IAR COMPETITIVE INTELLIGENCE POWERED BY IAR

- April 2018 -

Biosolutions for agriculture

Biosolutions represent a strong booming market. However, many technologic and regulatory challenges remain.

This newsletter has been developed to help you to:

- Detect new business opportunities
- Follow regulatory development
- Learn about technological evolutions
- Identify funding sources for your projects

This newsletter is structured around the three main product categories commonly called biosolutions:

- Biopesticides
- Biostimulants
- Biofertilizers

We very much hope you will find it helpful for your activities and remain at your disposal for any question.

If you like to continue receiving the newsletter, please fill in subscription form which you will find on the last page of the document and return it to diximus@iar-pole.com

Sincerely,

IAR – The French Bioeconomy Cluster

1. Biopesticides

1.1. News

A. COMPANIES

Biobest launches Moroccan facility | 25/04/2018

According to the group, the 2,000m2 vertical farming facility is fully equipped with climate controlled rooms, as Biobest looks to 'substantially expand and improves its global capacity to produce aphid biocontrol agents'.

Source : FruitNet

Bayer's Maryland farm opens as hub of learning about sustainable agriculture | 19/04/2018

Fourth-generation Maryland farmer Trey Hill measures the success of his operation not just by how many bushels of corn, soybeans and wheat it produces, but by how effectively it helps the waters of the Chesapeake Bay that surround its fields.

Source : prnewswire

SBM company for natural pest control solutions | 12/04/2018

SBM Company and the University of Sorbonne combine their expertise and inaugurate NatInControl, a research project established to identify and develop new biocontrol solutions efficient for plant protection against pests.

Source : SBM Company

STK Bio-Ag Technologies names Neal Job USA Business Manager | 11/04/2018

In his new position Neal will be responsible for continuing the successful rollout of TIMOREX GOLD® an effective botanical-based biofungicide in the US, which has already been approved by 40 US States, is used in over 30 countries worldwide.

Source : FreshPlaza

Hailir to invest Yuan2 billion in environment-friendly formulations project | 10/04/2018

Hailir Pesticides and Chemicals Group is planning an investment of Yuan2 billion in an environment-friendly formulations production plant located within Pingdu Xinhe Industrial Park.

Source : AgroNews

Pesticide-free: a third actor in the 'war' between conventional and organic | 06/04/2018

"Personally, it seems obvious to me that the pesticide-free range will have a better future than the organic range," says Olivier Brailly from the French company Groupe MGD. "For a certain class of people, the conventional is

almost diabolical, although all over Europe really dangerous pesticides are prohibited.

Source : Hortidaily

A joint laboratory with the University of Sorbonne and Aleia Roses: 'We grow the best and most beautiful roses thanks to IPM' | 05/04/2018

Spanish company Aleia Roses is committed to growing the best red roses and produces the highest quality rose cultivar, Red Naomi©. To further improve their product, Aleia Roses implemented a new crop protection method in September 2016: beneficials.

Source : Koppert

B. PRODUCT LAUNCH

Biobest boost for strawberry growers | 23/04/2018

Growers of everbearing strawberry varieties have been warned by biological pest control specialist Biobest that the end of spring and the beginning of summer are ideal periods for thrips to invade berry fields.

Source : FruitNet

Seipasa debuted the new biopesticide, Seican, in the U.S| 22/04/2018

Seipasa, a company specializing in the formulation, development, and marketing of botanical-based solutions (biopesticides, biostimulants, and fertilizers), debuted the new biopesticide, Seican, in the U.S. at the BiocontrolsSM USA West Conference in March, where the latest trends concerning biological pest control are unveiled.

Source : Growing Produce

BRA Agroquímica registered bioinsecticide ARCAR in Brazil | 13/04/2018

BRA Agroquímica registered in Brazil the ARCAR, a new microbiological insecticide that has conidia of the fungus Metarhizium anisopliae as its active ingredient. The product is of the line ESALQ E9 (Exclusive Koppert), which is the active ingredient in Metarril® WP, its main target is the root spittlebug (Mahanarva fimbriolata).

Source : AgroNews

Andermatt's Madex Top approved in Portugal | 06/04/2018

Portuguese competent authorities DGAV granted registration for Andermatt's baculovirus product Madex Top. Madex Top is based on a new isolate of Cydia pomonella granulovirus and will be used on apple and pear orchards as well as on walnut against codling moth (Cydia pomonella).

Source : andermattbiocontrol

C. PRODUCT CERTIFICATION & HOMOLOGATION

BioNovelus receives organic certification for CR-10® | 26/04/2018

CR-10® Biofungicide is a proven, biodegradable, non-toxic solution that kills bacteria, fungi, and spores rapidly, safely and

effectively. It is a new generation of biofungicide with a unique mode of action. BioNovelus management believes that CR-10® has a broad range of uses in crop protection before harvest, and in food security post-harvest.

Source : Globenewswire

Regalia CG Biofungicide Cleared for Use on Cannabis| 16/04/2018

Marrone Bio Innovations, Inc. a leading provider of bio-based pest management and plant health products for the agriculture, turf and ornamental and water treatment markets, is pleased to announce that Regalia, its flagship biofungicide for control of powdery mildew and other plant diseases, has been approved for use on Cannabis by the Colorado, Oregon, Nevada, and Washington Departments of Agriculture.

Source : MarroneBioInnovatons

Recently approved biocontrol AF36 promising for California almonds | 16/04/2018

Aflatoxin contamination, which is particularly associated with navel orangeworm (NOW) damage, may result in significant monetary losses when detected in almonds destined for market, and may pose a potential food safety risk.

Source : Western FarmPress

D. ACADEMIC NEWS

Scientists plan to cut insect pests down to size by turning their own hormones against them | 27/04/2018

Locusts are certainly not among the lazier creatures on earth. They can travel 130km a day in search of food. The insects can strip bare a field of crops in minutes as they move from one feast to the next in vast swarms of up to several hundred square kilometres in size.

Source : PhysOrg

Sterile insect technique against pepper pest | 24/04/2018

Ontario's greenhouse pepper growers are struggling to control a very problematic invasive insect, but have very few effective options. Pepper weevils are threatening the province's $420 million greenhouse pepper industry – a high value crop that covers about 520 hectares (1,285 acres) in Ontario.

Source : GreenhouseCanada

Researchers develop first gene drive targeting worldwide crop pest | 17/04/2018

Biologists at the University of California San Diego have developed a method of manipulating the genes of an agricultural pest that has invaded much of the United States and caused millions of dollars in damage to high-value berry and other fruit crops.

Source : ucsdnews

CDFD scientist develops mechanism on bio-control of

destructive bacteria to the crops | 15/04/2018

In what could be termed as an alternative to Genetically Modified crops, a study by scientists of the Centre for DNA Fingerprinting and Diagnostics have shown that a bio-control method is used to control Xanthomonas bacteria that affects major agricultural and horticultural crops like rice, cabbage, pomegranate, tomato and citrus.

Source : Times of India

Close relative of the cultivated tomato is resistant to many insects | 12/04/2018

A wild tomato species from the Galapagos Islands has been discovered by scientists from Wageningen University & Research to be resistant to a wide range of pest insects. This species is closely related to the cultivated tomato, making the resilience easier to interbreed into the latter and ultimately making it resistant to many different types of insects.

Source : wur

Gut microbes can help insects beat pesticides | 11/04/2018

Probiotic products now line store shelves, promising to improve human health by replenishing the gut microbiome, or the collection of bacteria and other microbes that live in the digestive system. Insects have a gut microbiome too, and it not only benefits their general well-being but may also help them adapt to and overcome pesticides.

Source : entomologytoday

Scientists determine the only solution to herbicide resistant weeds is to reduce herbicide use | 10/04/2018

Current strategies aimed at managing herbicide resistant weeds in agriculture are not effective and may exacerbate weed problems, according to research published earlier this year by scientists at University of Sheffield in the United Kingdom (UK).

Source : Beyond Pesticides

The unloved Cinderella of science | 10/04/2018

Without data Stanley said: “We’re making decisions, puddling around in the dark a little, but not really understanding what’s going on.” Threats posed by introduced biocontrol insects are an ongoing area of concern for Stanley.

Source : NewsRoom

Biopesticide offers new form of control for bollworm and budworm crop pests | 09/04/2018

A fact sheet about Helicoverpa NPV is now available online. The fact sheet is a joint publication of the University of Arkansas System Division of Agriculture, Southern Integrated Pest Management Working Group and the Mid-South Entomologists Working Group.

