



ENTOMO CONVERSION

Newsletter on Insects for feed, food and bioconversion of organic substrates

Items published between 01 december 2022 and 31 march 2023

This newsletter is produced by a research team on entomoconversion and the "Direction pour la Science Ouverte" (DipSO). It is the result of multi- source monitoring (media, articles, ...).

Scope :

- **Europe/France**
- **Thematics axes** : insects (*Tenebrio molitor* et *Hermetia Illucens*) , substrates (organic waste, by-products, ...), industrials applications and products (frass, fertilizer, ...)
- **Sources** : articles, information on ongoing and completed projects, regulatory documents, calls for expressions of interest, private sector activities.

Note : Items in this newsletter do not represent INRAE's position.

Call for proposals, call for tenders,

- o The first Black Soldier Fly conference - BSFCON is the first-ever conference entirely dedicated to the Black Soldier Fly. 11—12 September 2023 Cambridge, UK.
- o Defatted Black Soldier Fly Meal in Diet for Grow-Out Gilthead Seabream (*Sparus aurata* L. 1758): Effects on Growth Performance, Gill Cortisol Level, Digestive Enzyme Activities, and Intestinal Histological Structure
- o Advanced Grants 2022: Examples of projects | ERC
- o Le microbiote intestinal est-il un paramètre clé dans l'évolution de la vie sociale chez les insectes ? | ANR
- o Appel à projets "Développer les protéines végétales et diversifier les sources de protéines" - News/Actualités

Substrate - media

- o Devouring waste: how insects can feed a circular economy
- o Quels animaux et insectes trouve-t-on dans un tas de compost et quel est le rôle de chacun ?
- o Insect-based biorefinery for plastic waste and temperature-sensitive ... - Packaging Europe
- o Is insect farming really the future of food or an unethical practice? - Vegan Food and Living
- o Are kids (or adults, for that matter) ready to eat insects?
- o Study: Farming insects on poultry manure
- o Projet Superinsect : des déchets alimentaires à la nourriture pour insectes

- Farming insects on manure
- Big Dutchman to discuss waste and insects at VIV Asia
- From insect farmers to waste management: this company uses ... - create digital
- Working with Resource Insects to reduce food waste - Tesco PLC
- "Insect manure": could frass be the organic fertiliser of the future?
- Manger des insectes et finir en compost humain

Substrate - articles

- Apparent Digestibility Coefficients of Black Soldier Fly (*Hermetia illucens*), Yellow Mealworm (*Tenebrio molitor*), and Blue Bottle Fly (*Calliphora vicina*) Insects for Juvenile African Catfish Hybrids (*Clarias gariepinus* × *Heterobranchus longifilis*)
- Insects, Vol. 14, Pages 261: Influence of Dietary Protein Content on the Nutritional Composition of Mealworm Larvae (*Tenebrio molitor* L.)
- Insects, Vol. 14, Pages 204: Bioconversion of Different Waste Streams of Animal and Vegetal Origin and Manure by Black Soldier Fly Larvae *Hermetia illucens* L. (Diptera: Stratiomyidae)
- THE GUT MICROBIOME ASSOCIATED TO HONEYBEES AND WASTE-REDUCING INSECTS ...
- Enhanced protein degradation by black soldier fly larvae (*Hermetia illucens* L.) and its gut microbes
- Efficient use of agricultural waste to naturally fortify *Tenebrio molitor* mealworms and evaluation of their nutraceutical properties
- Use of distillery by-products as *Tenebrio molitor* mealworm feed supplement
- Processes, Vol. 11, Pages 362: Biogas Production from Residues of Industrial Insect Protein Production from Black Soldier Fly Larvae *Hermetia ilucens* (L.): An Evaluation of Different Insect Frass Samples
- The Variety of Applications of *Hermetia illucens* in Industrial and Agricultural Areas-Review
- *Hermetia illucens* frass improves the physiological state of basil (*Ocimum basilicum* L.) and its nutritional value under drought
- Decomposition and humification process of domestic biodegradable waste by black soldier fly (*Hermetia illucens* L.) larvae from the perspective of dissolved organic matter
- Insect biorefinery: A circular economy concept for biowaste conversion to value-added products
- Amino acid digestibility and protein quality of mealworm-based ingredients using precision-fed cecectomized rooster assay
- Spirulina-enriched Substrate to Rear Black Soldier Fly (*Hermetia illucens*) Prepupae as Alternative Aquafeed Ingredient for Rainbow Trout (*Oncorhynchus mykiss*) Diets: Possible Effects on Zootechnical Performances, Gut and Liver Health Status, and Fillet Quality
- The Effect of Mealworm Frass on the Chemical and Microbiological Properties of Horticultural Peat in an Incubation Experiment
- Effects of *Hermetia illucens* Larvae Meal and Astaxanthin as Feed Additives on Health and Production Indices in Weaned Pigs
- Polyurethane Foam Residue Biodegradation through the *Tenebrio molitor* Digestive Tract: Microbial Communities and Enzymatic Activity
- Polymers, Vol. 15, Pages 204: Polyurethane Foam Residue Biodegradation through the *Tenebrio molitor* Digestive Tract: Microbial Communities and Enzymatic Activity
- Life-history traits of black soldier fly reared on agro-industrial by-products subjected to three pre-treatments: a pilot-scale study
- Effect of biodegrading polyethylene, polystyrene, and polyvinyl chloride on the growth and development of yellow mealworm (*Tenebrio molitor*) larvae
- Evaluation of standardized ileal digestibility of amino acids and metabolic availability of methionine, using the indicator amino acid oxidation method, in black soldier fly larvae (*Hermetia illucens*) meal fed to growing pigs
- Recycling, Vol. 8, Pages 1: The Potential of Valorized Sisal Decorticated Waste in Rearing of Black Soldier Fly
- Unwelcome guests at farms breeding the black soldier fly, *Hermetia illucens* (L.) (Diptera Stratiomyidae)
- Effects of dietary black soldier fly larvae on performance of broilers mediated or not through changes in microbiota
- Introducing insect- or plant-based dinner meals to families in Denmark: study protocol for a randomized intervention trial
- IJERPH, Vol. 20, Pages 21: The Effect of Mealworm Frass on the Chemical and Microbiological Properties of Horticultural Peat in an Incubation Experiment

- O Foods, Vol. 12, Pages 1: Consumer Attitudes and Acceptability of Wheat Pancakes with the Addition of Edible Insects: Mealworm (*Tenebrio molitor*), Buffalo Worm (*Alphitobius diaperinus*), and Cricket (*Acheta domesticus*)
- O Does the presence of heavy metal and catechol contaminants in organic waste challenge the physiological performance of the bioconverter *Hermetia illucens*?
- O Partial or total replacement of soybean oil by black soldier fly larvae (*Hermetia illucens* L.) fat in broiler diets: effect on growth performances, feed-choice, blood traits, carcass characteristics and meat quality
- O [hal-03876368] Changes in Bacterial Community Structure Across the Different Life Stages of Black Soldier Fly (*Hermetia illucens*)
- O Improvements in Performance of Nursery Pigs Provided with Supplemental Oil Derived from Black Soldier Fly (*Hermetia illucens*) Larvae
- O Bioconversion of fruit waste and sewage sludge mixtures by black soldier fly (Diptera: Stratiomyidae) larvae
- O Black soldier fly turns agro-industrial food waste into organic fertilizer: cost- and eco-effectiveness from a circular economy perspective ...
- O How to convince people to eat insects
- O Principles for the responsible use of farmed insects as livestock feed | Nature Food

