May 2015

2B MONTHLY

The Global Biocontrol & Biostimulants E-Newsletter

A DunhamTrimmer and New Ag International Publication
www.2BMonthly.com

Welcome!

The 2BMonthly Team is delighted to bring our subscribers the latest news in both the biocontrol and the biostimulant industries.

We wish you good reading!
The 2BMonthly Team

Trending Now

Mergers, Acquisitions and Partnerships

Eden Research Plc announces that it has signed an exclusive option agreement with Taminco BVBA's crop protection division following a series of successful field trials conducted during the second half of 2014. The Agreement grants Taminco the right to further evaluate and conduct large-scale marketing and regulatory trials with Eden's nematicide product B2Y for crop protection until 31 March 2016. It is anticipated that following a successful outcome in 2015, Eden and Taminco will negotiate a global licensing arrangement to

allow the commercialization of this product. The nematicide B2Y uses Eden's naturally derived active ingredients and *GO-E Inside™,* Eden's natural micro-encapsulation technology.

Evolva and Valent BioSciences Corporation have signed an exclusive agreement to co-develop and commercialize a class of high-value active ingredients for use as next-generation agricultural bioactives. The collaboration will start by developing yeast strains that make the desired ingredients. Evolva has the primary responsibility for this phase while VBC will be responsible for commercialization. The companies will work together on scale-up and manufacturing. The first products from the collaboration are expected to be launched in 4-5 years.

Valagro and Scuola Superiore Sant'Anna di Pisa have renewed their partnership for the next five years. The collaboration has an estimated value of more than one million Euro over a five years period of which more than an half is already funded by Valagro and allows the development of research projects in the field of genomic characterization of prototypes or substances derived from plant extracts or fermentation processes, enhancing Valagro's GeaPower® platform. Furthermore, of major importance are studies to be carried out on the effect of recently discovered genetic sequences that regulate the behavior and the expression of genes within plants. The collaboration also provides for a mechanism of economic incentives for academic researchers."

The Stockton Group announced the signing of a Distribution Agreement with Engage Agro. Under this Agreement, Engage Agro will exclusively market and distribute Timorex Gold biofungicide in Canada for fruit, vegetable and specialty crops. Timorex Gold will complement Engage Agro's portfolio, providing their customers with an innovative new tool for disease resistance management with a product that leaves no residues in the harvested produce. Growers in Canada will now benefit from Timorex Gold's unique multi-mode of action, which boosts plants' natural immune defenses to control fungal and bacterial diseases. Timorex Gold may be used in tank mixes, in program rotation and as a stand-alone product.

Eduard Fitó Baucells, Director of Corporate Affairs and Business Development of Semillas Fitó and Rafael Juncosa Granados, CEO of Futureco Bioscience, signed a Collaboration Agreement to promote projects and programs that facilitate and increase the collaboration in the development of seed protection and nutrition products. Rafael Juncosa said after signing that "This agreement with Semillas Fitó creates the framework that will allow Futureco Bioscience to explore the activity of their prototypes for protection, growth promoters and anti-stress compounds during the germination phase in various kinds of seeds, and develop a seed treatments pipeline of products that may increase resistance and strengthen the early stages of plant development. Eduard Fitó added: "This is a good example of collaboration between companies in different fields. The possibility of this agreement, in addition to generating business, will surely give us ideas, point of view from different angles, and ultimately innovation."

DuPont announced it has agreed to acquire Taxon Biosciences, Inc. This acquisition will build on DuPont's in-house capabilities and market access in both seed and crop protection to discover and commercialize biological solutions for agriculture customers globally. "Taxon has built a leading technology platform for the discovery of microbial based products that will further strengthen our capabilities in biologicals." said Executive Vice President James C. (Jim) Borel. Taxon holds a broad intellectual property estate in the field of microbial consortia and microbial genomics products, which will contribute to the development of new DuPont seed treatment, foliar and soil application products for important row crops, fruits and vegetables. "The acquisition of Taxon will complement and enhance our in-house microbial discovery programs," said Frank DeGennaro, director of DuPont Biologicals. "With this added capability, we expect to accelerate our time from discovery to market and we are field testing biological discovery leads identified by Taxon this year." Closing of the acquisition is expected in the second quarter.

Brandt has signed an agreement that allows Dorado Natural to distribute Brandt's products in Turkey. Dorado will feature 17 agricultural products including Brandt's advanced foliar micronutrients, steric chemistries and proprietary humic acid products. Dorado Natural is part of the Ozturk Group of companies. Established by Fikret Ozturk in the early 1980s, the Ozturk conglomerate is privately held and family-owned. "Dorado is a young division of the Ozturk Group that's focused on agriculture," said Emre Erbas, Brandt Turkey Business Manager.

