VALENT BIOSCIENCES®

Reimagine

VALENT BIOSCIENCES
SUSTAINABILITY UPDATE

2019-2020

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Business Overview

Valent BioSciences is a global leader in the development and commercialization of biorational products used to improve agricultural productivity, protect public health, and keep our forests beautiful—all in a sustainable manner.

Inherently sustainable, biorationals are derived from natural or biological origins, including a broad range of substances used in agriculture, public health, and forest health. They help maximize quality, productivity, and sustainability.

Our mission is to discover, develop, manufacture, and market biorational products that address grower needs sustainably, safeguard and enhance crops, provide vector control solutions that protect human health, maintain green forests, and deliver measurable value to our customers and stakeholders.

Valent BioSciences and our sister companies are part of Sumitomo Chemical Co., Ltd. Together, we develop and market best-in-class, sustainable technologies to help make the world a better place.

Ted Melnik

A MESSAGE FROM OUR COO

Virtually everything we do at Valent BioSciences is inherently sustainable—from improving crop quality to feeding the growing population to protecting the world from disease-vectoring insects, all while minimizing environmental impact. We are committed to being the biorational industry's ultimate innovator and contributing to a more sustainable future.

Our actions are inspired by our parent company and the commitment to the Sumitomo Spirit of Harmony between the individual, society, and nature, and to the principle of Jiri-Rita Koushi-Ichiny. This translates loosely to "for ourselves, for society, for a sustainable future" and speaks to creating economic value through the business while contributing to a more prosperous society.

Sustainability is woven into the fabric of our company, from the solutions we provide to how we operate as a company to the support we provide in our communities. In fact, our work as both an organization and as individuals directly impacts nearly half of the United Nations Sustainable Development Goals (SDGs), including:

The SDGs provide a lens to examine the sustainable impacts of our business and actions while helping us seed opportunities to grow even more sustainably in the future.

You'll read more in this overview about how our products and actions impact sustainability. While sustainability is embedded in our business and goals, in the coming year we plan to establish a formal set of metrics to measure and advance our efforts.

Ted Melnik

Sustainable Solutions

We are committed to developing innovative solutions that contribute to a more sustainable agricultural future.

CROP ENHANCEMENT

Valent BioSciences' industry-leading portfolio of plant growth regulators (PGRs) utilizes the power of plant biochemicals to maximize a crop's own genetic potential. The revolutionary nature of this portfolio provides new ways for growers to precisely manage their crops and increase control over their operations.

Because PGR solutions enhance crop quality and yield, growers around the world benefit from the ability to harvest more fruits and vegetables, reduce overall crop waste, and reduce labor needs.

Products such as ReTain® and ProGibb® assist in the battle against hunger by helping growers maximize productivity and economic return (crop quality and yield) with a highly effective, low-impact, sustainable technology.

Regulex®, Promalin®, MaxCel®, and ProTone® help improve food quality, which helps reduce food waste.

RyzUp® helps eliminate food waste by preserving post-harvest shelf life in bananas. About 40% of global banana exports are treated with RyzUp.

ProTone® promotes grape coloring in red table grapes and makes them more marketable, which reduces food waste by helping growers maximize their harvestable yield.

CROP PROTECTION

Our biorational crop protection products provide growers with highly effective crop protection through naturally occurring microbes. They contribute to securing the world's food supply with low to no impact on the environment. These products are highly specific and control targeted pests with no impact on pollinators or other beneficial insects, fish, birds, humans, or other mammals.

First introduced in 1971, DiPel® is one of the world's leading biological insecticides. DiPel and XenTari® are used in 60 countries on more than 200 crops, including vegetables, fruits, and nuts, to control a wide range of damaging lepidopteran pests. LEAP® provides an effective alternative to copper, which can accumulate to dangerous levels in the soil, to control bacterial diseases and lepidopteran larvae on crops.

Biorational crop protection products contribute to sustainability in many ways:

More than three million hectares of crops around the globe were treated with our crop protection products in 2019.

Our crop protection products can be used close to harvest with no concern about harmful residues on food.

With no impact on pollinators, beekeepers apply our products to protect beehives during the winter.