Product - media

- O How France became the unlikely home of the insect-farming industry?
- O Insect protein maker raises \$250m in funding round
- O Aquafeed.com | A look at insect production efficiency for a more affordable insect meal
- O Aquafeed.com | The Yield Lab Asia Pacific invests in insect meal producer
- O Funding puts insect protein maker ahead of food security fight
- O Aquafeed.com | EU - Insect protein use in aquafeed likely within 12 months, says industry insider
- O The Folding Phone Screens Made Of Insect Protein
- O Amendments to the government decree for foods containing insect protein have been published
- O Insect protein may be beneficial in the battle against obesity
- O Finland to open country's first circular insect protein production plant
- O The Black Soldier Fly Insect Larvae Enterprise for COVID-19 Livelihood Resilience Project Launched at CoVAB
- O Aquafeed.com | FRANCE - Uber, Deliveroo investor backs French-Tunisian insect meal startup
- O Aquafeed.com | Study finds inclusion of insect meal in extruded feeds does not influence quality
- O Aquafeed.com | EFSA's favorable opinion on insect meal safety for human consumption
- O Israel commits to increase the potential of its insect protein sector
- O Waitrose diverting surplus food to feed sector in new trial, Tesco championing waste to insect protein model
- O Salon de l'agriculture. Cet insecte va produire les engrais de demain
- O Use of insect protein in poultry feeding
- O Insect protein set to unlock the future of African agriculture
- O The decree has come out: this is what insect protein-containing products will look like in the future
- O Nutrition Technologies approved to sell insect meal to EU and UK ... - FeedNavigator.com
- O Insect protein industry bites back at climate change and malnutrition despite dietary limitations
- O Where are we at with insect protein as an ingredient in 2023?
- O Aquafeed.com | Premium insect meal producer is looking for investors
- O In Italy, a regulation regulates the sale of foods containing insect meal
- O New world comes to Hungary: "Attention! Food contains insect protein!"
- O "Government corrected intervention on insect meal"
- O IFC backs Entobel for production expansion of insect meal
- O The insect protein industry is flying high London-based Entocycle secures €4.6 million

- FlyFeed CEO: “Insect protein production contributes to the circular economy”
- Insect protein maker to build second US facility
- Petgood raises €2.5 million to “spread awareness” of insect protein
- Insect protein could help curb \$23 billion worth of food lost each year - AgFunderNews

Product - articles

- Fate of polychlorobiphenyls in *Tenebrio molitor* larvae: consequences for further use as food and feed | Journal of Insects as Food and Feed
- Linking frass and insect phenology to optimize annual forest defoliation estimation
- The Effects of Two Organic Soil Amendments, Biochar and Insect Frass Fertilizer, on Shoot Growth of Cereal Seedlings
- Insects, Vol. 14, Pages 147: *Tenebrio molitor* as a Clean Label Ingredient to Produce Nutritionally Enriched Food Emulsions
- [anses-03899707] Egg fatty acid profiles and potential health risk from defatted insect meal in laying hens’ diets
- Properties of insect protein concentrate and potential application in seasoned rice noodles
- Sustainability, Vol. 15, Pages 786: Fishmeal Replacement by Full-Fat and Defatted *Hermetia illucens* Prepupae Meal in the Diet of Gilthead Seabream (*Sparus aurata*)
- Assessing amino acid solubility of black soldier fly larvae meal in Atlantic salmon (*Salmo salar*) in vivo and in vitro
- Dietary supplementation with full-fat *Hermetia illucens* larvae and multi-probiotics, as a substitute for antibiotics, improves the growth performance, gut health, and antioxidative capacity of weaned pigs | BMC Veterinary Research | Full Text

Industrials applications - media

- Insect feed for poultry of growing interest in Australia - WATTAgNet Industry News & Trends
- Insect-based poultry diets to improve the health and gut status - All ... - All About Feed
- Africa: Female founder flags circular feed potential of insect production - FeedNavigator.com
- A chain of insect proteins for animal feed
- FarmInsect Automated turnkey insect rearing farm. Enabling farmers to produce their own sustainable insect protein feed
- Flylab Expanding to Cater to Growing Thai Demand for Insect-Based Ingredients for Aqua Feed - VIV Asia
- Insect Farming Is Taking Shape as Demand for Animal Feed Rises | MIT Technology Review
- Aquafeed.com | Insects to Feed the World conference in China
- IttInsect raises €625,000 to commercialise sustainable fish feed, made using insects
- Feed insects: Information key to consumer acceptance
- Insects as ingredients in poultry feed have benefits for meat quality and antibiotic resistance
- Aquafeed.com | NORWAY - Counting on insects for future fish feeds
- Insect production for animal feed in Caribbean
- The potential of insects as feed
- Insect farming start-up tackles feed & food crises
- Crickets for everyone: in the country of meat they want to feed us with insects
- Bhubaneswar start-up uses insects to produce animal feed from food waste - The Hindu
- Information key to consumer acceptance of feed insects
- “People prefer to feed insects to their dogs before they eat them” – Tuggs founder Harry Bremner on navigating the untapped insect pet-food market
- Black Soldier Fly Awareness and Outreach with Insect School
- Insects as sustainable animal feed: real alternative?
- IPIFF welcomes the first Commission’s Implementing Regulation authorising lesser mealworm as a novel food
- Hurdles remain for insect use in livestock feed
- Defatted BSFL meal, the best protein-rich substitute for soy

- O © Sarah2 | Dreamstime.com Two sites for insect production to be built in the US and Mexico Ynsect announced the construction of two production sites in the United States and Mexico. Ynsect, a specialist in insect-based animal feed, has announced the signing of two major partnerships on the other....
- O Less reliance on soy import: alternatives for animal feed, based on insects, algae and waste streams
- O Jana Vašíčková: The larva of a black soldier fly is the ideal of sustainability. A fascinating insect that eats everything it comes across.
- O Ensuring safety of mealworm products
- O INSECT FISH FEED PRODUCER EXPANDS IN NORTH AMERICA
- O FreezeM raises €6.3M in EIC funding to accelerate technological advancements in the insect protein industry
- O Insect-for-feed: The AU-based FLYgene project holds national workshops in Kenya and Uganda to engage stakeholders of the entire value-chain
- O Key Insights on \$2.2 Billion Opportunity in the Insect Feed Industry | AgriProtein Holdings Ltd, Buhler AG, Protix, Enterra Feed, entofood, enviroflight, Nasekomo, InnovaFEED
- O Researchers awarded grant to investigate use of edible insects in animal feed

Industrials applications - articles

- O Insects, Vol. 14, Pages 300: An Acyl Carrier Protein Gene Affects Fatty Acid Synthesis and Growth of *Hermetia illucens*
- O 18/03/2023 : Insects as mini-livestock: Considering insect welfare in feed production
- O [hal-04015977] Use of instant controlled pressure drop technology for the preservation of edible insects' (yellow mealworm) quality: assessment of microbial inactivation
- O Insects as feed for livestock production - Science
- O Consumer Attitudes and Acceptability of Wheat Pancakes with the Addition of Edible Insects: Mealworm (*Tenebrio molitor*), Buffalo Worm (*Alphitobius diaperinus*), and Cricket (*Acheta domesticus*)
- O [hal-02570723] Integrative Metabolomics for Assessing the Effect of Insect (*Hermetia illucens*) Protein Extract on Rainbow Trout Metabolism
- O Modeling and optimal control of growth, energy, and resource dynamics of *Hermetia illucens* in mass production environment. (arXiv:2212.10348v1 [eess.SY])
- O Fishes, Vol. 7, Pages 395: Success of Aquaculture Industry with New Insights of Using Insects as Feed: A Review



19/04/2023

The first Black Soldier Fly conference - BSFCON is the first-ever conference entirely dedicated to the Black ...