Bayer CropScience announced a strategic innovation partnership with Flagship Ventures. The partnership also includes an investment in Flagship Ventures Fund V, a $537 million venture capital fund that closed in March 2015. Bayer CropScience brings its strengths in science, innovation and regulatory affairs to help Flagship to identify, fund, and develop startup companies exploring new frontiers in agriculture." The fund will focus on innovations in healthcare and sustainability in the energy, water, agriculture and nutrition sectors. Financial terms were not disclosed.

Company News

Brandt is expanding in Asia by establishing its Chinese office in Beijing and signing two distributors to carry its foliar micronutrient products. "These steps mark an important point in Brandt's evolution in Asia as the business continues to mature and become increasingly important to our global enterprise," said Rick Brandt, President & CEO of Brandt. Based in Beijing, Beijing Xinhefeng Agrochemicals Co., Ltd. (XHF) has signed on to distribute Brandt's Manni-Plex® line of high-performance foliar micronutrients. Shenzhen Noposion Agro Chemicals Co. Ltd. (Noposion), based in Shenzhen, will carry Brandt's Innside line of advanced micronutrient products.

Marrone Bio Innovations, Inc. announced the opening of its new greenhouse to facilitate and expand its research and product development capacity. The new greenhouse, located adjacent to MBI's corporate headquarters, is triple the size of the existing greenhouse on this site at 3,000 square feet (279 square meters), and features state of the art technology in environmental control.

Certis Europe has relocated its R&D team to new facilities at the Japan Agro Services (JAS) site

near Nimes in France. In the new facilities the R&D team will have access to a wide range of laboratory equipment and opportunities for conducting field trials. The IPM R&D laboratory will focus primarily on development of biopesticides and natural compounds, and their inclusion into IPM programs, while retaining close links with beneficial insect and mite production at BCP. In addition to closer collaboration and experience sharing with the team at JAS, the new location offers improved support for key customers in IPM.

EcoPesticides International, Inc. has signed a Cooperative Research and Development Agreement with the United States Department of Agriculture (USDA) Agricultural Research Service (ARS). Under the agreement, the USDA's Pest Management Research Unit in Sidney, Montana, will conduct joint research with EcoPesticides to further develop and validate the field efficacy of the company's UV-protectant microencapsulation technology. The intent of the technology is to extend the potency, and thus the effectiveness, of the encapsulated biopesticide in controlling grasshoppers and other crop-destroying insects. The principal investigator for the USDA-ARS is Stefan Jaronski, Ph.D., a research entomologist and noted authority on the biocontrol of rangeland grasshoppers, which are responsible for significant crop losses in the United States and globally. EcoPesticides President and CEO Les Stewart said the CRADA brings together complementary expertise and creates powerful synergies toward achieving a shared goal: more effective, environmentally friendly crop protection. "Our encapsulation technology shows great promise in shielding biopesticides from the harmful effects of UV and extending the window of effectiveness in fighting insect pests. The opportunity to work with Dr. Jaronski, who has conducted many grasshopper field trials using fungal strains, has the potential to accelerate development of our UV-shielding microencapsulation technology."

Arcadia Biosciences, Inc. announced the launch of its initial public offering of 7,150,000 shares of common stock pursuant to a registration statement filed on Form S-1 with the Securities and Exchange Commission. In addition, the Company intends to grant the underwriters a 30-day option to purchase up to an additional 1,072,500 shares of its common stock. The estimated initial public offering price range is $13.00 to $15.00 per share. Arcadia has applied to list its common stock on The NASDAQ Global Market under the symbol "RKDA."

Marrone Bio Innovations, Inc. announced that on May 6, 2015, as anticipated, the company was notified by the Listing Qualifications Staff of NASDAQ that, based upon the company's continued non-compliance with NASDAQ's filing requirements the company's securities were subject to delisting unless the company timely requests a hearing before the NASDAQ Listing Qualifications Panel. In addition, the company announced that it does not expect to file on a timely basis its Quarterly Report on Form 10-Q for the three months ended March 31, 2015, resulting in further noncompliance with NASDAQ listing rules. The company intends to timely request a hearing before the Panel, at which hearing the company will present its plan to evidence compliance with NASDAQ's filing requirement and request an extension within which to do so.

2BMonthly Inquiries

2BMonthly

A DunhamTrimmer LLC and New Ag International SARL Publication
Info@2BMonthly.com
http://www.2BMonthly.com

DunhamTrimmer LLC
726 Route 202 S, Suite 320-358
Bridgewater, NJ 08807 USA
Inquiry@dunhamtrimmer.com

New Ag International Sarl
5 Rue Bertrand Monet
68000 Colmar, France
newag@newaginternational.com

William Dunham - Editor
Office: +1 973.216.3699
Email: Bill.Dunham@2BMonthly.com
Skype: wdunham.ibc

Jean Pierre Leymonie - Editor
Office: +33 (0)389305120
Mobile: +33 (0)688070534
Email: Jean-Pierre.Leymonie@2BMonthly.com

Mark Trimmer - Editor
Office: +1 608.795.4266
Mobile: +1 608.628.2654
Email: Mark.Trimmer@2BMonthly.com
Skype: markctrimmer

Carolyn Gangi – Production Editor
Office: +1 201.286.3959
Email: Carolyn.Gangi@2BMonthly.com
Skype: carolyn.gangi

Jacqui French - Sales and Marketing
Office: +44 (0)20 8481 3740
Email: Jacqui.French@2BMonthly.com

Executives Speak

Eric Liégeois, EU Commission, DG Growth

To include Biostimulants within a legally consistent regulation, the idea was to revise the Fertilizers Regulation. Is the revision of the Fertilizer regulation to specifically include in particular biostimulants still on the agenda of the European Commission?

