.S. GAAP to situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In accordance with SAB 118, we have determined that the $6.0 million of deferred tax benefit recorded in connection with the remeasurement of certain deferred tax assets and liabilities and the $1.2 million of current tax expense recorded in connection with the transition tax on the mandatory deemed repatriation of foreign earnings was a provisional amount at May 31, 2018. Any subsequent adjustment to these amounts will be recorded to current tax expense in the quarter of 2019 when any further analysis of our deferred tax assets and liabilities and our historical foreign earnings is completed. We expect to complete our detailed analysis during fiscal 2019.

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RESULTS OF OPERATIONS

Executive Overview

Consolidated revenues were $402.3 million in fiscal 2018, an increase of 11% compared to $361.6 million in fiscal 2017. Organic sales increased 8%.

Food Safety segment sales were $196.0 million in fiscal 2018, an increase of 14% compared to $171.3 million in fiscal 2017. Organic sales increased 9%, with the acquisitions of Quat-Chem and Rogama, both in December 2016, contributing the remainder of the growth.

Animal Safety segment sales were $206.2 million in fiscal 2018, an increase of 8% compared to $190.3 million in fiscal 2017. Organic sales increased 7%, with the September 2017 acquisition of Neogen Australasia contributing the remainder of the growth.

International sales were 37.6% of total sales in fiscal 2018 compared to 35.8% of total sales in fiscal 2017.

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act (the Tax Act), which included a reduction in the U.S. federal statutory tax rate from 35% to 21% and a transition to a modified territorial system. As a result of the enactment of the Tax Act, we recorded a gain of $6.0 million related to the revaluation of deferred tax assets and liabilities and a charge of $1.2 million related to a transition tax on unrepatriated earnings at our international operations in fiscal 2018. The net gain of $4.8 million resulted in a $0.09 increase to diluted earnings per share.

Results for fiscal 2018 also reflect a benefit of $4.8 million to our provision for income taxes for share-based payment awards resulting from the current year adoption of ASU No. 2016-09, Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting . This benefit contributed $0.09 to diluted earnings per share in fiscal 2018.

Net income was $63.1 million, or $1.21 per diluted share, an increase of 44% compared to $43.8 million, or $0.86 per share, in the prior year.

Cash generated from operating activities in fiscal 2018 was $69.1 million, compared to $60.3 million in fiscal 2017.

Neogen s results reflect a 17% increase in international sales in fiscal 2018 compared to the prior year. We continue to focus on increasing our presence and market share throughout the world, while also integrating our recent international acquisitions into our product portfolio. Sales increases for fiscal 2018 compared to the prior year are as follows for each of our international locations:

	Revenue % Increase USD	Revenue % Increase Local Currency
Neogen Europe (including Lab M & Quat-Chem)	23%	16%
Neogen do Brasil (including Deoxi & Rogama)	54%	56%
Neogen Latinoamerica	13%	9%
Neogen China	18%	14%
Neogen India	18%	14%

Currency translation had a positive impact of approximately $3.7 million on revenues recorded in foreign currencies during fiscal 2018. At Neogen Europe, a 31% increase in genomics revenues and a 29% increase in sales of culture media manufactured at Lab M offset an 8% decrease in natural toxin test kit sales, as last year s deoxynivalenol (DON) outbreak in corn crops in western Europe did not repeat in the current year. The organic revenue increase in Brazil was primarily due to a large Rogama sale to a government health organization that will not recur in fiscal 2019. Sales of test kits to detect aflatoxin also increased over 200% in Brazil as we gained new business testing for aflatoxin in corn. These increases were partially offset by a 39% decrease in sales of forensic test kits resulting from increased competition and customer losses caused by conversion to different testing methods.

Service revenue was $66.7 million in fiscal 2018, an increase of 21% over prior fiscal year sales of $55.1 million, aided by the September 2017 acquisition of Neogen Australasia. The growth was led by increases in sales to the global beef and dairy cattle and companion animal markets, and increased testing volumes with a large poultry customer.

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REVENUES

	Year Ended				
(dollars in thousands)	**May 31, 2018**	**Increase/ (Decrease)**	**May 31, 2017**	**Increase/ (Decrease)**	**May 31, 2016**
Food Safety:					
Natural Toxins, Allergens & Drug Residues	$ 72,962	3%	$ 70,926	12%	$ 63,269
Bacterial & General Sanitation					