RHIZOSPHERE

The Biorational Rhizosphere, our newest business unit, enables growers to achieve short- and long-term objectives for their business by using biorational seed and soil solutions that promote healthy soil and optimize plant production. The future of sustainable agricultural systems depends on healthy soils that produce abundant crops for future generations. Soil health is based upon biological, physical, and chemical indicators, but it is the microbiological aspect of soil that mediates all three indicators to enhance and maintain soil quality needed for optimal plant production.

Our MycoApply® products contain arbuscular mycorrhizal fungi. When applied in combination with conservation farming practices, these keystone species of the soil microbiome establish plant resiliency early and throughout the crop cycle to improve soil health and enhance crop production by:

Promoting the formation of stable soil aggregates that mitigate soil erosion, improve water infiltration and holding capacity, and restore lost organic matter.

Improving nutrient acquisition to optimize productivity, fertilizer availability, and retention.

Providing drought tolerance to mitigate abiotic stress that contributes to reduced productivity.

PUBLIC HEALTH

Mosquitoes spread diseases that cause more than one million deaths per year around the world and severely burden social infrastructure.

Our Public Health team works with global, federal, and local authorities to deliver biorational solutions for a broad range of mosquito species and habitats.

Valent BioSciences' proprietary formulations containing *Bacillus thuringiensis* subsp. *israelensis*, *Bacillus sphaericus,* and/or s-methoprene (in products such as VectoBac,® VectoLex,® VectoMax,® MetaLarv,® and VectoPrime®) provide sustainable, biological control of mosquito larvae that helps manage mosquitoes before they become biting, disease-vectoring adults.

Globally, from 2016 to 2020, our larvicides have been used to treat more than 86 million acres and protect 1.2 billion peoples' lives from mosquito nuisance and disease.

86 million

acres have been treated with our larvicides.

1.2 billion

peoples' lives have been protected from mosquito nuisance and disease.

5.6 million

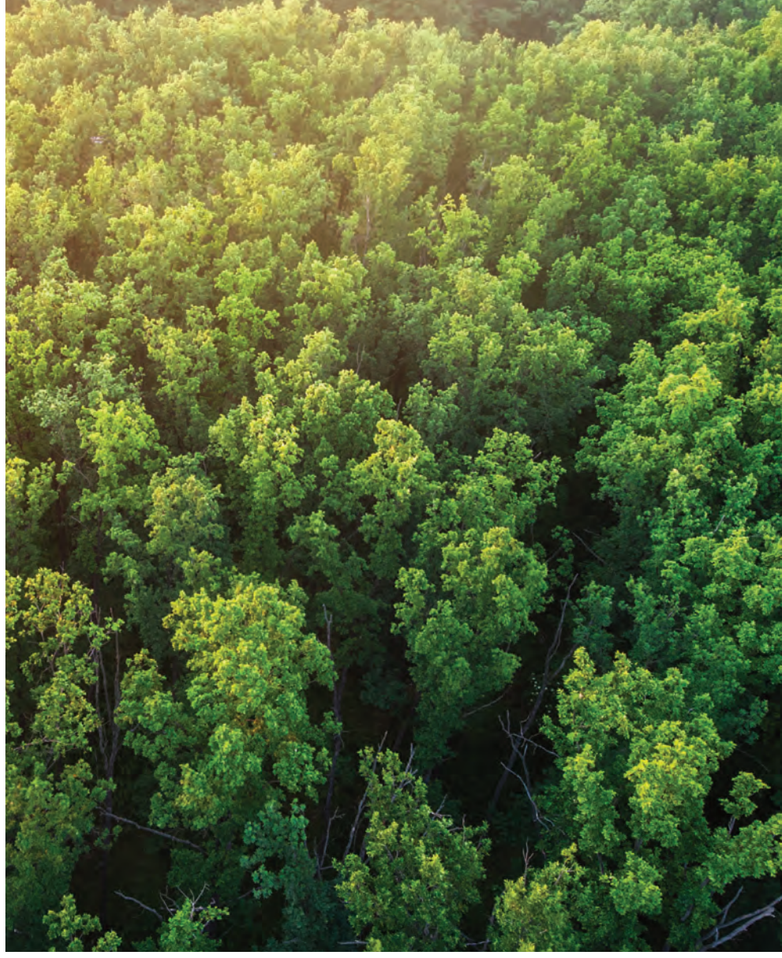
acres of forest lands in North America have been treated with our biorationals.