The proposal for a revised Fertilisers Regulation has indeed been put under scrutiny by the new Commission to examine how it matches the new political objectives of Mr. Juncker's team. Today it seems that the proposal will be attached to the new Circular Economy package, which is under preparation. Plant biostimulants are a candidate group of materials that will be considered to be covered by the future Fertilisers Regulation proposal.

During our last interview at the end of 2013, you said that with the European elections in 2014 it was likely that the Commission proposal would be adopted only once the new College of Commissioners is installed. The so-called "co-decision" process where the Council and the European Parliament are discussing the Commission proposal was expected to start at the end of 2014, which it did not. Do you consider it realistic that the Register- if any, could come to light in the course of 2017 and that you will be in a position to concretely announce a final timeline latest in November this year at the 2nd world Congress on biostimulants?

The principle of political discontinuity during this transition between Mr. Barroso and Mr. Juncker's Commission has put the revision of the Fertilisers Regulation and the final impulse to the ambitious legal project on hold. Such a radical reform of the Fertilisers Regulation is not a simple exercise and a lot of elements need to be explained and considered before getting the 'green light' of our political masters. Also, the specific way in which various aspects relating to fertilisers and their ingredients will be regulated (e.g. a register for plant biostimulants or not) may be viewed upon differently in different political times. It seems we have now reached the 'go ahead' with the envisaged insertion of the Fertilisers proposal in the Circular Economy package. I am confident that by the time of 2nd World Congress I will be able to announce what the project looks like.

It seems that the definition of biostimulants on which there is a scientific consensus and that serves as the base for regulation purposes has been slightly amended. What is the definition that is currently in use?

First of all, I am not so sure whether there is a scientific consensus on the definition of plant biostimulants. As regards a definition for regulatory purposes, a possibility we are considering now – again, with all precaution due to the work in progress situation - is focusing on the fertiliser ingredient as the central element. A definition of a plant biostimulant could potentially read as "a substance or a microorganism in a fertilising product, which independently of its nutrient content stimulates plant biological processes, thus improving the plant nutrient use efficiency, its tolerance to abiotic stress or its crop quality traits."

One of the challenges that you underlined at the world Congress on biostimulants in Strasbourg in 2012 was to organize the legal link with other regulatory frameworks, e.g. REACH and the PPP ones, to avoid overlap. Is this now resolved or in the process of being sorted out?

We have examined several options and nothing has been decided yet but - as a general principle - what we want to avoid is duplication of work, especially any testing activities to determine the potential toxicological and eco-toxicological profiles of substances or micro-organisms. In case such (eco) toxicity information would be required from industry under the revised Fertiliser Regulation, one possibility to avoid duplication of work related to REACH could be to allow to waive those data requirements under the Fertiliser Regulation for which the same information was already submitted as part of a REACH registration. As regards the relationship with the PPP Regulation the option would be to modify the definition of PPP to exclude the properties that are covered by the definition of plant biostimulants. There, also data waiving possibilities could exist as far as the data protection issue is not at stake.

Have the guiding principles for the registration process of biostimulants now been clearly decided? We have heard rumors that instead of an end use product registration with specific claims, the registration would be based solely on active substance, e.g. seaweed extract, humic acids, etc. Is this true and if so, what is the rationale for the change in the approach?

First of all, as already touched upon above, as a result of the principle of political discontinuity, it has not been conclusively decided yet whether a registration process will be the mechanism to regulate plant biostimulants. Should registration be the preferred mechanism indeed, the approach would focus on the active substance. Possibilities to gather information at end use product level with specific claims could be built in. The reason for this approach should be seen in the context of the general orientation we would like to adopt for all types of fertilising products, as the option of an ingredients list has re-surfaced. Furthermore, the active substance approach would lead to a more limited number of plant biostimulants being registered, it would allow data (and thus cost) sharing between different registrants, it would be more company neutral and hence more accessible to smaller companies.

A more general question to conclude: Fostering innovation and research-based SMEs such as biostimulants and biocontrol companies in the context of the bio-based economy seemed to be the way ahead before the elections in 2014. Is this still prevailing today, with the name of your Division having changed from DG Enterprise to DG Growth if I am not mistaken?