BSFCON is the first-ever conference entirely dedicated to the Black Soldier Fly. 11—12 September 2023 Cambridge, UK. Co-organised by Better Origin ...

www.bsfcon.com

[hermetia illucens](#) [black soldier fly](#)

16/03/2023

Defatted Black Soldier Fly Meal in Diet for Grow-Out Gilthead Seabream (*Sparus aurata* L. 1758): Effects on Growth Performance, Gill Cortisol Level, Digestive Enzyme Activities, and Intestinal ...

A trial was performed to study the effects of a partially defatted *Hermetia illucens* (L. 1758) larvae meal (HIM) to replace a fish meal in the diet of an adult gilthead sea bream. The fish were fed for 120 days with diets containing HIM: 0% ...

www.hindawi.com

[hermetia illucens](#) [black soldier fly](#)



30/03/2023

Advanced Grants 2022: Examples of projects | ERC

The funding awarded during the 2022 Advanced Grants competition will help 218 researchers from 20 countries. This time, we selected six examples ...

erc.europa.eu

02/12/2022



Le microbiote intestinal est-il un paramètre clé dans l'évolution de la vie sociale chez les insectes ? | ANR

Pourquoi et comment la vie sociale animale a émergé d'un état solitaire est une question de longue date en biologie. Dans ce projet, nous proposons ...

anr.fr



12/12/2022

Appel à projets "Développer les protéines végétales et diversifier les sources de protéines" - News/Actual...

Le second volet de l'appel à projets lancé par l'Agence Nationale de la Recherche porte sur la diversification des sources de protéines pour ...

www.agri-city.info



30/03/2023

Devouring waste: how insects can feed a circular economy

For those squeamish about eating bugs, insect larvae can serve another vital function: as consumers of our food waste, and as feed for livest...

www.metabolic.nl

[hermetia illucens](#) [black soldier fly](#)

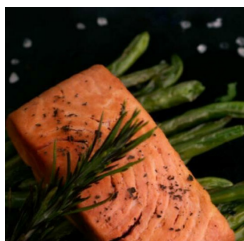


27/03/2023

Quels animaux et insectes trouve-t-on dans un tas de compost et quel est le rôle de chacun ?

Mille-pattes, collemboles, vers de terres, pince-oreille, pourquoi ces animaux peu appréciés sont de véritables alliés des tas de compost ? L'article ...

www.neozone.org



21/03/2023

Insect-based biorefinery for plastic waste and temperature-sensitive ... - Packaging Europe

Insect-based biorefinery for plastic waste and temperature-sensitive ... Packaging Europe packagingeurope.com



20/03/2023

Is insect farming really the future of food or an unethical practice? - Vegan Food and Living

Is insect farming really the future of food or an unethical practice? Vegan Food and Living www.veganfoodandliving.com

[hermetia illucens](#) [black soldier fly](#)



19/03/2023

Are kids (or adults, for that matter) ready to eat insects?

Eating insects as a source or protein can help to protect the planet. Will children be open to it?

www.salon.com

[mealworm](#) [tenebrio molitor](#)



17/03/2023

Study: Farming insects on poultry manure

Study: Farming insects on poultry manure 09:00 | Nutrition | News Insect production from poultry manure can be increased through ...

www.poultryworld.net



02/03/2023

Projet Superinsect : des déchets alimentaires à la nourriture pour insectes

(zonebourse.com) Projet Superinsect : des déchets alimentaires à la nourriture pour insectes 02 mars 2023 ...

www.zonebourse.com

27/02/2023

Farming insects on manure

Prof. dr. Leo Beukeboom's consortium researched the suitability of manure as a nutrient medium for breeding insects, which are a high-quality source of protein for humans and animals.

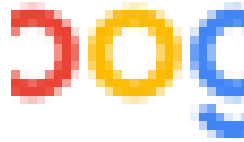
www.rug.nl

19/02/2023

Big Dutchman to discuss waste and insects at VIV Asia

Big Dutchman will stage two free seminars on livestock waste and insect farming during VIV Asia in Thailand. On March 8 at 3pm in Jupiter 11 ...

www.asian-agribiz.com



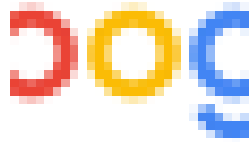
15/02/2023

From insect farmers to waste management: this company uses ... - create digital

From insect farmers to waste management: this company uses ... create digital

consent.google.com

14/02/2023



Working with Resource Insects to reduce food waste - Tesco PLC

Working with Resource Insects to reduce food waste Tesco PLC

consent.google.com



10/02/2023

"Insect manure": could frass be the organic fertiliser of the future?

In the global quest to achieve net-zero emissions by 2050, the focus is overwhelmingly on measures that must be taken to reduce the amount of ...

www.ynsect.com



08/02/2023

Manger des insectes et finir en compost humain

Le 31 janvier, Elodie Jacquier-Laforge, vice-présidente de l'Assemblée nationale et députée MoDem de l'Isère, a présenté une proposition de loi

...

www.medias-presse.info

02/03/2023

Apparent Digestibility Coefficients of Black Soldier Fly (*Hermetia illucens*), Yellow Mealworm (*Tenebrio molitor*), and Blue Bottle Fly (*Calliphora vicina*) Insects for Juvenile African Catfish ...

A digestibility trial was conducted with African catfish hybrid juveniles in order to determine the apparent digestibility coefficients (ADCs) of different nutrients. The experimental diets contained defatted black soldier fly (BSL), yellow ...

pubmed.ncbi.nlm.nih.gov

[yellow mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

17/02/2023

Insects, Vol. 14, Pages 204: Bioconversion of Different Waste Streams of Animal and Vegetal Origin and Manure by Black Soldier Fly Larvae *Hermetia illucens* L. (Diptera: Stratiomyidae)

Black soldier fly larvae (BSFL) are considered a commercially viable solution for global organic waste problems. The objective of this study was to assess the feasibility of rearing BSFL on a wide range of low-value waste streams and its potential ...

www.mdpi.com

[hermetia illucens](#) [black soldier fly](#)

27/01/2023

Enhanced protein degradation by black soldier fly larvae (*Hermetia illucens* L.) and its gut microbes

Black soldier fly larvae (BSFL) can convert a variety of organic wastes into biomass, and its gut microbiota are involved in this process. However, the role of gut microbes in the nutrient metabolism of BSFL is unclear. In this study, germ-free ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

06/03/2023

Insects, Vol. 14, Pages 261: Influence of Dietary Protein Content on the Nutritional Composition of Mealworm Larvae (*Tenebrio molitor* L.)

The use of insects as livestock feed is becoming increasingly accepted because they provide an important source of protein. The purpose of this study was to investigate the chemical composition of mealworm larvae (*Tenebrio molitor* L.) reared ...

www.mdpi.com

[yellow mealworm](#) [mealworm](#) [hermetia illucens](#) [black soldier fly](#) [tenebrio molitor](#)

01/03/2023

THE GUT MICROBIOME ASSOCIATED TO HONEYBEES AND WASTE-REDUCING INSECTS ...