35%

reduction in greenhouse gas emissions was achieved by shipping additional rail cars in place of tanker trucks during the 2020 forestry season.

50%

reduction in greenhouse gas emissions if our goal to utilize even more rail cars is reached next year.



FOREST HEALTH

Our biorationals help preserve forests sustainably by controlling insect defoliator pests while protecting biodiversity and land value. Forest health professionals in both the public and private forestry sectors rely on Valent BioSciences' biorationals to meet these challenges.

Valent BioSciences' larvicide Foray® (*Bacillus thuringiensis* subsp. *kurstaki*) and insect growth regulator Mimic® help control several species of Lepidoptera that pose serious threats to the world's woodlands and forests.

From 2016 to 2020, more than 5.6 million acres of forest lands in North America were treated with our biorationals.

In the last year, Valent BioSciences increased its number of shipments by rail cars and decreased its number of shipments by tanker trucks during the forestry season, reducing greenhouse gas emissions by 35%. Next year, our goal is to utilize even more rail cars, cutting greenhouse gas emissions in half.

BIORATIONAL RESEARCH CENTER

Our recently opened Biorational Research Center (BRC) in Libertyville, Illinois, keeps us on the leading edge of global sustainability efforts in agriculture, public health, and forest health, while also serving as the hub for our global research and development efforts.

The BRC is a state-of-the-art facility that spans more than 90,000 square feet, including nearly 20,000 square feet of greenhouse, growth chamber, and headhouse space. It brings together our industry-leading team of innovative plant, soil, fermentation, and formulation scientists, microbiologists, molecular biologists, entomologists, plant pathologists, and chemists.

BRC functional areas are devoted to research and development in plant biology, soil microbiology, entomology, plant pathology, nematology, microbiology, fermentation, chemistry, downstream process, and formulations.

The BRC furthers our ability to develop and commercialize sustainable products for growers, food companies, foresters, and those fighting insect-borne diseases.

The BRC's work will help feed eight billion people and wage war on vector-borne diseases.

We have also expanded our research collaboration with our parent company, Sumitomo Chemical, by establishing a dedicated Biorational Research Unit at their Health & Crop Sciences Research Laboratory in Takarazuka, Hyogo, Japan.

RESEARCH PARTNERSHIPS

Along with extensive internal research capabilities and expertise, Valent BioSciences has a robust global research network and a firm commitment to expanding the knowledge and application of sustainable biorational solutions.

We are active members of numerous professional organizations, including the Biological Products Industry Alliance, Entomological Society of America, American Chemical Society, American Society for Horticultural Science, Phytobiomes Alliance, and American Mosquito Control Association. We also have exclusive research partnerships with leading organizations around the world.

Through these partnerships and our internal research efforts, we continue to innovate by developing new products and technologies that create a more sustainable agricultural future:

Since 2000, our research team has earned 116 US patents for work on innovative solutions for agriculture, public health, and forest health.

Through an exclusive partnership with the Donald Danforth Plant Science Center (St. Louis, Missouri, US), we are leading rhizosphere research using non-destructive, three-dimensional imaging of plant roots and mycorrhizae to improve soil health and sustainable crop productivity.

Since 2014, we have maintained a strategic partnership with Biomar Microbial Technologies (León, Spain), a leading bioprospecting company with an extensive microbial collection. Focused on bringing the next generation of biorational pesticides to market, our joint screening program has identified candidates that are already in our development pipeline, as well as multiple additional leads now being further characterized by Valent BioSciences, Sumitomo Chemical, and Biomar research teams.

In 2020, we signed a joint agreement to develop breakthrough sustainable biopesticide technologies for agricultural applications in a first-of-its-kind international partnership with SATT Paris-Saclay (Orsay, France), the Technology Transfer Accelerator Office of one of the world's leading innovation clusters. Together, we are focusing on introducing emerging technologies and products that are environmentally friendly, effective, and commercially viable.

Company

Our state-of-the-art facilities enable us to retain our position as a worldwide leader in the development, commercialization, and manufacturing of biorational products.