More than ever DG GROWTH aims at creating jobs…and growth. Research-based SMEs represent a crucial resource to innovate in the sector of biostimulants and biopesticides. We shall think twice before imposing new constraints to the SMEs and this is why the harmonization of such a market shall be balanced between several, sometimes, diverging interests. A challenge that we, at DG GROW, are happy to take.

Regulatory

BIOCONTROL

Canadian Pest Management Regulatory Agency (PMRA) has proposed full registration for Certis' Double Nickel 55 and Double Nickel LC, containing the technical grade active ingredient *B. amyloliquefaciens* strain D747, to suppress or partially suppress a variety of fungal or bacterial diseases on cucurbits, fruiting vegetables, grapes, lettuce, pome fruit, potato, soybean and strawberry. The agency has opened the public comments until May 29, 2015. The active ingredient is a naturally occurring bacterium that is found in close association with roots, leaves and other plant parts, preventing the establishment of disease-causing fungi and bacteria by rapidly colonizing plant surfaces.

The US EPA has announced the approval for BioProdex's biopesticide SolviNix® LC, containing a new active ingredient: *Tobacco mild green mosaic tobamovirus* strain U2 (TMGMV U2). The biopesticide will be used to control tropical soda apple in pastures and wooded areas that are fenced to contain grazing animals. TMGMV is a tobamovirus, a type of plant virus, and is known as a pathogen of tobaccos (*Nicotiana* spp.), peppers (*Capsicum* spp.), and about 20 other plant species.

Canadian Pest Management Regulatory Agency (PMRA) has proposed full registration for Marrone Bio Innovations *Reynoutria sachalinensis*

Bioprotectant Technical Regalia Maxx Biofungicide Liquid Concentrate, containing the technical grade active ingredient extract of *R. sachalinensis*, for partial suppression of dollar spot and foliar anthracnose in turf. The active ingredient is a plant extract from giant knotweed (*R. sachalinensis*). When sprayed on certain plant species, the extract triggers an induced systemic resistance response that acts as an internal defense mechanism against plant pathogens.

Vestaron has received expanded EPA registration for its biological insect control products. These bioinsecticides, which are derived from newly discovered naturally, occurring peptides, will be commercially available later this year under the Spear™ trade name. The new registration represents a significant expansion of crops and insects covered. Included are caterpillars (Lepidoptera), beetles (Coleoptera), and thrips (Thysanoptera). Scientific data for bee and other beneficial insect safety are very encouraging, according to the company.

News of Interest

Prem Warrior, Chief Operating Officer of Valagro, group leader in the production and marketing of biostimulants and specialty nutrients, spoke at the United States Department of State under the Bioeconomy and Climate Change Forum, held in Washington DC on May 6. The macro-themes of agriculture, food security, climate change (from the perspective of adaptation and mitigation) will be at the center of the intervention with focus on how innovation and the use of technology can improve agricultural production in the different parts of the world, while reducing the carbon footprint of crops Prem Warrior stated "In a scenario of strong climate change biostimulants can effectively contribute to this challenge. These formulations, in fact, are capable of improving the physiological processes of the crops, increasing the tolerance to abiotic stresses and the recovery ability by them, increasing yields and improving soil conservation, with a simultaneous reduction of the environmental footprint"."Biostimulants are - and will increasingly be - a key tool to help meet global food demand."

New Products

BIOCONTROL

California red scale and the citrus mealy bug cause enormous problems for citrus crops in countries around the Mediterranean. A new approach developed by Koppert Spain offers bright prospects and can compete on price with conventional sprays. The system is based on two beneficials, the parasitic wasps *Aphytis melinus*, (brand name Aphytis) to control the California red scale, and *Anagyrus pseudococci* (brand name Citripar) to control citrus mealy bugs. "We started the research into Aphytis in 2008," says Business Unit Manager Europe Kris De Smet. "It proved to be a good beneficial for the red scale. We've investigated its use over the past two years. Now we know the right quantities and the right time to release it." The second product, Citripar, used against citrus mealybugs has recently been improved by Koppert. The mummies now emerge gradually, so the population continues to strengthen. A practical release system-using adhesive also prevents ants from devouring the mummies of the parasitic wasp. Koppert Spain plans to market the system widely

Biobest announces the launch of "Bee-Coat". Bee-Coat is a new, reusable polystyrene outer coating which can be easily folded and used as a protective coat for its bumblebee hives. It is designed for perfect fit around the Biobest cardboard hive box. Thanks to the new Bee-Coat, Biobest turbo, premium, standard and medium hives can now be individually protected from rain and cold and are ready for outdoor use. With this addition, Biobest continues the expansion of its product range for outdoor pollination.

Brandt has added Zonix™ biofungicide to its rapidly expanding line of organic and sustainable products. Zonix is a contact fungicide that helps prevent and control oomycyte pathogenic diseases such as downy mildew, late blight, root rots, *Phytophthora* and *Pythium* diseases on food crops; as well as turf and ornamentals. Zonix is OMRI listed, EPA registered and labeled for use on a wide range of fruit and vegetable crops, citrus, herbs, turf and ornamentals. Zonix is manufactured by Proptera LLC. Brandt will market and distribute Zonix to ag retailers throughout the U.S.