Insects are the most diverse group of animals on Earth and are adapted to a wide range of habitats. They have a remarkable impact on the human life: they include not only human and animal parasites, crop pests, or vectors of human, animal and ...

dx.doi.org

[hermetia illucens](#) [black soldier fly](#)

27/01/2023

Efficient use of agricultural waste to naturally fortify *Tenebrio molitor* mealworms and evaluation of their nutraceutical properties

Circular economy principles aim to maintain resources in the economic circle. Accordingly, the use of agricultural waste and its transformation into novel products is a smart approach that creates benefits for the environment, industries and ...

dx.doi.org

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

27/01/2023

Use of distillery by-products as *Tenebrio molitor* mealworm feed supplement

Agricultural and industrial waste represent valuable starting materials to create novel products with economic value added. Winery industry represents an important economic sector in Italy, which produces tons of by-products every year. Global ...

dx.doi.org

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

21/01/2023

The Variety of Applications of *Hermetia illucens* in Industrial and Agricultural Areas-Review

Hermetia illucens (Diptera: Stratiomyidae, Linnaeus, 1778), commonly known as the black soldier fly (BSF), is a saprophytic insect, which in recent years has attracted significant attention from both the scientific community and industry. The ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

15/01/2023

Decomposition and humification process of domestic biodegradable waste by black soldier fly (*Hermetia illucens* L.) larvae from the perspective of dissolved organic matter

Black soldier fly larvae (*Hermetia illucens* L.) (BSFL) bioconversion is a promising technology for domestic biodegradable waste (DBW) management and resource recovery. However, little is known about the DBW biodegradation during the BSFL bio...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

23/01/2023

Processes, Vol. 11, Pages 362: Biogas Production from Residues of Industrial Insect Protein Production from Black Soldier Fly Larvae *Hermetia illucens* (L.): An Evaluation of Different Insect Frass ...

Insect biomass shows promise as an alternative animal feedstuff with a low climate effect. Industrial insect rearing generates residual materials, such as feed remains and insect excrements, so-called insect frass, which exhibits a high organic ...

www.mdpi.com

[hermetia illucens](#) [black soldier fly](#)

17/01/2023

Hermetia illucens frass improves the physiological state of basil (*Ocimum basilicum* L.) and its nutritional value under drought

To counterbalance the growing human population and its increasing demands from the ecosystem, and the impacts on it, new strategies are needed. Use of organic fertilizers boosted the agricultural production, but further increased the ecological ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

14/01/2023

Insect biorefinery: A circular economy concept for biowaste conversion to value-added products

With rapid growing world population and increasing demand for natural resources, the production of sufficient food, feed for protein and fat sources and sustainable energy presents a food insecurity challenge globally. Insect biorefinery is ...

pubmed.ncbi.nlm.nih.gov

08/01/2023

Amino acid digestibility and protein quality of mealworm-based ingredients using precision-fed cecectomized rooster assay

Mealworms may serve as an alternative protein source for pet foods because of their high protein content and low environmental footprint. The amino acid (AA) content and protein quality of mealworm-based ingredients may vary depending on their ...

pubmed.ncbi.nlm.nih.gov

[tenebrio molitor](#) [mealworm](#)

08/01/2023

The Effect of Mealworm Frass on the Chemical and Microbiological Properties of Horticultural Peat in an Incubation Experiment

Insect farming is growing in popularity, and in addition to insect meal, it generates waste products such as exuviae and frass, which can be recycled in agriculture. The aim of this incubation experiment was to evaluate the effect of *Tenebrio* ...

pubmed.ncbi.nlm.nih.gov

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

08/01/2023

Polyurethane Foam Residue Biodegradation through the *Tenebrio molitor* Digestive Tract: Microbial Communities and Enzymatic Activity

Polyurethane (PU) is a widely used polymer with a highly complex recycling process due to its chemical structure. Eliminating polyurethane is limited to incineration or accumulation in landfills.

Biodegradation by enzymes and microorganisms ...

pubmed.ncbi.nlm.nih.gov

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

08/01/2023

Spirulina-enriched Substrate to Rear Black Soldier Fly (*Hermetia illucens*) Prepupae as Alternative Aquafeed Ingredient for Rainbow Trout (*Oncorhynchus mykiss*) Diets: Possible Effects on Zootechnical ...

In the present study, an organic substrate (coffee silverskin) enriched with spirulina (*Arthrospira platensis*; 15% w/w), as a source of lipids and bioactive molecules, was used to rear the black soldier fly (*Hermetia illucens*) prepupae. Three ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

08/01/2023

Effects of *Hermetia illucens* Larvae Meal and Astaxanthin as Feed Additives on Health and Production Indices in Weaned Pigs

Weaning is a critical period in farming, and therefore, searching for health-promoting feed additives of natural origin is necessary. This study aimed to evaluate the effects of full-fat *H. illucens* larvae meal (HI) and astaxanthin (AST) sup...

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[hermetia illucens](#) [black soldier fly](#)

31/12/2022

Polymers, Vol. 15, Pages 204: Polyurethane Foam Residue Biodegradation through the *Tenebrio molitor* Digestive Tract: Microbial Communities and Enzymatic Activity

Polyurethane (PU) is a widely used polymer with a highly complex recycling process due to its chemical structure. Eliminating polyurethane is limited to incineration or accumulation in landfills.

Biodegradation by enzymes and microorganisms ...

www.mdpi.com

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

30/12/2022

Life-history traits of black soldier fly reared on agro-industrial by-products subjected to three pre-treatments: a pilot-scale study

Agrarian production generates approximately 190 million tons of agro-industrial by-products (AIBP) per year that are often disposed of without proper treatment, causing health hazards and environmental pollution. The black soldier fly (BSF; ...

[dx.doi.org](#)

[hermetia illucens](#) [black soldier fly](#)

26/12/2022

Effect of biodegrading polyethylene, polystyrene, and polyvinyl chloride on the growth and development of yellow mealworm (*Tenebrio molitor*) larvae

Yellow mealworm (*Tenebrio molitor* L.) larvae can depolymerize and degrade polyethylene (PE), polystyrene (PS), and polyvinyl chloride (PVC). In this study, mealworms were utilized to biodegrade PE, PS, and PVC. Additionally, the effects of plastic ...

[pubmed.ncbi.nlm.nih.gov](#)

[yellow mealworm](#) [tenebrio molitor](#) [hermetia illucens](#)
[black soldier fly](#)

25/12/2022

Evaluation of standardized ileal digestibility of amino acids and metabolic availability of methionine, using the indicator amino acid oxidation method, in black soldier fly larvae (*Hermetia* ...

Standardized ileal digestibility (SID, %) of crude protein (CP) and amino acid (AA) and the metabolic availability (MA) of Met using the indicator amino acid oxidation (IAAO) method, in partially defatted black soldier fly larvae (PD-BSFL) meal ...

[pubmed.ncbi.nlm.nih.gov](#)

[hermetia illucens](#) [black soldier fly](#)

23/12/2022

Recycling, Vol. 8, Pages 1: The Potential of Valorized Sisal Decorticated Waste in Rearing of Black Soldier Fly

The use of sisal decorticated waste (SDW) for various applications is limited due to its high acidic content. This is the first study of its kind regarding the use of SDW as a substrate for the growth of the black soldier fly (BSF). Pre-treatment ...

[www.mdpi.com](#)

[hermetia illucens](#) [black soldier fly](#)

23/12/2022

Unwelcome guests at farms breeding the black soldier fly, *Hermetia illucens* (L.) (Diptera Stratiomyidae)

Livestock farms represent a source of attraction for other species, which find food resources on the animals themselves, in the food supplied to them, in their manure, etc. Insect farms too can suffer infestation by different organisms living ...