Source : UAEX

USDA to investigate honeybee disease controls | 08/04/2018

Agricultural Research Service (ARS) recently announced entomologist Steven Cook will lead a $1 million funded international consortium of scientists to seek new controls for varroa mites, honeybees' number one problem.

Source : Growing Produce

Brazil: Multi-residue analysis of lettuce | 06/04/2018

A new analytical method to determine the multi-residue level of 16 multi-class pesticides used on lettuces was developed by researchers at the Campinas State University (Brazil).

Source : FreshPlaza

1.2. Regulation/Soft law

A. SYNTHETIC PESTICIDE BANS AND RESTRICTION

EUROPE: Publication of Endocrine disruptors criteria | 27/04/2018

On 20 April 2018 was published the Commission Regulation (EU) 2018/605 setting out the scientific criteria to identify the substances used in plant protection which are endocrine disruptors (EDs).

Source : Lynxee

EU to 'completely ban' outdoor use of pesticides blamed for devastating bees | 27/04/2018

Citing concerns for food production, the environment and biodiversity, the European Union is set to "completely ban" the outdoor use of neonicotinoid insecticides that have been blamed for killing bees, and for keeping other bees from laying eggs.

Source : npr

California defeats Monsanto in court to list glyphosate as carcinogen | 20/04/2018

A California Appellate Court sided with the State of California and Center for Food Safety (CFS) on Thursday, affirming that Monsanto's glyphosate pesticide can be listed as a known carcinogen under Proposition 65.

Source : sustainablepulse

Hawaii poised to ban the insecticide Chlorpyrifos | 13/04/2018

Hawaii is poised to become the first state in the nation to prohibit the use of pesticides containing the developmental neurotoxicant, chlorpyrifos. SB3095, passed unanimously by the State House of Representatives this week, prohibits the application of restricted use pesticides (RUPs) within 100 feet of schools when they are in session […].

Source : Beyond Pesticides

Victory! State finds Imidacloprid insecticide too risky for use in sensitive Willapa Bay | 11/04/2018

The request by shellfish growers in Washington State to apply the neonicotinoid insecticide,

imidacloprid, on oyster and clams beds to control native burrowing shrimp was denied by the Department of Ecology (Ecology) after it determined "environmental harm from this neonicotinoid pesticide would be too great."

Source : Beyond Pesticides

Sri Lankan government split on whether to lift ban on glyphosate herbicide | 05/04/2018

The Cabinet is to decide whether the ban on the controversial Glyphosate weedicide should remain, amidst lobbying by ministers for and against the ban. The move comes after a committee of experts recommended to the Dovernment that Glyphosate was not directly linked to Chronic Kidney Disease (CKDU) epidemic, a cabinet minister said.

Source : GeneticLiteracyProject

Brazilian state prohibits use of sulfluramid | 04/04/2018

The Environmental Protection State Foundation has denied registration to insecticides that contain the sulfluramid as an active ingredient in the Brazilian state of Rio Grande do Sul.

Source : AgroNews

India: Agriculture department moots Glyphosate ban in Yavatmal | 31/03/2018

A proposal has been sent by an India district office of the agriculture department in Yavatmal to the state director of quality control to ban the use of glyphosate — a herbicide commonly used by cotton growers here.

Source : Times of India

B. BIOPESTICIDE REGULATION

Registration Decision RD2018-05, Beauveria bassiana strain PPRI 5339 and Velifer | 26/03/2018

Health Canada's Pest Management Regulatory Agency (PMRA), under the authority of the Pest Control Products Act and Regulations, is granting full registration for the sale and use of Beauveria bassiana PPRI 5339 Technical and Velifer, containing the technical grade active ingredient Beauveria bassiana strain PPRI 5339, to suppress aphids, whiteflies, thrips and twospotted spider mites on greenhouse ornamentals and greenhouse vegetables.

Source : Canada

European Parliament passes new law on organic food production | 20/04/2018

MEPs gave the go-ahead to the new EU law on organic production and labelling, as agreed by Parliament's negotiators and EU ministers on 28 June 2017, by 466 votes in favour to 124 against, with 50 abstentions.

Source : FoodBev

C. PUBLIC & PRIVATE INCENTIVES

Ghana to focus on bio-rational products for management of FAW | 13/04/2018

The Ministry of Food and Agriculture says it has shifted its focus from synthetic insecticides to bio-rational products, for the management of the Fall Armyworm (FAW) infestation, as part of its short, medium and long-term management measures.

Source : Ghana News Agency

Agency wants samurai wasp ready in case stink bugs invade | 12/04/2018

Horticultural industry groups along with the Ministry for Primary Industries are working together to use the tiny samurai wasp to combat the bug. They have made an application to the Environmental Protection Authority, seeking approval to release the wasp as a biocontrol agent, but only if a stink bug incursion is found in New Zealand.

Source : RadioNZ

1.3. Reports

A. MARKET STUDIES

Annual review of global biopesticide and biocontrol industry 2017 | 06/04/2018

In 2017, due to the mitigation of pest and disease pressure in Latin America in the second half of the year, the business of biopesticide companies in Latin America was impacted to varying degrees.

Source : AgroNews

Global agricultural microbials market worth USD 6.01 Billion by 2022 | 04/04/2018

The agricultural microbials market is estimated at USD 3.09 Billion in 2017, and is projected to reach USD 6.01 Billion by 2022, at a CAGR of 14.21%. The agricultural and environmental benefits associated with these microbial solutions are the major factors contributing to the growth of this market, globally.

Source : prnewswire

B. MARKET TRENDS

Biocontrol: The retailer and consumer perspective | 23/04/2018

If, as they say, “the customer is always right,” then using biocontrol products in your crops has gone from a nice selling point for a few willing growers to something close to a necessity for many of them. And the numbers bear that out.

Source : Growing Produce

Protecting crops with predators instead of poisons | 15/04/2018

Cedar waxwings, American robins and other birds alone cost the state's tart and sweet cherry growers more than $4.3 million a year. To protect their bottom lines from nuisance birds, fruit farmers deploy a quirky arsenal.

Source : ehn

Less biological crop protection in greenhouse vegetable growth | 05/02/2018

Most vegetable greenhouses use biological pesticides such as predatory mites and ichneumon wasps to combat diseases and pathogens. In the period 2000-2016 the use of biological pesticides went down. In 2016 almost 7 in 10 vegetable greenhouses (2,700 ha) biological pesticides were used.

Source : hortidaily

C. TECHNICAL TOPICS & REVIEWS

Biological control agents for belowground pests | 01/04/2018

There are a number of commercially available biological control agents for use against insect pests that inhabit growing media including: Stratiolaelaps scimitus (formerly Hypoaspis miles), Dalotia (formerly Atheta) coriaria and Steinernema feltiae.

Source : GPN Mag

1.4. R&D projects

ERACoBioTech - SUSPHIRE - Sustainable bioproduction of pheromones for insect pest control in agriculture | 01/04/2018

Period : 2018 - 2021
Funder : BBSRC
Budget : £395 316
Performing institution /coordinator : The Genome Analysis Centre

The SUSPHIRE project aims to provide a sustainable, low-cost manufacturing platform for the commercial production of insect pheromones and reduce the cost of production of pheromones that are currently commercially non-viable.

Source : ukri

Chemical study of insect-plant interactions: a contribution to biorational control of crop pests | 01/04/2018

Period : 2018-2019
Funder : BBSRC
Budget : £78 486
Performing institution /coordinator : Keele University

New solutions for managing insect pests are urgently needed due to evolution of resistance to current insecticides. This project focuses on development and bioactivity testing of novel nanotech formulations of plant secondary metabolites that could provide new options for crop protection.