BioWorks, Inc. launched two new versions of its popular RootShield® biological fungicide, RootShield Seed Treatment and RootShield AG. RootShield Seed Treatment helps shield seeds from pathogens that exist in the soil during early development stages while maximizing the performance potential of each seed. RootShield AG helps protect roots of agriculture crops from many pathogens including *Pythium, Rhizoctionia, Fusarium, Thielaviopsis* and *Cylindrocladium*. Both RootShield varieties are OMRI listed, are available as a wettable powder, and can be used alone or in conjunction with certain chemical fungicides.

Demand by plant propagators is increasing to enhance the effectiveness and efficiency of rooted plant cuttings production. A highly effective way to achieve this is to use controlled-release products, which release a minimal, yet effective concentration of different components over a prolonged period. BotanoCap's product OrganoRoot® meets these requirements as a rooting-biostimulant formulation, that is produced by the Israeli company's patented micro-encapsulation formulation (see 2BMonthly's December 26, 2013 Breaking News Alert). The intense rooting activity is achieved by using a potassium salt of the potent auxin IBA (Indole-3-butyric acid), a plant growth hormone that has been found native to many plant species. In its testing stages OrganoRoot® was used for semi-commercial rooting, extensively applied in commercial nurseries in Israel. It has also produced marked rooting results for various difficult-to-root olive trees cultivars, and in eucalyptus cuttings in Australia. Other species with very good rooting results were ornamentals, vegetables, fruit-trees and berries. The granular product significantly intensifies rooting of cuttings and transplants, increases elongation and branching, and shortens the rooting period, as compared with conventional treatments. As a result, OrganoRoot® significantly improves the survival of potted plants, transferred from the greenhouse to field conditions, and increases plant tolerance to abiotic stresses.

BIOSTIMULANTS

Verdesian Life Sciences has introduced a new formulation of a plant nutrition product, specifically designed as an alternative to address concerns of tree nut and stone fruit growers who might have export issues with recent European Union (EU) Maximum Residue Levels (MRLs) for phosphites. Primacy ALPHA™ is a phosphite-free product, containing patented technologies, which delivers similar crop efficacy and tank-mix compatibility as Nutri-Phite® and is superior to conventional phosphite (PO_3) products without the risk of exceeding EU MRL limits. According to Verdesian, Primacy ALPHA delivers the benefits of plant nutrition, health and yield responses without any PO_3 residue. According to Chris Buchheit, senior marketing manager, nutritionals, for Verdesian, benefits to the grower from Primacy ALPHA include promoting plant health and yield, increasing nutrient uptake, utilization and delivery, optimizing flowering and fruit size, and providing secondary and micronutrients critical to optimal crop development and growth. Until now Verdesian has not released information on the substance that has replaced the phosphite in the formulation.

Scientific Findings

University of Queensland agricultural science student Michael Godfrey has developed a drone that spreads beneficial insects onto crops, potentially saving farmers time and money. Mr. Godfrey investigated if drones could be used to spread the beneficial *Californicus* mite onto crops infected with two spotted mites. "As corn grows, it is very difficult to walk between the crop to spread beneficial bugs," he said. "A drone flying over the crop and distributing the insects from above is a much more efficient and cost-effective method "I built a specific drone for the project, tailoring the number of propellers, stand, and size of the motor to suit the drone's application," he said. Initial designs using a cylinder-shaped container to hold the mites weren't practical, as it couldn't hold enough of the predatory mites to make the process efficient. "I used corregated plastic material to make a large enough storage device for the mites," Mr. Godfrey said. "The seed spreader then acts as the distributer as it has a small motor powering it." The device is controlled remotely from the ground. "There is still a lot of work to be done, but the most difficult part is to work out how to control the volume of bugs being distributed at the one time. "The next step is to monitor the crops after the bugs have been dropped.

Fresh insights into how bacteria protect themselves - by forming a waterproof raincoat - could help develop improved products to protect plants from disease. Scientists at the Universities of Edinburgh and Dundee studied the protective film formed by the common soil bacterium *Bacillus subtilis*. They found it incorporates proteins that change shape as they reach the film surface. This exposes an impervious surface on the protein molecules, enabling them to slot together like a jigsaw puzzle, to protect bacteria underneath. The film is able to repel water - which means other potentially harmful molecules also bounce off. Researchers say that being able to control the production of the biofilm in agricultural products could enable improved protection for plants.