[dx.doi.org](#)

[hermetia illucens](#) [black soldier fly](#)

23/12/2022

Effects of dietary black soldier fly larvae on performance of broilers mediated or not through changes in microbiota

A total of 40 one-day-old male Ross chickens were individually fed a commercial feed with either 0 or 8% of de-frosted larvae of black soldier flies (BSF; wet weight). We recorded daily body weights and feed intake of each chicken for a period ...

[dx.doi.org](#)

[hermetia illucens](#) [black soldier fly](#)

21/12/2022

Introducing insect- or plant-based dinner meals to families in Denmark: study protocol for a randomized intervention trial

This study aims to integrate ALTERNATIVE proteins to main meals of 80 DANISH families through a 6-week two-arm randomized intervention TRIAL to investigate acceptance, consumption, and potential for meat replacement. The primary outcome is the ...

pubmed.ncbi.nlm.nih.gov

20/12/2022

Foods, Vol. 12, Pages 1: Consumer Attitudes and Acceptability of Wheat Pancakes with the Addition of Edible Insects: Mealworm (*Tenebrio molitor*), Buffalo Worm (*Alphitobius diaperinus*), and Cricket ...

The aim of this study was to determine the degree of acceptability of wheat pancakes with the addition of 10%, 20%, and 30% meal from three edible insect species (*Alphitobius diaperinus*, *Tenebrio molitor*, *Acheta domesticus*, respectively). Both ...

www.mdpi.com

[tenebrio molitor](#) [hermetia illucens](#)

16/12/2022

Partial or total replacement of soybean oil by black soldier fly larvae (*Hermetia illucens* L.) fat in broiler diets: effect on growth performances, feed-choice, blood traits, carcass characteristics ...

The present research studied for the first time the potential application of the fat derived from the black soldier fly larvae fat (BSLF) in substitution to the soybean oil in the diet for broiler chickens: growth performances, feed-choice, ...

dx.doi.org

20/12/2022

IJERPH, Vol. 20, Pages 21: The Effect of Mealworm Frass on the Chemical and Microbiological Properties of Horticultural Peat in an Incubation Experiment

Insect farming is growing in popularity, and in addition to insect meal, it generates waste products such as exuviae and frass, which can be recycled in agriculture. The aim of this incubation experiment was to evaluate the effect of *Tenebrio ...*

www.mdpi.com

[mealworm](#) [tenebrio molitor](#) [hermetia illucens](#) [black soldier fly](#)

16/12/2022

Does the presence of heavy metal and catechol contaminants in organic waste challenge the physiological performance of the bioconverter *Hermetia illucens*?

The increased human activities and the worldwide population growth are constantly increasing the production of solid wastes. Over the years, waste management has thus become a prominent issue for several companies and municipalities, and several ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

12/12/2022

[hal-03876368] Changes in Bacterial Community Structure Across the Different Life Stages of Black Soldier Fly (*Hermetia illucens*)

The digestive capacity of organic compounds by the black soldier fly (BSF, *Hermetia illucens*, Diptera: Stratiomyidae, Linnaeus, 1758) is known to rely on complex larva-microbiota interactions. Although insect development is known to be a driver ...

hal.archives-ouvertes.fr

[hermetia illucens](#) [black soldier fly](#)

11/12/2022

Improvements in Performance of Nursery Pigs Provided with Supplemental Oil Derived from Black Soldier Fly (*Hermetia illucens*) Larvae

The current study evaluated the impact of increasing levels of supplemental black soldier fly larvae (BSFL) oil, a novel and sustainable feed ingredient, on growth performance and blood chemistry indices in nursery pigs. Pigs were weaned at ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

05/12/2022

Black soldier fly turns agro-industrial food waste into organic fertilizer: cost- and eco-effectiveness from a circular economy perspective ...

The sustainable utilization of black soldier fly (BSF) for recycling organic waste into high-quality protein feed and organic fertilizer with a low environmental footprint is gaining momentum worldwide. Although BSF farming is becoming a rapidly ...

dx.doi.org

[hermetia illucens](#) [black soldier fly](#)

09/11/2022

Principles for the responsible use of farmed insects as livestock feed | Nature Food

Alejandro Parodi, Allyson F. Ipeam, Hannah H, E. Van Zanten, J. Elizabeth Bolhuis, Joop J.A, Van Loon & Imke J.M. De Boer

www.nature.com

10/12/2022

Bioconversion of fruit waste and sewage sludge mixtures by black soldier fly (Diptera: Stratiomyidae) larvae

Bioconversion of fruit waste (FW) and sewage sludge (SS) sludge mixtures into valuable products was investigated using black soldier fly (*Hermetia illucens*) larvae (BSFL) under a lab-scale trial. For that, five different setups of FW and SS ...

pubmed.ncbi.nlm.nih.gov

[hermetia illucens](#) [black soldier fly](#)

04/11/2022

How to convince people to eat insects

Proceedings of the National Academy of Sciences, Volume 119, Issue 46, November 2022.

www.pnas.org

Product - media

Sources : mainstream media, regulatory sources, institutionnal, company,..



19/04/2023

How France became the unlikely home of the insect-farming industry?

The country is known for its love of meat. Could the growing insect industry help to reduce agricultural carbon emissions?

www.nature.com

[black soldier fly](#) [hermetia illucens](#)
[tenebrio molitor](#) [mealworm](#)



05/02/2023

Insect protein maker raises \$250m in funding round

PARIS — Biotech developer Innovafeed has raised \$250 million in a Series D funding round led by the Qatar Investment Authority. As a producer ...

delectiousfood.com



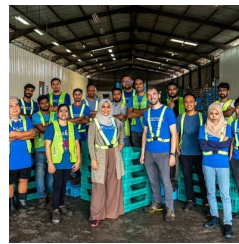
02/02/2023

Aquafeed.com | A look at insect production efficiency for a more affordable insect ...

How production costs and final insect meal prices can be reduced to allow a more rapid scale-up and wide use, especially in aquafeeds?

www.aquafeed.com

[black soldier fly](#) [hermetia illucens](#)
[mealworm](#) [tenebrio molitor](#)



02/02/2023

Aquafeed.com | The Yield Lab Asia Pacific invests in insect meal producer

Protenga welcomes the Yield Lab Asia Pacific to support expansion with 2nd generation smart insect farm production platform.

www.aquafeed.com



06/02/2023

Funding puts insect protein maker ahead of food security fight

By 2050, the global population is projected to reach 10 billion people. Current food production systems will be unable to meet the growing demand ...

www.harvestsa.co.za

[black soldier fly](#) [hermetia illucens](#)

aquafeed.

12/02/2023

Aquafeed.com | EU - Insect protein use in aquafeed likely within 12 months, says ...

DG Santé, the European Commission's Directorate-General for Health and Food Safety, is currently reviewing legislation to allow insect derived ...

www.aquafeed.com



15/02/2023

The Folding Phone Screens Made Of Insect Protein

Folding smartphones of the future could have screens made of insect protein. It's the most elastic material on earth, and it's what allows a ...

nocamels.com



21/02/2023

Amendments to the government decree for foods containing insect protein have been published

On Tuesday, the amendment to the government decree on food information related to foods containing insect protein was published on the government ...

trademagazin.hu



16/02/2023

Insect protein may be beneficial in the battle against obesity

According to the WHO, obesity is a health concern of "epidemic proportions" [1]. Globally, the incidence of obesity has tripled in the past 35 ...

www.ynsect.com

[mealworm](#) [tenebrio molitor](#)



21/02/2023

Finland to open country's first circular insect protein production plant

Image

Ingredient supplier Volare is expected to produce 5,000 tons of insect protein and lipids.