Source : ukri

Overcoming insecticide resistance using diverse fungal pathogens and variable agricultural landscapes | 01/04/2018

Period : 2018-2019
Funder : BBSRC
Budget : £80 630
Performing institution /coordinator : University of Stirling

Successful agriculture requires crop defence against insects. Brazil's agricultural economy suffers annual yield losses of 14.7 billion US$ from insect pests. Indeed, insects consume 10-

20% of all global crops whilst growing or in storage.
Source : ukri

Understanding resistance of key crop pests in Brazil | 01/04/2018

Period : 2018-2019
Funder : BBSRC
Budget : £73 869
Performing institution /coordinator : University of Exeter
Insect pests represent a major threat to current and future food security with an average of 20% of crops worldwide lost annually to herbivorous insects. This issue is particularly acute in Brazil where agriculture forms a key component of the economy accounting for 22% of gross domestic product (GDP).
Source : ukri

Using colorado potato beetle responses to predators to maximize pest control | 01/04/2018

Period : 2018-2021
Funder : USDA
Budget : NC
Performing institution /coordinator : NC
Biological control has historically focused on maximizing the consumption of pests by predators as a means to protect plants. There is now a growing understanding that effects of predators on prey and ultimately on plant protection occur through several pathways, including both "consumptive" and "non-consumptive" effects (Schmitz et al. 2004).
Source : cris

Evaluation of defense diversity in tomato and its deployment for managing insect pests | 01/04/2018

Period : 2018-2023
Funder : USDA
Budget : NC
Performing institution /coordinator :
Our proposal has five objectives. Objectives 1-4 test the physiology, movement, population dynamics, and enemies hypotheses, scaling from laboratory bioassays to large field experiments. […]
Source : cris

Biological control in pest management systems of plants | 01/04/2018

Period : 2018-2022
Funder : USDA
Budget : NC
Performing institution /coordinator :
Goal A: Import and Establish Effective Natural Enemies (Classical Biological Control) Goal B: Conserve Natural Enemies to Increase Biological Control of Target Pests.
Source : cris

MAPGenome : Mapping migration and adaptation in genomes | 13/03/2018

Period : 01/03/2018 - 29/02/2020
Funder : EU
Budget : 148 635,60€
Performing institution /coordinator : fciencias.id - associacao para a investigacao e desenvolvimento de ciencias
There is increasing evidence that gene flow between populations adapted to different environments is widespread in nature. Understanding this interplay of adaptation and migration at the genomic level is a fundamental goal of evolutionary biology, with wide applications in situations where these two

forces operate, e.g. pesticide resistance or species invasion.
Source : Cordis

EUCLID EU-CHINA Lever for IPM Demonstration | 13/03/2018

Period : 2016 - 2020
Funder : EU
Budget : NC
Performing institution /coordinator : NC
Within the EUCLID project, partners found promising results about the use of a predator from the mirid bugs family against the tomato leaf miner in tomato plant. Its efficiency was found to be higher than a previously used mirid bug, which makes it interesting to use in IPM.
Source : euclidipm

PiedPiper®: smart pest control | 22/02/2018

Period : 01/03/2018 - 31/08/2018
Funder : EU
Budget : 71 429€
Performing institution /coordinator : BIOTRONICS LTD
The global rat population is estimated to be at 60 Billion (i.e. 8 rats/human), causing growing socioeconomic, health and environmental problems. PiedPiper Technology is a revolutionary safe and humane pest control system for the control of rats, mice and other pest populations.
Source : Cordis

LIPOFABRIK: A ground-breaking biomolecular production platform for safer, more efficient and sustainable pest control and crop health management. | 14/02/2018

Period : 01/01/2018 - 30/04/2018
Funder : EU
Budget : 71 429€
Performing institution /coordinator : LIPOFABRIK
Plant pathogens are a major threat to feed and food production, being responsible for the loss of over 40% of the world food produce. Also, feed and food contaminated with microbes or their toxic by-products is banned from the market and lift trade barriers.
Source : Cordis

nEUROSTRESSPEP | 01/05/2015

Period : 01/05/2015 - 31/05/2019
Funder : EU
Budget :
Performing institution /coordinator : University of Glasgow
Like us, insects control their bodily processes with a number of chemical messengers - hormones- that circulate in their blood. Many of these are short strings of amino acids, called neuropeptides - a human example is insulin. Insect neuropeptides are quite different from human neuropeptides, and not all insects use the same signals.
Source : neurostresspep

1.5. Patents

A. MICROBIALS – BACTERIA

US20180103646 | Chromobacterium species with insecticidal activity | The United States of America, as

represented by the secretary of agriculture | 19/04/2018

A novel Chromobacterium phragmitis sp. nov. strain 113-1 (NRRL B-67133) is described, which has insecticidal activity against insect larvae, in general, and dipteran and lepidopteran insect larvae, in particular. A biocontrol agent containing Chromobacterium phragmitis sp. nov. strain 113-1 (NRRL B-67133) and optionally a carrier are also described.

Source : Wipo

WO2018068774 | Biological antifugal liquid preparation with microorganism pythium oligandrum and method of production | Biopreparáty, spol. S r.o | 19/04/2018

The liquid biological antifungal product containing the Pythium oligandrum microorganism containing a stabilized suspension of the Pythium oligandrum microorganism contains 0.05 to 10.0 % weight culturing biomass of the Pythium oligandrum microorganism with content of cultivation medium, cell forms of this microorganism and substances produced by this microorganism and 90.0 to 99.95 % weight stabilizer, [...]

Source : Wipo

RU0002651487 | Method for obtaining a biopesticide preparation | | 19/04/2018

Invention relates to biotechnology. Method for producing a biopesticidal preparation provides for deep and / or deep-surface cultivation of a strain of Beauveria bassiana (VKPM F-145) on a nutrient medium, containing a beer bard or a mixture of whey and beer bard, as well as mineral complex and diesel fuel or Twin-80 and water at a given ratio of components, [...]

Source : Wipo

RU0002649091 | Method for biological control over naegleria fowleri and a disinfecting agent containing simple willaertia magna species | | 02/04/2018

Method for combating the proliferation of the Naegleria fowleri and the use of a disinfecting agent is provided. Method involves adding a strain of Willaertia magna, deposited with the number PTA 7824 in the ATCC, or the strain Willaertia magna, deposited with the number PTA 7825 in the ATCC, into the flow of liquid or gas or onto a solid surface.

Source : Wipo

B. MICROBIALS – FUNGI

RU0002650777 | Biopreparation of microbial origin, with antagonist action in relation to the forgivers of fungal and bacterial infections of plants, nutrient environment for its receiving and method of plant processing | | 17/04/2018

Group of inventions relates to biotechnology. Biopreparation is proposed for the suppression of fungal and bacterial plant diseases on the

basis of the strain Rhizopus arrhizus Fischer-67, a nutrient medium for its cultivation and the use of a biological product by spraying plants.

Source : Wipo

C. BIOCHEMICALS – PLANT EXTRACT

US20180098535 | Novel non-toxic larvicide | Scott matthews, stc.unm | 12/04/2018

An larvicide comprising an essential oil encapsulated within a non-viable yeast cell. The larvicide is particularly effective against mosquito larvae, non-toxic to humans and other non-target species, inexpensive to make, and non-toxic during manufacture, transport, and storage.

Source : Wipo

D. BIOCHEMICALS – ORGANIC ACID

RU0002649394 | Winter wheat seeds germination activator | | 03/04/2018

SUBSTANCE: invention relates to winter wheat seeds germination activator, which is 3-benzyl-4-(N-benzylcarbamoylmethyl)-2-pyridin-3-yl-1,3-oxazolidine of formula 1, in concentrations of 0.005 and 0.0005 % by weight. . EFFECT: according to the invention activator makes it possible to improve the seeding qualities of the seeds. 1 cl, 1 tbl

Source : Wipo

E. MACROORGANISM

US20180103647 | Resistance to heterodera carotae and methods for use | Vilmorin & cie | 19/04/2018

The present application relates to the use of Daucus carota plants which do not belong to the Daucus carota subsp. sativus subspecies of cultured carrots to disinfect a culture medium infested with Heterodera carotae nematodes, using the nematicidal power of the plants.

Source : Wipo

1.6. Events

Biopesticides Europe 2018

Location : Amsterdam, Netherlands

Date : June 6-7 2018

The two day event will bring together key industry stakeholders from the biopesticides industry to discuss the challenges faced and the future opportunities. Conference will discuss the current overview of the markets, with highlights from experts on the progression of the biopesticides market and new insights and innovation of projects in pipeline.

Source : WPLGroup

Biopesticides North America 2018

Location : Vancouver, Canada

Date : June 27-28 2018

This 2 day event will bring together key senior executives and experts from producers of biological control products, farming and agriculture supplies, technology providers, research institutes & government representatives to discuss the latest challenges

and developments making an impact on the industry.

Source : WPLGroup

The Organic Farmers Fair

Location : Amsterdam, Netherlands

Date : June 12-14 2018

The Organic Farmers Fair is the good momentum for suppliers in seeds and seedlings, fertilizers, composting technology, biological pest control, weed control systems, GPS systems, soil cultivation, greenhouse horticulture, research and advice. These companies now have no suitable international trade fair to meet their customers.

Source : GreenTech

AgBio Innovate

Location : San Francisco, California

Date : July 11-12 2018

Developing BioAg products brings with it various demands and challenges - for example complying with regulation, managing resistance, formulation compatibility of ingredients and scale up challenges. Agbio Innovate USA aims to address regulatory hurdles that directly impact the biopesticide and biostimulant sector in North America as well as explores formulation technology and R&D advances with insight from industry leaders.