Specialists at the Center of Genomic Biotechnology from the National Polytechnic Institute (IPN-CBG) in Mexico, have identified beneficial fungi that have previously been tested as disease control agents in cotton crops. Among them is *Trichoderma koningiopsis*, which kills the parasite or pathogens, such as *Phymatotrichum omnívora*, *Fusarium* spp *and Macrophomina phaseolina* that attack the plant. Originally from Mexico, cotton in the northeast of the country reached growth up to 300,000 hectares a year, but is no longer cultivated due to high consumption of chemicals, and insects and diseases that made the production unprofitable. As a secondary benefit, the fungus *Trichoderma koningiopsis* also produces indole acetic acid when mixed with the seed before planting. In this way, it prevents the development of diseases and stimulates plant growth in a single application.

University scientists may have uncovered a natural way of avoiding the use of pesticides by recreating a natural insect repellent. Scientists from the School of Chemistry and Rothamsted Research have, for the first time, created synthetic pheromones, which mirror a natural occurring pheromones known to repel insects. The scientists were able to make similar acting pheromone molecules, by providing the enzyme, ((*S*)-germacrene D synthase), which produces the repellent pheromone, with alternative substrate molecules. The team found that the synthetic phoermones repelled insects but in one case a reversal of behavior – an attractant - was observed which raises the prospect of being able to develop a trap-and-kill device. Professor John Pickett, FRS from Rothamsted Research said: "This is a breakthrough in rational design of smells and provides a novel way of producing a smell with different properties and potentially better ones than the original but at the same time preserving the original activity. "By using alternative substrates for the enzymes involved in the ligand biosynthesis (biosynthesis of the smell) we can create the appropriate chemical space to reproduce, with a different molecular structure, the activity of the original smell."

A new €7m European grant will fund an international collaboration led by the University of Glasgow to focus on the development of artificial neuropeptides – small protein-like molecules which help the brain and tissues communicate with each other. The pests being targeted in this study include: moths, locusts, aphids, flies and beetles, which either damage crops directly through eating, or by spreading plant viruses. The scientists plan to turn the pest insects' own hormones against them to alter their behavior or physiology – for example, their circadian rhythms or appetite – while taking care not to harm beneficial insects. The scientists will be exploring different ways of influencing these systems in order to impair the insects' ability to inflict damage, including reducing insects' fitness by interfering with fat mobilization, changing the neuropeptides that control the pheromones moths release, altering neuropeptides that affect the balance of fluid, ions and water in pests. The project, called nEUROSTRESSPEP, involves a range of partners from academia and industry.

USDA Agricultural Research Service entomologist in California is helping almond, pistachio, and walnut growers decide whether to use a new lure to monitor their fields for navel orangeworm (NOW) infestations and to maximize its potential if they do use it. The work by Charles Burks, is aimed at reducing

insecticide use and maximizing yields on the 1.3 million acres where $7 billion worth of almonds, pistachios, and walnuts are grown each year. NOW is the number-one pest of almonds and pistachios and a major pest of walnut. Some growers use traps supplied with almond meal to attract NOW. Known as egg traps, they require growers to count eggs deposited by visiting females, a labor intensive and notoriously unreliable practice. Instead of almond meal, the new NOW BioLure uses a complicated blend of synthesized female pheromones to attract males. Growers only need to count the number of captured males, not eggs, attracted to the female pheromones. The researchers compared the number of NOW captured in commonly used wing-style traps baited with either the new lure or unmated females placed in mesh bags. Results showed the female bait captured more insects than the lure (353 vs. 212 overall), but the lure attracted insects for 40 days. Taken together with previous studies on egg traps, the work shows that the lure does not trap as many NOW as female-baited traps, but is an improvement over the egg traps and could be an important tool in monitoring for NOW infestations.

Imagine combating stink bugs with…stink bugs. *Halyomorpha halys*, the brown marmorated stinkbug (BMSB), is a notorious, non-native agricultural pest — an indiscriminate destroyer of fruits, vegetables, and other farm crops. Managing this pest with a biological control agent is essential for organic farmers whose regulations limit their use of pesticides. Enter *Podisus maculiventris*, the spined soldier bug, a stinkbug in the same insect family as the BMSB, is native to North America and is a predator of more than 70 insect species, including the BMSB. Spined soldier bugs and BMSBs coexist in time and space. They overwinter and emerge in the spring at about the same time. "A reason this may be an effective tool is that they have a synchronous life cycle," said John Moredock, a graduate student at West Virginia University. In the lab, Moredock and others pitted spined soldier bugs of different ages (third instar, fifth instar, and adult) against BMSBs of different stages (egg through adult). They found that spined soldier bugs are pretty good at killing BMSBs younger than the fourth instar, especially BMSB eggs and first instars. But spined soldier bugs rarely kill BMSBs in their fourth instar or older, which limits their ability to control adult BMSBs emerging in the spring. Spined soldier bugs still try to kill older, larger BMSBs — they're just not successful, usually. The bigger BMSB either evades the spined soldier bug by flying away, or the spined soldier bug can't pick up the larger insect. The researchers observed this predator-prey relationship mostly in the lab, but findings thus far suggest that it's time to take their studies to the field.