The ...

globalpetindustry.com

[black soldier fly](#) [hermetia illucens](#)



22/02/2023

The Black Soldier Fly Insect Larvae Enterprise for COVID-19 Livelihood Resilience Project Launched at CoVAB

The College of Veterinary Medicine, Animal Resources and Biosecurity (CoVAB) in Collaboration with Michigan State University has embarked on ...

news.mak.ac.ug

[hermetia illucens](#) [black soldier fly](#)



23/02/2023

Aquafeed.com | FRANCE - Uber, Deliveroo investor backs French-Tunisian insect meal ...

French-Tunisian agri-tech startup nextProtein, which produces animal feedstock from insect larvae, has secured €1.3 million in fundraising to ...

www.aquafeed.com

[hermetia illucens](#) [black soldier fly](#)

23/02/2023

Aquafeed.com | Study finds inclusion of insect meal in extruded feeds does not ...

As the popularity of insects in aquafeeds grows, research to investigate the effects of substituting freshwater shrimp meal with black soldier ...

www.aquafeed.com

[black soldier fly](#) [hermetia illucens](#)



24/02/2023

Aquafeed.com | EFSA's favorable opinion on insect meal safety for human consumption ...

This opinion results from the application submitted by French insect company Agronutris in 2018.

www.aquafeed.com

[mealworm](#) [yellow mealworm](#)
[tenebrio molitor](#)

27/02/2023

Israel commits to increase the potential of its insect protein sector

A consortium of 8 companies joined forces to accelerate the country's role as a black soldier fly (BSF) producer for pet feed solutions.

globalpetindustry.com

[black soldier fly](#) [hermetia illucens](#)



03/03/2023

Waitrose diverting surplus food to feed sector in new trial, Tesco championing waste to insect protein model

Waitrose has started trials diverting surplus food to the animal feed sector; It says the exercise should prevent 70% of food going to waste. ...

www.feednavigator.com



28/02/2023

Salon de l'agriculture. Cet insecte va produire les engrais de demain

La société française Ynsect, présente au Salon de l'agriculture, mise sur un petit ver de farine, le ténébrion meunier, pour remplacer les engrais minéraux et organiques.

www.ouest-france.fr

[yellow mealworm](#) [tenebrio molitor](#)



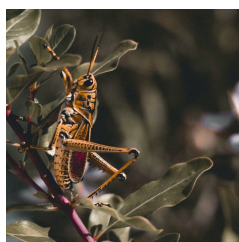
06/03/2023

Insect protein set to unlock the future of African agriculture

Tanzania-based agricultural technology startup, BioBuu, has announced the successful raise of US\$200,000 in seed funding from the GIIG Africa ...

thegreentimes.co.za

[black soldier fly](#) [hermetia illucens](#)



06/03/2023

Use of insect protein in poultry feeding

The following is a review of the use of some insect species as a promising way of solving the protein supply problem. The use of conventional ...

www.allaboutfeed.net

07/03/2023

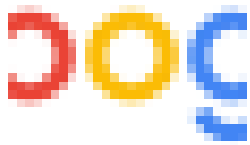
The decree has come out: this is what insect protein-containing products will look like in the future

Based on the decision of the European Commission, from January this year, 4 insect species can appear as food ingredients on store shelves in ...

trademagazin.hu

[mealworm](#) [tenebrio molitor](#)

07/03/2023



Nutrition Technologies approved to sell insect meal to EU and UK ... - FeedNavigator.com

Nutrition Technologies approved to sell insect meal to EU and UK

... FeedNavigator.com

consent.google.com

[black soldier fly](#) [hermetia illucens](#)

15/03/2023

Insect protein industry bites back at climate change and malnutrition despite dietary limitations

--- Insect protein can help feed a growing world population and contribute to environmental sustainability goals, but the rise of plant-based diets and complications around halal and kosher certifications threaten to dilute the... ..

www.foodingredientsfirst.com

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17/03/2023

Where are we at with insect protein as an ingredient in 2023?

Learn the latest on insect protein as a pet food ingredient in North America, including regulations and where the trend is heading.

www.petfoodindustry.com



17/03/2023

Aquafeed.com | Premium insect meal producer is looking for investors

Thai insect producer Flylab produces BSF insect meal with a 60-65% minimum of protein and plans to close the series A round in April.

www.aquafeed.com



23/03/2023

In Italy, a regulation regulates the sale of foods containing insect meal

In Italy, the Ministry of Agriculture, the Ministry of Health and the Ministry for the Protection of National Products regulate the labeling ...

trademagazin.hu



24/03/2023

New world comes to Hungary: "Attention! Food contains insect protein!"

... insects on the market as food and food ingredients in the EU ... of Agriculture has amended its food labelling regulation to provide accurate ...

food.einnews.com

[mealworm](#) [tenebrio molitor](#)



24/03/2023

"Government corrected intervention on insect meal"

"90% of the proposals presented by ministers Schillaci, Lollobrigida and D'Urso, with the decrees on insect...

time.news

[mealworm](#) [tenebrio molitor](#)



30/03/2023

IFC backs Entobel for production expansion of insect meal

Entobel has partnered with the International Finance Corporation (IFC) to scale up its operations in Vietnam. IFC will support the early-stage ...

www.asian-agribiz.com



31/01/2023

The insect protein industry is flying high London-based Entocycle secures €4.6 million

London-based Entocycle has just raised €4.6 million for its tech solutions advancing the future of insect proteins for a more sustainable world. ...

www.eu-startups.com

25/01/2023

FlyFeed CEO: "Insect protein production contributes to the circular economy"

--- Current agricultural systems are failing to feed the global population sustainably. According to FlyFeed, an international insect farming start-up from Estonia, this problem will deepen with the growing demand for protein... ..

www.nutritioninsight.com



15/12/2022

Insect protein maker to build second US facility

Ynsect's project is expected to begin in late 2023.

www.foodbusinessnews.net

[mealworm](#) [tenebrio molitor](#)



15/12/2022

Petgood raises €2.5 million to "spread awareness" of insect protein

The Swedish pet food manufacturer will use the capital injection to boost its R&D capabilities and expand across Europe.

globalpetindustry.com

[black soldier fly](#) [hermetia illucens](#)



01/12/2022

Insect protein could help curb \$23 billion worth of food lost each year - AgFunderNews

Insect protein could help curb \$23 billion worth of food lost each year AgFunderNews

agfundernews.com

19/04/2023

Fate of polychlorobiphenyls in *Tenebrio molitor* larvae: consequences for further use as food and feed | Journal of Insects as Food and Feed

This study explored the ability of *Tenebrio molitor*, one of the most widely bred and traded insect species in Europe, to bioaccumulate polychlorobiphenyls (PCBs) from their feeding substrate. *T. molitor* larvae were reared for 20 days in a te...

www.wageningenacademic.com

[yellow mealworm](#) [tenebrio molitor](#)

11/03/2023

The Effects of Two Organic Soil Amendments, Biochar and Insect Frass Fertilizer, on Shoot Growth of Cereal Seedlings

To mitigate the environmental harm associated with high-input agriculture, arable farmers are increasingly required to maintain productivity while reducing inputs of synthetic fertilizers. Thus, a diverse range of organic products are now being ...

pubmed.ncbi.nlm.nih.gov

[black soldier fly](#) [hermetia illucens](#)