Source : kisacoresearch

2018 China-Overseas Biopesticides & Biostimulants Business Exchange Congress

Location : Shanghai, China

Date : August 11-13 2018

China is a large agricultural country, also one of the biggest agri-product demanded countries. With the overuse of chemical pesticides and fertilizers in recent years, the harm to environment and human health receive more and more attention. Therefore, China has announced in 2015 that it's targeting zero growth in the use of chemical pesticides and fertilizers by 2020.

Source : Agropages

Organic Farming & Biological Treatment 2018

Location : Dallas, Texas

Date : September 19-20 2018

Organic farming may be defined as an integrated farming system that strives for sustainability, the enhancement of soil fertility, biological diversity with rare exceptions prohibiting synthetic pesticides, synthetic fertilizers, and genetically modified organisms & growth hormones.

Source : Conference Series

Benefits and risks of exotic BCA

Location : Ponta Delgada, Azores

Date : September 12-14 2018

The meeting aims to address the following areas: […] - Ongoing development of guidelines on assessing environmental benefits and risks of releasing exotic biological control agents to increase cogency of decision making on classical biological control initiatives.

Source : exoticbca

International Conference on Biological Control

Location : Bengaluru, India

Date : September 27-29 2018

Globally, upto 30% of agricultural yields are affected by pests and diseases despite intensive chemical pesticide use. Biological control of insect pests and diseases is one of the major ecosystem services provided to agriculture worldwide. Natural enemies such as predators, parasitoids and pathogens play a major role in limiting damage caused by nature and exotic pests.

Source : icbc2018bengaluru

Crop Innovations and Regulations

Location : Barcelona, Spain

Date : September 4-6 2018

Join the crop protection and nutrition community in Barcelona and gain insight into the latest regulatory policy and R&D advancements for effective Plant Protection Products, Biopesticides, Biostimulants and Agrochemical Formulations.

Source : Lifesciences

AgBio Innovate Latam

Location : Sao Paulo, Brazil

Date : September 12-13 2018

AgBio Innovate explores the biopesticide and biostimulant markets in Latin America, addressing: How to overcome regulatory challenges, Innovative R&D advances, Formulation solutions; and Successful commercial strategies, How AgTech is transforming agriculture in Latin America

Source : kisacoresearch

Annual Biocontrol Industry Meeting

Location : Basel, Switzerland

Date : October 22-24 2018

During the three days of the 2017 conference, a record number of 1046 delegates from 54 countries representing 511 companies and organizations from all over the globe were present and exchanged experiences and obtained information on the latest products and developments on the world market.

Source : abim

20th International Conference on Crop Protection and Control

Location : Paris, France

Date : October 29-30 2018

The ICCPC 2018: 20th International Conference on Crop Protection and Control aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of Crop Protection and Control.

Source : waset

2. Biostimulants

2.1. News

A. COMPANIES

Bayer Launches ForwardFarm in Maryland | 23/04/2018

Harborview Farms was chosen as the latest Bayer ForwardFarm, joining Bayer's global network of 12 innovative, independent farms representative of their unique environments across Europe, Latin America and now, North America.

Source : AgWired

BioConsortia to bring new tools to ag | 10/04/2018

Getting even closer to helping California agriculture, BioConsortia, Inc., an innovator of microbial solutions for natural plant trait enhancement and yield improvement, has closed a further round of equity financing to support its continued growth, research achievements, and development of superior products.

Source : CaliforniaAG Today

SBIR-STTR-Success: ISCA Technologies | 26/03/2018

APIS® BLOOM is the company's proprietary bee pollination enhancer that is helping growers to increase production of numerous crops, including apples, nuts, all kinds of berries, coffee, avocado, even coconuts. The product is applied directly to the crop and it steadily releases a volatiles blend derived from the Nasonov pheromone.

Source : Sbir STTR

Bioline by invivo carries out a 50 million euros capital increase, from LFPI, associated with IDIA capital investissement and unigrains

Bioline by InVivo, the global brand covering the InVivo Group's activities dedicated to agriculture, has successfully raised 50 million euros in the form of a capital increase from a consortium of investment partners led by LFPI, which has partnered with IDIA Capital Investissement and Unigrains for the occasion, to contribute to the acceleration of agricultural transformation in France and abroad.

Source : invivo-group

B. PRODUCT LAUNCH

Post fumigation soil inoculation with GO Isolates® | 19/04/2018

Fumigation with methyl bromide (MeBr), chloropicrin (CP), Telone and others is used to control a wide-array of soil borne pathogens and pests. While there is variation in the impact of the fumigant to nontarget microorganisms, all fumigants destroy a portion of the beneficial microbial population.

Source : prnewswire

Banadak: A potential game-changer in crop protection | 08/04/2018

The chemical is an innovative biostimulant that has been specifically developed by Spanish firm Sustainable Agro Solutions, S.A. (SAS) to treat and control Black Sigatoka of Banana, a disease caused by the fungus Mycosphaerella fijiensis.

Source : SunStar

NewLeaf Symbiotics has introduced a new class of biologicals called M-trophs | 07/04/2018

NewLeaf Symbiotics has introduced a new class of biologicals called M-trophs. The biologicals have been developed using the company's Terrasym technology. Terrasym 401 is a seed treatment developed to maximize soybean-yield potential by enhancing plant nutrition. Terrasym 402 is a bio-complement applied to peanuts that provides season-long performance and higher yields, according to NewLeaf.

Source : AgUpdate

Monsanto sees global launch for biological seed treatment for corn | 04/04/2018

The U.S. Environmental Protection Agency on Tuesday approved Monsanto's biological seed treatment product designed to promote symbiosis between microbes and corn plants to strengthen root systems and increase plants' access to nutrients.

Source : AgriBuisinessGlobal

C. PARTNERSHIP & ACQUISITION

Inocucor acquires leading Crop Nutrition Company, plans new class of high-performance crop inputs | 19/04/2018

Inocucor Corporation, a developer and producer of biological crop inputs for high-value produce and row crops, announced it has acquired ATP Nutrition, a producer of science-based plant nutrients based in Oak Bluff, Manitoba, Canada. Terms of the acquisition were not disclosed.

Source : prnewswire

Kemin Crop Technologies and Plant Products announce new relationship | 10/04/2018

Kemin Crop Technologies, an initiative of Kemin Industries focused on providing solutions for commercial horticulture, announced a new relationship with Plant Products, a distribution company within the specialty horticulture industry with presence in both Canada and the U.S.

Source : Greenhousemag

GrowGeneration and Alliance Biologics enter into exclusive product, research and development agreement | 03/04/2018

GrowGeneration Corp., GrowGeneration ("GrowGen" or the "Company") one of the largest specialty retail hydroponic and organic gardening store chains announced today that the company has entered into an exclusive

product development, research, and distribution agreement to exclusively sell a complete line of specialty products and powder fertilizers that enhance plant health and yields.

Source : prnewswire

D. START-UP NEWS

Inocucor $15.9M final close of Series B financing brings Series B total to $54.4M | 17/04/2018

Inocucor Corporation, a developer and producer of biological crop inputs for high-value produce and row crops, announced the final close of its Series B funding round at $15.9 million with participation by existing investors Cycle Capital Management (Montreal), Desjardins Innovatech (Montreal), TPG ART (San Francisco), and Pontifax AgTech (Los Angeles).

Source : prnewswire

E. ACADEMIC NEWS

Core microbiomes for sustainable agroecosystems | 30/04/2018

In an era of ecosystem degradation and climate change, maximizing microbial functions in agroecosystems has become a prerequisite for the future of global agriculture. However, managing species-rich communities of plant-associated microbiomes remains a major challenge.

Source : Nature

Study: Landscapes surrounding farms affect insect pests, crop yields | 30/04/2018

Landscapes that surround agricultural lands strongly influence the dynamics of beneficial insects as well as insect pests on farms, which in turn affect crop yields.

Source : VegetableGrowersNews

RNA-based vaccines could replace traditional pesticides | 06/04/2018

Conventional pesticides have achieved miracles in helping feed the world, but they have their drawbacks, so a team of scientists from the University of Helsinki and the French National Centre for Scientific Research (CNRS) are working on a more environmentally-friendly solution.

Source : NewAtlas

Australian vine can boost soybean yield, study says | 03/04/2018

Growing in its native Australia, the unobtrusive perennial vine Glycine tomentella could easily be overlooked. But the distant relative of soybean contains genetic reSources that can substantially increase soybean yield, according to a new study from the University of Illinois.