Country Report

New Zealand

New Zealand: Honshu white admiral butterflies have been released in Waikato to see if they will help control Japanese honeysuckle. They came from Brazil. Three beetle species brought to New Zealand for one purpose: control *Tradescantia*. The invasive species has a spreading form that can smother native vegetation and any dog that stumbles across a patch might have an allergic reaction. It is particularly hard to control because it breaks apart when pulled out manually with each fragment capable of resprouting. In 2011, Landcare Research was granted permission to import three species of Brazilian beetles. The larvae of each tackle a different part of the plant - the tip, leaf and stem. To begin with, the three beetle species were released to separate sites so that their individual effects could be measured. "We're seeing really good damage from all three beetle species individually. Once we finally get all three combined together the results will be amazing."

USA

EPA regulator lauds biopesticides. In an interview given to Reuters covering the EPA's upcoming draft risk assessment on glyphosate, US Environmental Protection Agency executive Jim Jones, said the EPA is encouraging development of biopesticides because they "have very favorable human health and environmental profiles." He said they are likely to overtake synthetic chemicals in agriculture at some point if their use continues what he called "dramatic" growth. "We're pretty bullish about them," said Jones. "We go out of our way... to express our enthusiasm for biopesticides." The EPA is generally approving biopesticides in under a year compared to two to three years for synthetic chemical pesticides, Jones said. The EPA has approved more than 430 biological active ingredients for use in pesticides and use in U.S. agriculture climbed to 4.1 million pounds in 2012, up from 900,000 pounds in 2000, Jones said.

Personnel Announcements

Arysta LifeScience North America recently announced two new additions to the Goëmar sales team: ***Steve Kelly,*** Technical Service Manager – Goëmar; and ***Kurt Bowman,*** Western Business Sales Manager – Goëmar. Kelly brings more than 30 years of industry experience to his new position. Most recently, he served as the technical services manager for Helena Chemical Company – Western Business Unit. He also has worked with Simplot and previously with Goëmar. Kelly holds a Bachelor of Science degree in agricultural science from California State University – Fresno. Bowman started his career in agricultural retail sales, working as a branch manager with Crop Production Services, where he managed multiple locations. Bowman earned an agricultural business management degree from Oregon State University.

Stockton Israel announced the appointment of *Dr. Daphna Blachinsky* as new product manager of Timorex Gold. The appointment strengthens Stockton's commitment to drive growth, development and manufacture bio-based agriculture solutions and the continuous research and development of Timorex Gold around the world. She has many years of experience in biological product development at Agrogreen, plant genetics at Evogene and recently fungicide product manager at Adama.

Stockton Israel announced the appointment of *Rodrigo Marin* as Central America Regional Manager. Prior to joining Stockton, over 25 years Rodrigo also held a variety of executive management positions in the crop protection industry including at Bayer CropScience in Colombia, Venezuela and Ecuador.

NewLeaf Symbiotics announced the appointment of *Sarita Chauhan Ph.D., MBA*, as the Director of Fermentation and Technology Development. Chauhan joins the company from Decision Alternatives, an agricultural biotechnology consulting company she founded in 2011. She will work at NewLeaf's St. Louis facility in the Bio Research & Development Growth (BRDG) Park at the Danforth Plant Science Center. Dr. Chauhan brings 25 years of academic and industrial experience to NewLeaf, including 12 years at DuPont and 5 years on the entrepreneurial side as a Director at Algenol Biofuels and Coskata.

Exosect announced the appointment of *Dr. Aoife Dillon* as Chief Technology Officer. Aoife joins Exosect from BASF where she was Technical Specialist for Bio-insecticides. Aoife gained her PhD in Integrated Pest Management at the National University of Ireland and brings with her over fifteen-years of experience in bio-insecticide development and delivery of IPM strategies. She will lead the Technology Development team, overseeing all development programs for Exosect's licensing partners.

During the last EBIC General Assembly, held in Brussels, EBIC members voted for the new board member. Sandro Secco was elected by majority to serve EBIC as a director-at-large. His mandate continues for two years. Sandro Secco is International Fertlizers Marketing Manager at the Italian company SIPCAM S.p.A. Humic acids & amino acids are the biostimulant technologies produced by SIPCAM, which has an active market presence in Belgium, Croatia, France, Greece, Hungary, Italy, Netherlands, Portugal, Spain and the UK.

JOB VACANCIES - List Your Job Vacancies Here and on http://www.2BMonthly.com

If you are a subscriber who wishes to list job vacancies from your organization to the largest audience in the Biocontrol and Biostimulant sectors, contact: Info@2BMonthly.com.