15/12/2022

[anses-03899707] Egg fatty acid profiles and potential health risk from defatted insect meal in laying hens' diets

Insects, a staple feed for wild birds and free ranging poultry, have a relatively high protein quality and are a promising feed for commercial poultry. Replacing soybean meal with insect derived feeds potentially reduces dependency on feed imports, ...

hal-anses.archives-ouvertes.fr

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06/03/2023

Linking frass and insect phenology to optimize annual forest defoliation estimation

It is often logistically impractical to measure forest defoliation events in the field due to seasonal variability in larval feeding phenology (e.g., start, peak, and end) in any given year. As such, field data collections are either incomplete ...

pubmed.ncbi.nlm.nih.gov

31/01/2023

Insects, Vol. 14, Pages 147: *Tenebrio molitor* as a Clean Label Ingredient to Produce Nutritionally Enriched Food Emulsions

Tenebrio molitor flour, a sustainable source of protein and bioactive compounds, was used as a clean label ingredient in order to reformulate a commercial hummus sauce, replacing egg yolk and modified starch, improving its nutritional quality. ...

www.mdpi.com

[mealworm](#) [tenebrio molitor](#)

14/12/2022

Properties of insect protein concentrate and potential application in seasoned rice noodles

In this study, we extracted proteins from four edible insect species (*Acheta domesticus*, *Gryllus bimaculatus*, *Holotrichea* sp., and *Gryllotalpa orientalis*), then evaluated their chemical and functional properties and used the extracts to prepare ...

pubmed.ncbi.nlm.nih.gov

01/01/2023

Sustainability, Vol. 15, Pages 786: Fishmeal Replacement by Full-Fat and Defatted *Hermetia illucens* Prepupae Meal in the Diet of Gilthead Seabream (*Sparus aurata*)

Insect proteins are considered as suitable low environmental impact alternatives to fishmeal for sustainable aquafeeds. Among the different insect species, *Hermetia illucens* has attracted research and industrial interest due to its ability to ...

www.mdpi.com

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11/01/2023

Dietary supplementation with full-fat *Hermetia illucens* larvae and multi-probiotics, as a substitute for antibiotics, improves the growth performance, gut health, and antioxidative capacity of ...

Background Dietary supplementation of full-fat black soldier fly larvae (BSFL full-fat meal; alone or in combination with multi-probiotics) was tested as an alternative to dietary antibiotics in weaning piglets. We also tested the effects of ...

bmcvetres.biomedcentral.com

[black soldier fly](#) [hermetia illucens](#)

12/12/2022

Assessing amino acid solubility of black soldier fly larvae meal in Atlantic salmon (*Salmo salar*) in vivo and in vitro

In vitro and in vivo methods were used to evaluate amino acids solubility of black soldier fly (BSF) larvae meal and two experimental diets (reference and test diets) for Atlantic salmon. The current study used in vitro method such as pH stat ...

pubmed.ncbi.nlm.nih.gov

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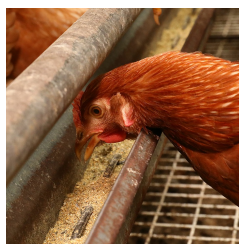
27/03/2023

Insect feed for poultry of growing interest in Australia - WATTAgNet Industry News & Trends

Insect feed for poultry of growing interest in Australia WATTAgNet Industry News & Trends

www.wattagnet.com

[black soldier fly](#) [hermetia illucens](#)



24/03/2023

Insect-based poultry diets to improve the health and gut status - All ... - All About Feed

Insect-based poultry diets to improve the health and gut status - All ... All About Feed

www.allaboutfeed.net

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22/03/2023

Africa: Female founder flags circular feed potential of insect production - FeedNavigator.com

Africa: Female founder flags circular feed potential of insect production FeedNavigator.com

www.feednavigator.com

18/03/2023

A chain of insect proteins for animal feed

Founded in 2018, Invers has created a local on-farm insect production chain. This company allows farmers to recover cereal residues and insect proteins are used to make animal feed. Meeting with the co-founder and president of the company. It ...

www.archyde.com

[mealworm](#) [tenebrio molitor](#)

10/03/2023

FarmInsect Automated turnkey insect rearing farm. Enabling farmers to produce their own sustainable insect protein feed

FarmInsect responds to the global need for alternative protein sources for animal feed in a sustainable and efficient way for farmers. FarmInsect is the first Insect company to put existing farmer in the center of the solution. Utilizing BSF ...

cordis.europa.eu

10/03/2023

Flylab Expanding to Cater to Growing Thai Demand for Insect-Based Ingredients for Aqua Feed - VIV Asia

In late December 2022, Flylab Tech Co., Ltd. - a black soldier fly (BSF) ingredient start-up company based in Chiang Mai, Thailand - closed pre-series A funding rounds, raising \$1 million. The company used the funds ...

www.feedinfo.com

[black soldier fly](#) [hermetia illucens](#)

25/02/2023

Insect Farming Is Taking Shape as Demand for Animal Feed Rises | MIT Technology Review

As the world grows hungrier for animal protein, insects could be the new way to feed livestock.

www.technologyreview.com

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15/05/-0018

quafeed.

Aquafeed.com | Insects to Feed the World conference in China

Organizers of the 2nd International Conference on Insects to Feed the World are calling for papers to be presented at the conference, which will ...

www.aquafeed.com



20/02/2023

Itt insect raises €625,000 to commercialise sustainable fish feed, made using insects

Rome-based insect aquaculture feed developer Itt insect has raised €625,000 in pre-seed funds. The round was backed by CDP Venture Capital's Ac... tech.eu



20/02/2023

Feed insects: Information key to consumer acceptance

Including insects in poultry diets can provide animal welfare and health benefits as an environmental enrichment tool and a nutrient source. ... www.allaboutfeed.net



18/02/2023

Insects as ingredients in poultry feed have benefits for meat quality and antibiotic resistance

In recent years, as dieticians and environmentalists alike have been advising us to reduce our consumption of red meat, the poultry industry ... www.ynsect.com

quafeed.

13/02/2023

Aquafeed.com | NORWAY - Counting on insects for future fish feeds

The Research Council of Norway has allocated NOK 13 million to the AquaFly project. The project will spend the next four years investigating ... www.aquafeed.com



13/02/2023

Insect production for animal feed in Caribbean

The Insect Bioreactor Pilot Plant will be used for demonstration and training on the production of the Black Soldier Fly for Grenada View ... nowgrenada.com

[black soldier fly](#) [hermetia illucens](#)



08/02/2023

The potential of insects as feed

At the Oxford Farming Conference, delegates heard how insect bioconversion could offer an attractive future solution to the poultry feed problem. ... www.poultrynews.co.uk

[black soldier fly](#) [hermetia illucens](#)

[mealworm](#) [tenebrio molitor](#)



06/02/2023

Insect farming start-up tackles feed & food crises

Insect start-up FlyFeed to construct its first farm in Vietnam in 2023. All About Feed talked with FlyFeed founder Arseniy Olkhovskiy. Estonian ... www.allaboutfeed.net

[black soldier fly](#) [hermetia illucens](#)



03/02/2023

Crickets for everyone: in the country of meat they want to feed us with insects

Oddly enough, in the "country of meat" As Argentina was once known, there is no shortage of proposals from government entities to develop an ... www.archyde.com

[mealworm](#) [tenebrio molitor](#)

28/01/2023

Bhubaneswar start-up uses insects to produce animal feed from food waste - The Hindu

Bhubaneswar start-up uses insects to produce animal feed from food waste The Hindu

www.thehindu.com

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25/01/2023

Information key to consumer acceptance of feed insects

Including insects in poultry diets can provide animal welfare and health benefits as an environmental enrichment tool and a nutrient source. ...

www.poultryworld.net



18/01/2023

"People prefer to feed insects to their dogs before they eat them" - Tuggs founder Harry Bremner on navigating ...