Source : aces.illinois.edu

Soil temperature and crop emergence | 03/04/2018

Seeding into warm soils ensures the best start for the crop. Proper crop emergence is the fundamental start to reaching the crop's yield potential.

Source : Grainnews

Soil bacteria vie for a plant partner | 03/04/2018

A single handful of soil is easily home to millions of bacteria. Some plants – like beans, clover, and alfalfa — form a partnership with common soil bacteria — known as rhizobia. The bacteria can "fix nitrogen," or convert nitrogen from a gas into a compound the roots can absorb.

Source : CornAndSoybeanDigest

2.2. Regulation/Soft law

A. BIOSTIMULANTS REGULATION

European Parliament sets stronger organic regulations than U.S., rejects labeling hydroponic as organic | 27/04/2018

After more than five years of intensive negotiations, European Members of Parliament (MEP) overwhelmingly passed the long-anticipated, new organic certication and labeling regulations, with 466 voting in favor, 124 against and 50 abstentions. While the European Union (EU) Council of Ministers, must formally adopt the regulations, their easy passage is expected. Regulations will take effect in January 2021.

Source : Beyond Pesticides

U.S. Farm Bill Draft defines plant biostimulants for first time | 20/04/2018

A draft of the 2018 U.S. Farm Bill provides the first definition for plant biostimulants by the U.S. government, and is a critical step in the legislative process to support the development of new sustainable technologies for agriculture and U.S. farmers, according to the U.S. Biostimulant Coalition.

Source : AgriBuisinessGlobal

FRANCE: Update of the official list of biocontrol products – Mars 2018 | 09/04/2018

The French Ministry of Agriculture, Food and Forestry has published a new update of the official list of biocontrol plant protection products in accordance with articles L.253-5 and L.253-7 of the Rural Code. This note repeals the previous one dated 24 January 2018 and entered into force on 15 March 2018.

Source : Lynxee

B. PUBLIC & PRIVATE INCENTIVES

Urgent need to accelerate the pace of change for sustainable cultivation | 04/04/2018

'Agriculture without chemicals – How?' Was the challenging topic that attracted more than 150 delegates to the first congress organized by Foodlog held at Koppert headquarters yesterday. Koppert initiated and hosted the congress after the independent Dutch food and health news platform, Foodlog, publicly posed the above question.

Source : Koppert

Physioactivators can reduce by 40% the application of insecticides: Arysta | 02/04/2018

The use of biological inputs on agriculture can reduce by 40% the application of insecticides, said Lucas Rona, LatAm Pronutiva business manager - crop protection & biosolution at Arysta LifeScience.

Source : AgroNews

2.3. Reports

A. MARKET TRENDS

Who are exploring China's biostimulant & specialty fertilizer market? | 26/04/2018

The current global biostimulant market is valued at about 1.3 billion USD, Among which the value in China is about 200 million USD. It is estimated that by 2020, the global market value of biostimulant will reach 2-3 billion USD, and the annual growth rate will be over 10%. In the next 3-5 years, the market value in China will also reach 400-500 million USD.

Source : AgroNews

Biostimulants Gaining Ground | 17/04/2018

Consumers have stepped up their demand for food produced more sustainably, with fewer "hard" chemicals and more compounds from nature. Biostimulants are helping increasing numbers of growers answer that call.

Source : AgriBuisinessGlobal

France: Innovations in seeds production | 16/03/2018

With a steady increase in the number of jobs and investments, seed companies in 62 departments are boosting the local economy, while contributing to the agro-ecological transition.Capitalist companies of all sizes (cooperations, family businesses, and listed companies) have a remarkable industrial park.

Source : hortidaily

B. TECHNICAL TOPICS & REVIEWS

Microalgae as multi-functional options in modern agriculture: current trends, prospects and challenges | 17/04/2018

Algae are a group of ubiquitous photosynthetic organisms comprising eukaryotic green algae and Gram-negative prokaryotic cyanobacteria, which have immense potential as a bioreSource for various industries related to biofuels, pharmaceuticals, nutraceuticals and feed. This fascinating group of organisms also has applications in modern agriculture through facilitating increased nutrient availability, maintaining the organic carbon [...]

Source : sciencedirect

From Asters to Allethrin: The new frontier of agricultural biologicals | 10/04/2018

This statement effectively marked the start of the large-scale commercialization of agricultural biologicals, and a new era of 'greening' – or 'greenwashing' – by agrochemical companies.

Source : Arc2020

Forecast and early stress detection for a successful biostimulant strategy | 05/04/2018

In spite of still being a recent topic, the research community has sorted abiotic stress as the most harmful factor for the growth and productivity of crops worldwide (Gao et al, 2007). Furthermore, these factors are in most cases taking place in combination with other biotic or abiotic stress factors, resulting in the most detrimental scenario in current agriculture (Mittler, 2009).

Source : tradecorp

Fungal wars: The underlying molecular repertoires of combating mycelia | 04/04/2018

Non-self contact between fungi elicits strong morphological and biochemical reactions in the mycelia of interacting species. Although these reactions appear to be species- and interaction-specific, some responses such as pigmentation, increased secretion of phenol-oxidases, [...]

Source : sciencedirect

Plant growth promoting bacteria as an alternative strategy for salt tolerance in plants: A review | 01/04/2018

Plants retained specific mechanisms for salt stress mitigation, such as hormonal stimulation, ion exchange, antioxidant enzymes and activation of signaling cascades on their metabolic and genetic frontiers that sooth the stressed condition. Additional to the plant inherent mechanisms, certain plant growth promoting bacteria (PGPB) also have specialized mechanism [...]

Source : sciencedirect

Enzyme activities in soils: from a measurement method to a standard | 12/03/2018

The Environmental Biochemistry Platform, Biochem-Env, has optimised a method to measure enzyme activities in soils using colorimetric substrates in micro-well plates. Its robustness was demonstrated in the context of an international, multi-laboratory trial which has since led to the development of an international standard.

Source : sciencedirect

2.4. R&D projects

Tal-like proteins in endohyphal symbiosis | 01/04/2018

Period : 2018-2020
Funder : USDA
Budget :
Performing institution /coordinator :

The goals of this project are both research-based and training-based. Themajor training goal isgraduate training in understudied symbiotic interactions for Morgan Carter, a Plant Pathology Ph.D. candidate with academic career goals and interest in policy outreach.

Source : cris

Harnessing aboveground-belowground microbial interactions for soybean health and productivity | 01/04/2018

Period : 2018-2022
Funder : USDA
Budget :
Performing institution /coordinator :

The purpose of this proposal is to investigate how interactive effects of aboveground and belowground plant symbionts modify each other, and ultimately host plant reSource allocation, defense, and productivity.

Source : cris

Nefertiti - Networking European Farms to enhance cross fertilisation and innovation uptake through demonstration | 06/03/2018

Period : 01/01/2018 - 31/12/2021
Funder : EU
Budget : 6 999 991,25€
Performing institution /coordinator : Association de Coordination Technique Agricole

NEFERTITI focuses on creating added value from the exchange of knowledge, actors, farmers and technical content over the networks in order to boost innovation uptake, to improve peer to peer learning and network connectivity between farms actors across Europe, thus contributing to a more competitive, sustainable and climate-smart agriculture.

Source : Cordis

Mira - Microbe induced Resistance to Agricultural pests | 21/02/2018

Period : 01/12/2017 - 30/11/2021
Funder : EU
Budget : 3 936 528,36€
Performing institution /coordinator : KOBENHAVNS UNIVERSITET

Plants are intimately associated with a diversity of beneficial microorganisms in their root zone, some of which can enhance the plant's resistance to insect pests. Thus, the use of Microbe-induced Resistance (MiR) to reduce pest losses in agriculture has emerged as a highly promising possibility to improve crop resilience and reduce use of harmful pesticides.

Source : Cordis

Bloom - Boosting European citizens knowledge and awareness of bioeconomy | 24/01/2018

Period : 01/11/2017 - 31/10/2020
Funder : EU
Budget : 2 400 000€
Performing institution /coordinator : ZENTRUM FUR SOZIALE INNOVATION GMBH

The main objective of this project is to establish open and informed dialogues, co-created by European citizens, the civil society, bioeconomy innovation networks, local research centers, business and industry stakeholders and various levels of government including the European Commission.

Source : Cordis

Innovation for improved strawberry pollination by commercial bumblebees using caffeine | 01/04/2017

Period : April 2017 - April 2019
Funder : BBSRC
Budget : £181 836
Performing institution /*coordinator : University of Greenwich*

Efficient pollination by insects, especially bees, is critical to ensuring food security and yields of many crops. Production of soft fruit such as strawberries in the UK is worth around £360m annually, is growing year on year but depends heavily upon pollination by insects, particularly bees. When pollination is inadequate it frequently results in misshapen fruit.