GLOBAL MARKETING DIRECTOR

Valagro Group is seeking a qualified individual as a *Global Marketing Director* to lead the Global Marketing Function. Valagro is a multinational Company, based in Italy. As leader of biostimulants and nutrition specialties, it invests significantly in R&D, producing highly innovative products for agriculture, garden & turf and other business areas. The individual is expected to define the global marketing strategy guiding the team towards an effective implementation of marketing and crop plans, managing trademarks, product life cycle, brand equity, business intelligence and global market analysis. An advanced degree in Agronomy, business management and proficiency in English are essential. Fluency in Spanish is desirable. Prior experience (+10 years) in leading marketing/business management roles in the agriculture industry is also required. Location: Atessa, Italy. Candidates can apply sending their resume to *personale@valagro.com*.

HEAD OF GLOBAL FIELD DEVELOPMENT

BioConsortia, Inc. is seeking a Head of Global Field Development to manage its early and late-staged trial efforts. Qualification criteria include: •10+ years of experience evaluating and developing seed-applied and other crop input solutions •Self-starter with high integrity •Strong working knowledge of seed treatment products and their application as well as in-field application of soil-delivered solutions •Excellent project management and communication skills (with the ability to effectively interface with both R&D and commercial teams) •Ability to travel extensively in the U.S. and occasionally internationally. Qualified candidates, go to: http://bioconsortia.com/careers/23-careers/61-head-global-field-development.

PRODUCT MANAGER SALES AND MARKETING - SPECIALTY AG BUSINESS UNIT

Certis USA, a leading manufacturer and marketer of biological and botanical products for pest management, is seeking a highly motivated and articulate professional to serve as Product Manager. Primary goal will be to escalate and advance new product adoption to achieve the 3-5 year business plan. This includes managing the product life cycle, gathering, and prioritizing product and customer requirements, defining the product vision, working closely with the management team, field development team and other departments to insure revenue targets and customer satisfaction are being met. Travel is required. The ideal candidate will have leadership skills necessary for future advancement into managerial positions for the company's long-term strategic growth. Location at company headquarters in Columbia, Maryland is preferred, but others may be considered. Please send your resume to jwarfel@certisusa.com or mail to Human Resources, Certis USA, L.L.C., 9175 Guilford Road, Suite

175, Columbia, Maryland 21046 EOE

EXECUTIVE DIRECTOR

The BioPesticide Industry Alliance ("BPIA") is a 501 (c) (6) not-for profit trade association representing over 100 (and growing) members. The mission of the Association is to drive the acceptance and commercialization of biopesticides. BPIA's purpose is to: **promote industry standards** for biopesticides among member companies, **communicate the value** of biopesticides in the markets we serve, **collaborate with regulatory authorities** to ensure timely, predictable, transparent, and appropriate registration and regulatory requirements, and **be the leading source of information** to key influencers who impact acceptance, commercialization, and adoption of biopesticides. The Executive Director is the key management leader of BPIA and is responsible for overseeing the administration, programs and strategic plan of the organization. Other key duties include fundraising, marketing, and community outreach. The position reports directly to the Board of Directors. The job description is available on the BPIA website www.biopesticideindustryalliance.org.

Upcoming Events

OCTOBER 19-21, 2015: The 10th Annual Biocontrol Industry Meeting International Biocontrol Manufacturers' Association (IBMA) & the Research Institute of Organic Agriculture FiBL, Basel, Switzerland. For further information, please visit www.abim.ch.

NOVEMBER 16-19, 2015: Keynote Speakers announced for The 2nd World Congress on the use of Biostimulants in Agriculture, Florence Convention Centre, Italy. Building on the tremendous success of the first Congress (2012) in Strasbourg, France with more than 700 people from 55 countries in attendance, The Florence Congress, organized by New Ag International, will explore the newly acquired scientific and technical knowledge on these products. The following persons have agreed to be members again of the Scientific Committee: Prof P. Perata, Scuola Superiore Sant'Anna, Italy, Chairman. Prof P. Brown, UC Davis, USA, Co-Chair, Dr. Ricardo Aroca Alvarez (Spain), and Dr. M. Ponchet, INRA, France, Co-Chair. Keynote speakers, including very top world scientists, regulatory Executive from the European Commission, world market expert and representative from large high Tech Farm have been announced and their names and short CV can be seen at http://www.biostimulants2015.com/#!keynote speakers/c1df9. The call for papers has been extended until May 24th with close to 150 abstracts already received. A few meeting rooms are still available. The exhibition is sold out. There are 270 companies and organizations from 45 countries that have already registered hundreds of delegates to take advantage of the early bird rate. For further details, please visit - www.biostimulants2015.com.

Delegate Registration for the Congress opened on 1st April!

NOVEMBER 23-25, 2015: International Symposium: Microbe-Assisted Crop Production - Opportunities, Challenges & Needs Austrian Association of Molecular Life Sciences and Biotechnology (ÖGMBT), Vienna, Austria. For further information, please visit www.microp.org.

Subscription Details:
Format: Emailed PDF Link
Price: US $1,300 Per Year
Frequency: Monthly, 12 Issues Per Year
To subscribe, contact: Subscribe@2BMonthly.com