

# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



### Tuesday, September 12, 2023

19:00 Get – Together (Ratswaage Hotel Magdeburg - Ratswaageplatz 1-4, 39104 Magdeburg, Germany)

### Wednesday, September 13, 2023

07:30 – 08:30 Onsite Registration

Time	Topic	Speaker	Company / Institute
09:00	Welcome to Magdeburg and to INSECTA 2023	Dr. Sara Hadjali	Pilot Pflanzenöltechnologie Magdeburg e. V.
09:05	General Information	Dr. Thomas Piofczyk	Pilot Pflanzenöltechnologie Magdeburg e. V.

### KEYNOTE LECTURE: Room - Black Soldier Fly

09:10	Insect farming in the European Union: intersecting food systems, sustainability, and animal farming	Francis Maugère	Eurogroup for Animals, Belgium
09:40	The evolution of complete metamorphosis in insects	Dr. Christin Manthey	Max Planck Institute for Chemical Ecology, Germany

### Company Presentation: Room - Black Soldier Fly

10:10	The importance of precision feeding in insect farming	Geert Poels	VDL Insect Systems
10:20	Bühler & Entocycle: Leading the way in delivering industrial-scale insect solutions worldwide	Matthew Simmonds & Javier Artech Landi	Entocycle & Bühler

### 10:30 Coffee Break, Poster Exhibition, Sponsors Exhibition

### Session 1: Room - Black Soldier Fly: Processing & Commercialization; Chair: Prof. Dr. Arnold Van Huis

11:10	Processing of Larvae- Actual Trends	Stefan Kirchner	GEA, Germany
11:30	How to reach your commercial potential and how a supermarket could be unexpected help.	Bob Holtermans	INSECT Engineers BV, The Netherlands
11:50	Dielectric drying of black soldier fly larvae: impact on nutritional, chemical and microbiological quality and stability	Dries Vandeweyer, PhD	Research Group for Insect Production and Processing, KU-Leuven, Belgium

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### Session 2: Room - Grasshopper: SPECIAL: ValuSect Session 1; Chair: Dr. Geert Verheyen

11:10	Project description and online platform	Dr. Sabine Van Miert	Thomas More University of Applied Sciences, RADIUS, Geel, Belgium
11:30	CO <sub>2</sub> and ammonia emitted by <i>Tenebrio molitor</i> and <i>Acheta domestica</i>	Carl Coudron	Thomas More University of Applied Sciences, RADIUS, Geel, Belgium
11:50	Cultural Influences on Insect Food Acceptance: A Comparative Study in Europe	Dr. Natalia Naranjo-Guevara & Dr. Sonja Floto - Stammen	Thomas More University of Applied Sciences, RADIUS, Geel, Belgium

### Session 3: Room - Cricket: Processing 2; Chair: Dr. Katharina Haupenthal

11:10	Impact of enzymatically treated substrate on insect development and survival	Michał Krzyżaniak	University of Warmia and Mazury in Olsztyn, Olsztyn, Poland
11:30	Enhancing nutrient-poor substrates through Solid-State Fermentation: The Impact on nutritional value and the fate of secondary metabolites	Dr. Wael Yakti	Humboldt-Universität zu Berlin, Berlin, Germany
11:50	Comparative Assessment of Insect Processing Technologies for Sustainable Insect Protein Production	María Cámara Ruiz, PhD	Centro Tecnológico de la Energía y el Medio Ambiente (CETENMA), Spain

### Session 4: Room - Grasshopper: Insect Breeding; Chair: Dr. Martin Kulma

12:10	Preparing students of veterinary medicine for attending insect farms in Germany	Dr. Nils Th. Grabowski	Institute for Food Quality and Food Safety, University of Veterinary Medicine Hannover, Hannover, Germany
12:30	Selective breeding in Black Soldier Fly and what this can achieve in productivity	Desmond Cave	Beta Buds Ltd, United Kingdom
12:50	Scaling up fly mating chambers: lessons learned from operating 4m <sup>3</sup> and 24m <sup>3</sup> fly mating chambers	Seppe Salari	Insectocycle, The Netherlands

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### Session 5: Room – Black Soldier Fly: Insect Application in Non-Food; Chair: Dr. Oliver Schlüter

12:10	Insect fat of <i>Hermetia illucens</i> as base material for the production of biolubricants	Harald Wedwitschka & Dr. Thomas Piofczyk	DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Germany  Pilot Pflanzenöltechnologie Magdeburg e.V., Germany
12:30	Degradation of bioplastics by black soldier fly ( <i>Hermetia illucens</i> )	Dr. Matthias Gosselin	Service des matériaux polymères et composites, University of Mons, HEPH-Condorcet, Belgium
12:50	Effects of <i>Hermetia illucens</i> frass on growth and development of bean plants ( <i>Phaseolus vulgaris</i> L.)	Ann De Volder	KU Leuven, Department of Biosystems, Research Group for Sustainable Crop Production & Protection, Geel, Belgium