Source : ukri

2.5. Patents

A. MICROBIALS

WO2018073454 | Novel plant-growth promoting bacteria and the use thereof | Dcm de ceuster meststoffen nv, nederlands instituut voor ecologie van de koninklijke nederlandse akademie van wetenschappen | 26/04/2018

Use of a bacterial composition comprising at least one plant growth-promoting bacterium from the Microbacterium genus, for producing biostimulant effects in seeds, seedlings and/or plants, comprising the step of priming said seeds, or seedlings or plants.

Source : Wipo

WO2018069881 | Biofertilizer compositions comprising chryseomicrobium palamuruense pu1t and methods thereof | Pindi, pavan kumar | 19/04/2018

Exemplary embodiments of the present disclosure are directed towards biofertilizer compositions comprising Chryseomicrobium palamuruense PU1T and methods thereof. The biofertilizer compositions in some embodiments further comprises of agriculturally compatible carriers.

Source : Wipo

WO2018067815 | Bacillus thuringiensis rti545 compostions and methods of use for benefiting plant growth and controlling plant pests | Fmc corporation | 12/04/2018

Compositions are provided that include a new Bacillus thuringiensis strain designated RTI545 for use in benefiting plant growth and controlling plant pests. In particular, the RTI545 strain is useful for controlling plant nematode, insect and fungal pests. The compositions include plant seeds coated with the RTI545 strain.

Source : Wipo

WO2018067815 | Bacillus thuringiensis rti545 compostions and methods of use for benefiting plant growth and controlling plant pests | Fmc corporation | 12/04/2018

Compositions are provided that include a new Bacillus thuringiensis strain designated RTI545 for use in benefiting plant growth and controlling plant pests. In particular, the RTI545 strain is useful for controlling plant nematode, insect and fungal pests. The compositions include plant seeds coated with the RTI545 strain. [...]

Source : Wipo

EP3303262 | Microbial inoculants, fertiliser compositions, growth mediums and methods for enhancing plant growth |

Sustainable organic solutions pty ltd | 11/04/2018

Source : Wipo

US20180098483 | Plant yield benefits by microbials | Monsanto technology Llc | 10/04/2018

Microbe combinations, a seed coated with one of the combinations and a plant protected from corn on corn yield penalties by one of the combinations. Further provided as a microbe combination applied to the seed, stalk or leaf that results in an increase in plant yield.

Source : Wipo

IN201611029685 | A method for isolation of aspergillus versicolor kr87 and a medium comprising the same for plant growth promotion | Amity University | 06/04/2018

The present invention provides isolation, characterization of Aspergillus versicolor KR87, one of the first fungi and its use as plant growth promoter. The fungus is a rare example of obligate extremophile as it requires high salinity for optimum growth. The results of the invention provide that fungus is a potential biofertilizer as it promotes plant growth ifeider saline stress conditions.

Source : Wipo

US20180092365 | Fungal endophytes for improved crop yields and protection from pests | The texas a&m university system | 05/04/2018

The invention provides a synthetic combination of a crop and at least one fungal endophyte, wherein the crop is a host plant of the endophyte. Provided are also methods and compositions for producing such synthetic combinations. The endophyte reproduces and enhances the agronomic characteristics of the crop.

Source : Wipo

WO2018060519 | Means and methods for plant yield enhancement | Aphea.bio nv, fundacion centro de excelencia en investigacion de medicamentos innovadores en andalucia, medina | 05/04/2018

The present invention relates to the field of sustainable agriculture. Specifically, the invention provides microbial compositions and methods useful for the production of crop plants. In particular, the compositions and methods disclosed herein are useful for enhancing plant growth.

Source : Wipo

B. PLANT EXTRACTS

WO2018069497 | Process for eliciting a plant by means of edible macroscopic fungal extracts | Univ de limoges, covertis | 19/04/2018

Process for conferring a protection against a pathogen upon a plant by elicitation by means

of an aqueous composition, the active agents of which are extracted from edible fungi (parasol mushroom, pleurotus, button mushroom). An alkaline extraction is carried out, then an enzymatic hydrolysis, to obtain a fraction less than 100 kDa.

Source : Wipo

WO2018062036 | Plant stomatal opening control agent | National University Corporation Nagoya University | 05/04/2018

A plant stomatal opening control agent containing at last one compound selected from the group consisting of compounds respectively represented by general formulae (1) to (52), salts of the compounds, and solvates of the compounds or the salts.

Source : Wipo

C. SEAWEED EXTRACTS

WO2018075948 | Kappaphycus active ingredient compositions for modulating plant characteristics | Heliae Development Llc | 26/04/2018

Methods of improving characteristics of plants and soil by administering an effective amount of a Kappaphycus based composition in low concentration applications are disclosed.

Source : Wipo

D. OTHERS

WO2018074554 | Composition for inhibiting function of cryptochrome | Riken, Universiti Sains Malaysia | 26/04/2018

The present inventors have made it clear that a nine-membered nitrogenous fused aromatic heterocyclic compound having two nitrogen atoms and having, added thereto, a hydrogen or halogen atom and a nitro group combines with cryptochrome, which is a blue-light photoreceptor protein, to inhibit the functions of the protein.

Source : Wipo

WO2018069146 | Method for the synthesis of pheromones | Demeta | 19/04/2018

The present invention relates to a method for synthesising pheromones and pheromone precursors, by means of the metathesis of terminal olefins including one functionalised olefin.

Source : Wipo

US20180099911 | Compositions for enhancing pollination and methods for using same | Thomas t. Yamashita | 12/04/2018

Aspects of the invention include compositions for enhancing pollination. Dry compositions according to certain embodiments include a carbon skeleton energy compound, macronutrients, a vitamin cofactor composition, micronutrients, an ionophore, and a source of extracted humate. Methods for using the dry

compositions of the invention to enhance pollination are also described.

Source : Wipo

2.6. Events

US Biostimulants Summit 2018

Location : Chicago, Illinois

Date : June 27-28 2018

The conference will bring together the leading executives and experts from across the entire value chain (producers of biostimulant and plant nutrient products, farmers and agriculture suppliers, technology providers, research institutes & government representatives) for two days of informative presentations, interactive discussion & excellent networking opportunities.

Source : WPLGroup

Agri Biostimulants 2018

Location : Milan, Italy

Date : June 13-14 2018

Agri Biostimulants 2018 taking place on the 13-14 June in Milan is an international conferece which brings together agriculture experts. During 2 days of interactive presentations and networking sessions they will share their knowlege of the dynamically developing industry of biostimulants.

Source : Agribiostimulants

Biostimulant CommerceCon

Location : Phoenix, Arizona

Date : July 30-31 2018

Join us in Phoenix to learn the business of biostimulants throughout the global distribution chain. This one-and-a-half-day conference has been designed to help you drive expansion decisions, and figure out how to best explain and market biostimulants to your customers.

Source : biostimcommercecon

AgBio Innovate

Location : San Francisco, California

Date : July 11-12 2018

Developing BioAg products brings with it various demands and challenges - for example complying with regulation, managing resistance, formulation compatibility of ingredients and scale up challenges. Agbio Innovate USA aims to address regulatory hurdles that directly impact the biopesticide and biostimulant sector in North America as well as explores formulation technology and R&D advances with insight from industry leaders.

Source : kisacoresearch

2018 China-Overseas Biopesticides & Biostimulants Business Exchange Congress

Location : Shanghai, China

Date : August 11-13 2018

China is a large agricultural country, also one of the biggest agri-product demanded countries. With the overuse of chemical pesticides and fertilizers in recent years, the harm to environment and human health receive more and more attention. Therefore, China has announced in 2015 that it's targeting zero growth in the use of chemical pesticides and fertilizers by 2020.

Source : Agropages

International Conference On Biocontrol, Biostimulants & Microbiome

Location : Zurich, Switzerland

Date : September 6-7 2018

This prestigious conference will mainly focus on "Understanding and Improving Crop Cultivation". It intends to bring issues to light among agriculturalists, microbiologists, all through life in avoiding irresistible maladies in plants that are spread around the world.

Source : Meetings International

Crop Innovations and Regulations

Location : Barcelona, Spain

Date : September 4-6 2018

Join the crop protection and nutrition community in Barcelona and gain insight into the latest regulatory policy and R&D advancements for effective Plant Protection Products, Biopesticides, Biostimulants and Agrochemical Formulations.