NEW GLOBAL BIORATIONAL HEADQUARTERS

In late 2020, we moved our global Biorational Headquarters (BHQ) to the same complex as our Biorational Research Center. Our new environmentally friendly headquarters incorporates the latest energy-efficient technologies and safety features, reflecting our commitment to promoting a safe and healthy work environment.

With its design carefully fine-tuned to protect employee health in COVID-19's post-pandemic environment, the new workspace features a specialized airflow filter system, LED lights that inhibit microbial growth, and sanitizing stations located throughout the office. While the pandemic caused us to pivot when designing this new space, we are excited to embrace our reimagined workspace.

A FOCUS ON SAFETY

Safety is a core value at Valent BioSciences. We are dedicated to creating and maintaining the safest possible workplace for all employees. With the opening of our new Global Biorational Headquarters, all of our key facilities feature state-of-the-art technology, systems, and amenities that promote innovation while keeping teammates healthy and safe.

Our manufacturing facility in Osage, Iowa, has a deep commitment to the health and safety of our employees. Our commitment includes accurate reporting of incidents and near misses. Our strong safety performance in 2020 included:

2

Total recordable injury rate for calendar year 2020.

2

12-month rolling total recordable injury rate.

2

OSHA recordable injuries with no lost workdays.

5

Minor first aid incidents.

While we have an impressive safety record, we continue to focus on preventing accidents. This year, we are implementing a formal safety observation program for our managers and supervisors focused on proactively preventing accidents at the Osage plant. Our goal is to prevent all injuries.

EMPOWERED EMPLOYEES

We are committed to creating and maintaining a workplace where every team member feels valued, respected, and empowered to contribute openly to our spirit of innovation. In doing so, we believe our employees can freely showcase and develop their skills, making us a better place to work and a better partner for our customers.

Several years ago, we formed a group dedicated to strengthening our commitment to diversity, equity, and inclusion. Composed of members from each function throughout the organization, the Valent Council on Diversity, Equity, and Inclusion promotes a culture of diversity, equity, and inclusion in every aspect of our business—enabling individuals and teams to maximize their potential. Its purpose is to provide feedback, insight, and counsel to company leadership while fostering a more inclusive workplace.

As part of this initiative, the Council created five strategic pillars to help achieve its objectives—Assess and Commit, Inclusive Leadership, Diverse Talent Pipeline, Continuous Learning, and Guest Speakers. In 2021, the Council is focused on implementing a five-part action plan to support these pillars, enhancing our corporate culture by raising awareness about the importance of diversity, equity, and inclusion, and implementing a pilot mentoring program.

Additionally, the Valent Group Companies recently launched an employee newsletter called *DE&I Matters* to highlight important topics that promote the organization's commitment to diversity, equity, and inclusion.

Overall, at Valent BioSciences, 30% of our employees are female and 28% are non-white. Our executive and senior-level teams are 17% female. Our first- and mid-level managers, the feeder positions for senior-level and executive positions, have a 38% representation by women and 21% by non-whites. Our recruiting strategy is to increase representation by women and minorities in our overall population. As a company, we strive to provide advancement opportunities and promote from within, whenever possible.

30%

of all Valent BioSciences employees are women.

28%

of all of our employees are non-white.

17%

of our executive and senior-level teams are women.

38%

of our first- and mid-level managers are women.

WAPATO, WASHINGTON
PACE INTERNATIONAL

OSAGE, IOWA
OSAGE MANUFACTURING PLANT

GRANTS PASS, OREGON
MYCORRHIZAL APPLICATIONS

ENVIRONMENTAL STEWARDSHIP

OSAGE MANUFACTURING PLANT

At our Osage, Iowa, manufacturing plant, we share a corporate goal to reduce CO_2 emissions with our parent company, Sumitomo Chemical. Our goal is to reduce overall CO_2 emissions 15% by 2030 from 2017 levels.

In 2020, we reduced fermenter energy use by optimizing fermentation agitation and aeration during periods of low oxygen demand without affecting the process. We also upgraded lighting systems with the latest LED fixtures.