... An insect-based, dog-food subscription brand. The resulting ... the environmental emissions related to food production. After ...

food.einnews.com

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[mealworm](#) [tenebrio molitor](#)



18/01/2023

Black Soldier Fly Awareness and Outreach with Insect School

Black Soldier Fly (BSF) farming is an effective and efficient way to manage food waste, create animal feed, and produce fertiliser. Image credit: Katja ...

gfmt.blogspot.com

[black soldier fly](#) [hermetia illucens](#)



16/01/2023

Insects as sustainable animal feed: real alternative?

Despite the growing number of vegetarian and vegan options, consumer demand for meat continues to rise. It is therefore important to also look ...

www.wur.nl



11/01/2023

IPIFF welcomes the first Commission's Implementing Regulation authorising lesser mealworm as a novel food

The International Platform of Insects for Food and Feed is very pleased about today's publication of the Commission's Implementing Regulation ...

ipiff.org

[mealworm](#) [tenebrio molitor](#)



10/01/2023

Hurdles remain for insect use in livestock feed

Costs of livestock feed containing insect products and legislation remain key obstacles for the European animal feed sector. Livestock feed containing ...

...

www.allaboutfeed.net



09/01/2023

Defatted BSFL meal, the best protein-rich substitute for soy

In a research, scientists studied four different inclusions of partly defatted BSFL meal from day 1 to day 35, as The post Defatted BSFL meal, ...

www.technologytimes.pk

[black soldier fly](#) [hermetia illucens](#)



03/01/2023

© Sarah2 | Dreamstime.com Two sites for insect production to be built in the US and Mexico Ynsect announced ...

Ynsect announced the construction of two production sites in the United States and Mexico. Ynsect, a specialist in insect-based animal feed, ...

www.verticalfarmdaily.com

22/12/2022

Less reliance on soy import: alternatives for animal feed, based on insects, algae and waste streams

Researcher Alfons Jansman (Livestock Research) kicks off the session with the facts & figures on use of soy in animals feeds: how much do we actually use and in what type of feed? He then discusses to what extent the share of soy in livestock ...

www.wur.nl



19/12/2022

Jana Vašíčková: The larva of a black soldier fly is the ideal of sustainability. A fascinating insect that ...

The larvae of a black soldier fly. A research topic that fascinated the scientist Jana Vašíčková so much that she began to study it in detail. ...

www.recetox.muni.cz

[black soldier fly](#) [hermetia illucens](#)

[mealworm](#) [tenebrio molitor](#)



19/12/2022

Ensuring safety of mealworm products

Image

With the growing demand for insect-based ingredients, particularly in the petfood and animal feed sector, ...

globalpetindustry.com

[mealworm](#) [tenebrio molitor](#)



19/12/2022

INSECT FISH FEED PRODUCER EXPANDS IN NORTH AMERICA

Ynsect, a certified B Corp company and world leader in the production of premium insect-based ingredients – including for fish feed – is entering ...

fishfocus.co.uk

[mealworm](#) [tenebrio molitor](#)



16/12/2022

FreezeM raises €6.3M in EIC funding to accelerate technological advancements in the insect protein industry

FreezeM, an Agri-tech company from Israel, announced it has raised €6.3M in European Innovation Council (EIC) funding. The combined grant and ...

www.verticalfarmdaily.com

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15/12/2022

Insect-for-feed: The AU-based FLYgene project holds national workshops in Kenya and Uganda to engage stakeholders ...

Funded by DANIDA, the Danish Ministry of Foreign Affairs, the FLYgene project organized two national stakeholder workshops in Kampala (Uganda) ...

ggg.au.dk

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06/12/2022

Key Insights on \$2.2 Billion Opportunity in the Insect Feed Industry | AgriProtein Holdings Ltd, Buhler AG, ...

According to a new report published by Allied Market Research, titled, "Insect Feed Market," The Insect Feed Market Size was valued at \$261.50 ...

www.openpr.com



05/12/2022

Researchers awarded grant to investigate use of edible insects in animal feed

Experts at Scotland's Rural College will carry out research into the use of the high protein food.

www.guernseypress.com

21/03/2023

Insects, Vol. 14, Pages 300: An Acyl Carrier Protein Gene Affects Fatty Acid Synthesis and Growth of *Hermetia illucens*

Acyl carrier protein (ACP) is an acyl carrier in fatty acid synthesis and is an important cofactor of fatty acid synthetase. Little is known about ACP in insects and how this protein may modulate the composition and storage of fatty acids. We ...

www.mdpi.com

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06/03/2023

[hal-04015977] Use of instant controlled pressure drop technology for the preservation of edible insects' (yellow mealworm) quality: assessment of microbial inactivation

The world population is expanding, and with it, so is the need for proteins for the food and feed sectors. Conventional livestock production is correlated with negative environmental repercussions such as global warming, land degradation, and ...

hal.utc.fr

[tenebrio molitor](#) [yellow mealworm](#)

08/01/2023

Consumer Attitudes and Acceptability of Wheat Pancakes with the Addition of Edible Insects: Mealworm (*Tenebrio molitor*), Buffalo Worm (*Alphitobius diaperinus*), and Cricket (*Ache... domesticus domesticus*)

The aim of this study was to determine the degree of acceptability of wheat pancakes with the addition of 10%, 20%, and 30% meal from three edible insect species (*Alphitobius diaperinus*, *Tenebrio molitor*, *Acheta domesticus*, respectively). Both ...

pubmed.ncbi.nlm.nih.gov

[mealworm](#) [tenebrio molitor](#)

18/03/2023

18/03/2023 : Insects as mini-livestock: Considering insect welfare in feed production

Type de document : article de position publié dans le Netherlands Journal of Agricultural Science 95(1):2191797. DOI :

<https://doi.org/10.1080/27685241.2023.2191797>

Auteurs : Anna Voulgari-Kokota, Martijn S. van Loon, ...

www.tandfonline.com

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12/01/2023

Insects as feed for livestock production - Science

Insect farming for livestock feed has the potential to replace conventional feed

www.science.org

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22/12/2022

[hal-02570723] Integrative Metabolomics for Assessing the Effect of Insect (*Hermetia illucens*) Protein Extract on Rainbow Trout Metabolism

Nutrition of high trophic species in aquaculture is faced with the development of sustainable plant-based diets. Insects seem particularly promising for supplementing plant-based diets. However, the complex effect of whole insect meal on fish ...

hal.inrae.fr

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21/12/2022

Modeling and optimal control of growth, energy, and resource dynamics of *Hermetia illucens* in mass production environment. (arXiv:2212.10348v1 [eess.SY])

Mass production of *Hermetia illucens* insect larvae is now being adopted in many countries and is taking an industrial production approach. Despite abundant literature on factors that affect larvae growth and the optimal static parameters identified

...

arxiv.org

[black soldier fly](#)

[hermetia illucens](#)

17/12/2022

Fishes, Vol. 7, Pages 395: Success of Aquaculture Industry with New Insights of Using Insects as Feed: A Review

Most of world's fish and seafood are produced by aquaculture, which is one of the biggest contributors to the world's food security. The substantial increase in prices of conventional feed ingredients and the over-exploitation ...

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