Source : Lifesciences

AgBio Innovate Latam

Location : Sao Paulo, Brazil

Date : September 12-13 2018

AgBio Innovate explores the biopesticide and biostimulant markets in Latin America, addressing: How to overcome regulatory challenges, Innovative R&D advances, Formulation solutions; and Successful commercial strategies, How AgTech is transforming agriculture in Latin America.

Source : kisacoresearch

3. Biofertilizers

3.1. News

A. COMPANIES

Fertasa: Biofertiliser industry to get more attention | 20/04/2018

The outgoing chairman, Adriaan de Lange, managing director of Omnia Fertilizer kicked off the congress with his Chairman's Report after an opening by the CEO of Fertasa, Dr. Pieter Haumann. According to De Lange, memberships and member code of conduct compliance certification shows consistent growth.

Source : AgriOrbit

Los Angeles Awards first-ever "recycLA Star" to Loyola Marymount University | 19/04/2018

With a student body of just over 9,000, LMU has an impressive recycling rate of nearly 84%. The University recycles over 6,000 tons of materials annually, with on-site recycling and food waste programs that turn food and recyclable paper into nutrient-rich soil enhancements. From 2011 to 2017 alone, LMU reduced its food service disposal and diversion tonnage from 101 tons to 33.7 tons, an over 65% reduction in total food service waste in just six years.

Source : prnewswire

Azotic get to work on fixing US agriculture through Agriculture 4.0. | 10/04/2018

Challenge Advisory announced today that it has formed a partnership with Azotic to help tackle key operational challenges within America's agricultural industry.

Source : Digital Journal

Smithfield Foods announces partnership with Anuvia™ plant nutrients to develop and market bio-based sustainable fertilizer products | 05/04/2018

Smithfield Foods, Inc. and Anuvia™ Plant Nutrients are pleased to announce a new partnership to create sustainable fertilizer from renewable biological materials collected from manure treatment systems at Smithfield's hog farms.

Source : Triple Pundit

Kiwa Bio-Tech releases 2017 annual report and announces 80% growth with over 17 million dollars in annual sales | 02/04/2018

Revenue increased by 80% to $17,270,069 in the year ended December 31, 2017 from $9,620,929 during the same period in 2016. The increase was primarily due to an increase in sales of microbial fertilizers to meet the need of a broader market. Kiwa currently realizes revenue in two major product categories of

Biological Organic Fertilizer and Compound Microbial Fertilizer.

Source : GlobeNewsWire

B. PRODUCT LAUNCH

State-of-the-art recycling turns 'poo cakes' into farm crops | 14/04/2018

Scottish Water has revealed it is making "poo cakes" from human waste matter at its Seafield Wastewater treatment centre in Edinburgh and selling them to farmers as an organic, nutrient fertilizer.

Source : Scotsman

Valagro to present Opifol®, the innovative line of water-soluble foliar fertilizers specifically designed for row crops nutrition | 10/04/2018

Valagro will be presenting Opifol®, the innovative line of water-soluble foliar fertilizers specifically designed for row crops nutrition. The line will be launched on the occasion of 'Tecnoshow' (9-13 April, in Rio Verde), one of the main events in the Brazilian agricultural market which sees the participation of thousands of operators in the cereal sector every year.

Source : valagro

C. PARTNERSHIPS & ACQUISITION

American Plant Food, Sigma Agriscience and AM-AG team up provide complete nutrition and soil health solutions | 26/04/2018

Houston-based Sigma Agriscience, a manufacturer of granular biofertilizers and biostimulants, has announced through its subsidiary AM-AG the creation of a marketing alliance with American Plant Food Corp. The multi-company alliance provides the platform necessary to fully reach every type of grower, whether organic or conventional, with a portfolio of plant nutrition as well as soil health solutions.

Source : AgriBuisinessGlobal

D. START-UP NEWS

Startup CHONEX aims to turn chicken poop into profit, with help from Prosperity Fund | 30/04/2018

Southern Research's Prosperity Fund is assisting an Alabama startup that sees one of nature's great recyclers - the black soldier fly - as an instrument to convert chicken poop into high-value products such as protein-rich animal feed and organic fertilizer.

Source : Alabama Newscenter

E. ACADEMIC NEWS

Root exudates affect soil stability, water repellency | 18/04/2018

As the growing season progresses, you might not notice much about what's happening to plants under the soil. Most of us pay attention to new shoots, stems, leaves, and eventually the flowers and crop we intend to grow. We might think of roots as necessary, but uninteresting, parts of the crop production process.

Source : Greenhousemag

New patented technology removes phosphorus from manure | 09/04/2018

An innovation that could have a huge impact on water quality problems in the United States, a system capable of removing almost all phosphorus from stored livestock manure, was developed by a team of researchers from Penn State and the U.S. Department of Agriculture's Agricultural Research Service.

Source : PhysOrg

New research into better nutrient management of slurry | 04/04/2018

The Nutrient Management Centre at the Agri-Food and Biosciences Institute (AFBI), Hillsborough, is currently being commissioned with a key goal to explore technologies which offer opportunities for better nutrient management of slurry and digestate.

Source : Independent

Organic fertilizers rife with microplastics: study | 04/04/2018

The recycling of biological waste from homes and businesses to make fertilizer, either through composting or fertilization, is a source of microplastic pollution, according to a study published today (April 4) in Science Advances.

Source : The Scientist

'Extreme bacteria' could be game-changer for organic vegetable production | 03/04/2018

A Clemson University research scientist has obtained a patent for a way to make organic fertilizer that could revolutionize the organic produce industry and put it on a level playing field with conventional crops. The limited potency, precision and consistency of organic fertilizers has long hindered organic vegetable production.

Source : NewsStand

3.2. Regulation/Soft law

A. PUBLIC & PRIVATE INCENTIVES

The sustainable intensification of agriculture in Europe | 19/04/2018

The sustainable intensification of agriculture (SIA) is intended to strengthen food production with minimum negative environmental impacts and zero increase in land degradation. According to the European Commission (COM-2017/713), this is its latest objective for European agriculture.

Source : Open Access Government

3.3. Report

A. TECHNICAL TOPICS & REVIEWS

A systematic review on the composting of green waste: Feedstock quality and optimization strategies | 27/04/2018

Green waste (GW) is an important fraction of municipal solid waste (MSW). The composting of lignocellulosic GW is challenging due to its low decomposition rate. Recently, an increasing number of studies that include strategies to optimize GW composting appeared in the literature.

Source : sciencedirect

How your soilless mix can improve water and nutrient retention | 17/04/2018

While recently watching a television special on the great women of ancient Egypt, I was reminded that depictions of containerized plants, specifically non-native trees being transported in large containers, can be traced back millennia.

Source : GreenhouseCanada

Improving the sustainability of organic waste management practices in the food-energy-water nexus: A comparative review of anaerobic digestion and composting | 15/04/2018

In this paper, recent research on AD and composting is summarized, and differences in the technical, economic, and environmental aspects of AD and composting, and their potential to improve the sustainability of waste management, are examined

Source : sciencedirect

Land degradation threatens wellbeing of two-fifths of humanity, major report warns | 12/04/2018

As reported by euractiv, land degradation caused by human activities undermines the well-being of at least 3.2 billion people, costs more than 10% of annual global GDP in lost ecosystem services and endangers food security. This warning was give by a hundred experts from 45 countries in a three-year assessment report published on 26 March.

Source : phosphor-plattform

Co-digestion of food waste and sewage sludge for methane production: Current status and perspective | 10/04/2018

Anaerobic digestion (AD) is still reliable, cost-effective technology for waste management. Conventional AD was originally designed for sewer sludge digestion, is not effective for FW due to mainly high organics and volatile fatty acid (VFA) accumulation, hence better technical aptitudes and biochemical inputs are required for optimal biogas production.

Source : sciencedirect

Opportunities and challenges in sustainable treatment and reSource reuse of sewage sludge: A review | 01/04/2018

Sludge or waste activated sludge (WAS) generated from wastewater treatment plants may be considered a nuisance. It is a key source for secondary environmental contamination on account of the presence of diverse pollutants (polycyclic aromatic hydrocarbons, dioxins, furans, heavy metals, etc.).

Source : sciencedirect

A comprehensive review of phosphorus recovery from

wastewater by crystallization processes | 01/04/2018

The presence of phosphorus (P) in discharged wastewater can lead to water pollution events and eutrophication. Given the increasing consumption of phosphate (PO43−) rocks, wastewater containing large quantities of P is deemed as a potential source of P recovery.