Through these and other efforts, we reduced energy use at Osage by 2.3% and saved more than 925,000 kilowatts in 2020 compared to 2019. These improvements reduced CO_2 emissions by 654 tons annually. For 2021, we have the following initiatives and goals underway:

- A partnership with Heartland Power Cooperative to install a 2-megawatt solar farm to supplement power use.
- Reducing the volume of wastewater per fermentation batch sent to the wastewater pre-treatment plant 15% by 2022.
- Reducing wastewater nitrogen loading by more than 50% by piping AVG ammonia waste directly to sludge tanks. We provide this reclaimed waste to local farms, which can help improve crop yields.

ENVIRONMENTAL STEWARDSHIP

MYCORRHIZAL APPLICATIONS

Our wholly owned subsidiary in Grants Pass, Oregon, Mycorrhizal Applications, focuses on sustainability by providing the agriculture, horticulture, landscaping, and forestry industries with efficient and effective microbial-based biorational solutions.

Mycorrhizal Applications employs several sustainability practices throughout its operations to reduce environmental impacts:

To reduce energy, Mycorrhizal Applications utilizes solar power, and employees use electric vehicles to travel between buildings.

To save energy and improve storm water management, the facility has a living green roof featuring sedum plants.

To reduce water consumption, Mycorrhizal Applications uses drip irrigation as part of in vivo mycorrhizal production.

ENVIRONMENTAL STEWARDSHIP

PACE INTERNATIONAL

Our Pace International subsidiary, located in Wapato, Washington, produces products that meet the growing demand for food by reducing food waste and improving the freshness and appeal of fruits and vegetables. Pace contributes to sustainability by helping its customers reduce water use and prevent postharvest food spoilage.

As an alternative to fruit drenching, Pace's ecoFOG® technology helps growers save millions of gallons of water. Pace fungicides reduce spoilage leading to food loss by an estimated 350,000 tons annually.

To conserve resources within its operations, Pace:

Implemented a new washing system with spray balls installed at each packing house to reduce water usage.

Installed new wet scrubbers to reduce pesticide residue emissions and the facility's carbon footprint.

Launched a new process to reduce waste by reconditioning intermediate bulk containers that would have previously been deemed non-reusable and discarded, saving more than 400 bulk containers from being sent to landfills.

SUSTAINABLE SOURCING

Not only are the primary inputs for our products sustainable and natural, but we also require our suppliers to share our commitment to sustainability.

Since 2019, we've worked with EcoVadis, a leader in sustainability assessment, to audit the sustainability of our suppliers' business practices. EcoVadis evaluates suppliers on their performance in four categories—Environment, Labor and Human Rights, Ethics, and Sustainable Procurement. By engaging EcoVadis, we continue to make positive impacts to our supply chain, including:

Valent BioSciences' suppliers perform ahead of the EcoVadis average in all categories.

67% of our suppliers improved their EcoVadis score in year two after working with us to improve their sustainability performance.

The EcoVadis program was expanded in 2020 to include all Valent Group Company entities.

For the second consecutive year, Sumitomo Chemical received a gold medal assessment from EcoVadis. We earned a high score in the Environment category and also increased our score in Sustainable Procurement. This is a tremendous accomplishment, as Sumitomo Chemical was rated equal to or higher than 98% of all suppliers assessed on the platform.

Community

Our commitment to sustainability extends to the communities where our employees live and work.

Our corporate social value activities range from an annual global project to regional and local projects led by our companies, locations, and employees.

Together with our sister companies, we support activities such as International Women's Day and World Soil Day. We also host educational tours and field trips for local school students to inspire young minds to consider science as a career path.

In Libertyville, Illinois, our employees participated in seed harvesting activities at the Lake County Forest Preserves near our headquarters. We also collected used eyeglasses that were distributed in the Philippines.

In Osage, Iowa, we provided books to local children through the Osage Public Library as part of National Mosquito Control Awareness Week, cooked meals for Iowa communities impacted by natural disasters, and provided gifts and donations for homeless shelters and children in need.

At Mycorrhizal Applications, we undertook several environmental stewardship projects, including participating in an Earth Day garbage cleanup project and distributing pine tree kits for planting to employees and teachers.

Our Pace International location provided donations and supplies to a local community youth center, delivered supplies to a local youth homeless center and women's shelter, and helped provide free cancer screenings to local women who do not have medical insurance or cannot afford it.

VALENT BIOSCIENCES®

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