Source : sciencedirect

The Fertigation Bible | 26/03/2018

The Fertigation Bible has been prepared to provide useful practical information to the horticultural sector of the diverse technologies available for all aspects of fertigation within the EU. The various stage of the "fertigation process" are shown in the schematic representation below. The Fertigation Bible contains descriptions of the technologies related to these stages.

Source : fertinnowa

3.4. R&D projects

SmartFertiReuse - Smart ferti-irrigation and the Reuse of Treated Wastewater | 10/04/2018

Period : 2017-2021
Funder : FUI
Budget : €4 800 000
Performing institution /coordinator : SEDE Environnement

The aim of the SmartFertiReuse project is to develop a complete service to support farmers and local government bodies in the agroecological management of treated and fertilising wastewater, from the design of an operational system to its deployment and management at a plot level.

Source : INRA

Katedral - An Eco-Friendly and sustainable sewage sludge valorization unit | 13/03/2018

Period : 01/03/2018 - 30/06/2018
Funder : EU
Budget : 71 429€
Performing institution /coordinator : TREATECH SARL

TreaTech, a young clean-tech Swiss company, has developed an innovative technology that will revolutionise the waste management of sewage sludge by turning it into valuable by-products and energy such as biogas, clean water and natural fertilizers that would otherwise be lost during disposal process.

Source : Cordis

Spectre - SPEciation and dynamiCs of TRace Elements | 13/03/2018

Period : 01/06/2018 - 31/08/2020
Funder : EU
Budget : 204 025,50€
Performing institution /coordinator : CENTRE DE COOPERATION INTERNATIONALE EN RECHERCHE AGRONOMIQUE POUR LEDEVELOPPEMENT - C.I.R.A.D. EPIC

Ever-increasing production of waste requires new provisions for waste management to ensure sustainable development. The use of organic waste (OW) as fertiliser is a promising route but may represent an environmental pathway for flows of contaminants.

Source : Cordis

Hollandplug - Pioneering sustainable substrate for accelerated quality cultivation | 22/02/2018

Period : 01/03/2018 - 30/06/2018
Funder : EU
Budget : 71 429€
Performing institution /coordinator : HOLLAND PLUG INTERNATIONAL BV

High fertility of land and proper water disposal in the soil are recognised as essential requirements to grow healthy plants. The agro & horticulture markets demand a cultivation base with an optimal air/water balance which can be controlled to ensure a regular growth of the roots across the soil or block.
Source : Cordis

Evaluation of algal treatment options for olive mill wastewater to produce energy and biofertilizer | 01/12/2017

Period : 01/12/2017 - 31/11/2020
Funder : United States Agency for International Development
Budget : 188 160$
Performing institution /coordinator : CBS - Sfax Tunisia
The OMW TO ALGAE Project addresses the problem of Olive Mill Wastewater (OMW) treatment and disposal in Tunisia. It proposes an innovative, sustainable and eco-friendly technology for the simultaneous OMW treatment and the production of renewable energy and bio-fertilizers.
Source : OMW2Algae

3.5. Patents

A. MICROBIAL – N FIXING

US20180099888 | Multiple Attached Growth Reactor System | Nexom | 12/04/2018

Described herein are attached growth reactor systems which increase nitrifying bacteria biomass through a variety of means during warm weather. As a consequence, the attached growth reactor system contains sufficient nitrifying bacteria biomass to remove ammonia from wastewater in cold to moderate climates.

Source : Wipo

B. MICROBIAL – P2O5 SOLUBILIZING

ES2665898 | Rizobacterias Bacillus firmus solubilizadoras de fosfato como biofertilizante para aumentar el rendimiento de la colza | Xitebio Technologies Inc. | 30/04/2018

Source : Wipo

C. NUTRIENTS RECOVERY

WO2018069881 | Biofertilizer compositions comprising chryseomicrobium palamuruense pu1t and methods thereof | PINDI, Pavan Kumar | 19/04/2018

Exemplary embodiments of the present disclosure are directed towards biofertilizer compositions comprising Chryseomicrobium palamuruense PU1T and methods thereof. The biofertilizer compositions in some embodiments further comprises of agriculturally compatible carriers.

Source : Wipo

WO2018070459 | Plant growth promoter and plant cultivation method | Oji Holdings Corporation | 19/04/2018

The present invention provides: a plant growth promoter containing a phosphorylated

oligosaccharide polyvalent metal salt as an active ingredient; and a plant cultivation method comprising applying a phosphorylated oligosaccharide polyvalent metal salt to plants, preferably spraying the phosphorylated oligosaccharide polyvalent metal salt on plant foliage.

Source : Wipo

US20180105474 | High value organic containing fertilizers and methods of manufacture | Anuvia plant nutrients corporation | 19/04/2018

The invention is directed to manufacturing fertilizers having commercial levels of nitrogen reacted with organic substances. The process comprises treatment of organics with acid that acidifies and heats a mix causing the hydrolysis of polymers.

Source : Wipo

EP3303262 | Microbial inoculants, fertiliser compositions, growth mediums and methods for enhancing plant growth | Sustainable Organic Solutions Pty Ltd | 11/04/2018

Source : Wipo

D. MEDIA GROWTH AND SOIL CONDITIONER

EP3305746 | Organic-inorganic polymeric water-retaining fertilizer and preparation method therefor | Qingdao Xinyaodi Agricultural Tech Joint Stock Co Ltd | 11/04/2018

The present invention provides an organic-inorganic polymeric water-retaining fertilizer. The organic-inorganic polymeric water-retaining fertilizer is a co-polymer made by fusion and co-polymerization of an organic water-retaining monomer and an inorganic nutrient under action of a catalyst, a biological enzyme and a modifying agent.

Source : Wipo

EP3305746 | Organic-inorganic polymeric water-retaining fertilizer and preparation method therefor | Qingdao Xinyaodi Agricultural Tech Joint Stock Co Ltd | 11/04/2018

The present invention provides an organic-inorganic polymeric water-retaining fertilizer. The organic-inorganic polymeric water-retaining fertilizer is a co-polymer made by fusion and co-polymerization of an organic water-retaining monomer and an inorganic nutrient under action of a catalyst, a biological enzyme and a modifying agent.

Source : Wipo

EP3302069 | Plant growth regulating compounds | Syngenta Participations Ag | 11/04/2018

Source : Wipo

RU0002649394 | Winter wheat seeds germination activator | | 03/04/2018

SUBSTANCE: invention relates to winter wheat seeds germination activator, which is 3-benzyl-4-(N-benzylcarbamoylmethyl)-2-pyridin-3-yl-1,3-oxazolidine of formula 1, in concentrations of 0.005 and 0.0005 % by weight. EFFECT: according to the invention activator makes it possible to improve the seeding qualities of the seeds.

Source : Wipo

3.6. Events

3th European Sustainable Phosphorus Conference 2018: „Call for posters“

Location : Helsinki, Finland

Date : June 11-13 2018

The third European Sustainable Phosphorus Conference (ESPC3) takes place from 11 to 13 June 2018 in Helsinki, Finland. Objectives of the conference are: Update on implementation of EU Commission Consultation on Sustainable Phosphorus, 2013, Ecological nutrient restoration & nutrient recovery from sediments and run-off water, Tomorrow’s agricultural nutrient management and fertilisation, Policy tools for sustainable use of nutrients [...]

Source : DeutschePhosphorPlattform

The Organic Farmers Fair

Location : Amsterdam, Netherlands

Date : June 12-14 2018

The Organic Farmers Fair is the good momentum for suppliers in seeds and seedlings, fertilizers, composting technology, biological pest control, weed control systems, GPS systems, soil cultivation, greenhouse horticulture, research and advice.

Source : GreenTech

DEFINITIONS

The following definition are the definition used to classify information. There are commonly accepted definitions but have not a legal status. The clarification of legal definition is a topic monitored through this newsletter

Biopesticide (EPA, 2013): Biopesticides include naturally occurring substances that control pests (biochemical pesticides), microorganisms that control pests (microbial pesticides), and pesticidal substances produced by plants containing added genetic material (plant-incorporated protectants) or PIPs.

Biostimulant (Du Jardin, 2012): Plant biostimulants are substances and materials, with the exception of nutrients and pesticides, which, when applied to plants, seeds or growing substrates in specific formulations, have the capacity to modify physiological processes of plants in a way that provides potential benefits to growth, development and/or stress response.

Organic fertilizer/biofertilizer (ECOFI): fertilizer whose main function is to provide nutrients under organic forms from organic materials of plant and/or animal origin.

Organic soil improver (ECOFI): a soil improver containing carbonaceous materials of plant and/or animal origin, whose main function is to maintain or increase the soil organic matter content.

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