### Session 6: Room - Cricket: Insect & Environment; Chair: Prof. Dr. Onder Altuntas

12:10	The Development of Insect Biorefinery in Taiwan Toward Sustainable Feed and the Goal of Net Zero	Prof. Yu-Shen Cheng	National Yunlin University of Science and Technology
12:30	Practical adjustments in fly larvae composting when treating plant-based waste	Lovisa Lindberg	Environmental Engineering, Swedish University of Agricultural Sciences, Uppsala, Sweden
12:50	BSF health and welfare: Emerging challenges for the industry	Dr. Olivier Mesnil	Innovafeed, Paris, France

### 13:10 Lunch Break, Poster Exhibition, Sponsors Exhibition

### Session 7: Room - Black Soldier Fly: Microbes and Insects; Chair: Dr. Sarah Bothe

14:10	Microbiological profile of productive gryllid and tenebrionid frass before and after heat treatment	Dr. Nils Th. Grabowski	Institute for Food Quality and Food Safety, University of Veterinary Medicine Hannover, Hannover, Germany
14:30	Transmission of microorganisms across different life stages of black soldier fly ( <i>Hermetia illucens</i> ): Case study of <i>E. coli</i>	Noor Van Looveren	KU Leuven, Department of Microbial and Molecular Systems (M2S), Research Group for Insect Production and Processing (IP&P), Geel, Belgium

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### Session 8: Room - Grasshopper: SPECIAL: European Tenebrio Table 1; Chair: Dr. Simon Berner

14:10	<i>T. molitor</i> in circular economies: Key aspects of the implementation of <i>T. molitor</i> mass rearing in Austria	Dr. René Rehorska	FH JOANNEUM University of Applied Sciences, Graz, Austria
14:30	Innovative Entomological Solutions for Dietary Supplements	Alexia Nectoux, PhD	Centres de Recherches des Instituts Groupés de la Haute Ecole Libre de Mosane, Liège, Belgium
14:50	Modified wheat-bran-based artificial diet for mass culturing of mealworm ( <i>Tenebrio sp.</i> ): Implications on its biomass quality	Peter Musembi John	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya

### Session 9: Room - Cricket: Diet, Sensory, Nutrition; Chair: Prof. Dr. Hülya Altuntas

14:10	Nutritional, sensory and microbial characteristics of extruded millet and maize composite flours enriched with house crickets ( <i>Acheta domesticus</i> )	Tom Bbosa	Department of Microbial and Molecular Systems, Research Group for Insect Production and Processing, KU Leuven, Geel Campus, Geel, Belgium
14:30	Implementation of Chitin Analysis in the Weende Analysis: A Cost-Effective Approach for Assessing Chitin Content in Insect-Based Feed Ingredients and Mixed Feed	Patrick Sudwischer	Forschungsinstitut Futtermitteltechnik, Braunschweig, Germany
14:50	Biotransfer of heavy metals along the edible insect-human food chain: Implications for consumer safety	Susan Mwelwa	Copperbelt University, Kitwe, Zambia

### 15:10 Coffee Break and Poster Exhibition

### 15:40 Group Photo (Please gather at the Venue Entry)

### Session 10: Room - Black Soldier Fly: Heath and Microbes; Chair: Dr. Nils Th. Grabowski

16:00	Dietary protein levels affect health, development and immune responses of black soldier fly	Parth Shah	Laboratory of Entomology, Wageningen University & Research, the Netherlands
16:20	Enzymatic catalyzed oxidation in black soldier fly larvae ingredients: identification and activity evaluation of key enzymes	Ghina Kotob	Protix Ingredients B.V., The Netherlands
16:40	The versatile microbiome of <i>Hermetia illucens</i> guts and frass and its beneficial functions	Dr. Dorothee Tegtmeier	Fraunhofer Institute for Molecular Biology and Applied Ecology (IME), Giessen, Germany

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### Session 11: Room - Grasshopper: SPECIAL: European *Tenebrio* Table 2; Chair: Dr. René Rehorska

16:00	How can <i>T. molitor</i> be implemented as a sustainable source of protein in Austria	FH-Prof. DI Dr.-Ing. Simon Berner	FH JOANNEUM University of Applied Sciences, Graz, Austria
16:20	Sex determination in <i>Tenebrio molitor</i> beetles is difficult and inconsistent	Dr. Juliane Hirnet	Stiftung Tierärztliche Hochschule Hannover, Germany
16:40	Feed conversion of salad roots in <i>Tenebrio molitor</i> across larval development	Christian Schnorr	University of Applied Science Fulda, Germany

### Session 12: Room - Cricket: Feed & Fertilizer; Chair: Dr. Sebastian Berthold

16:00	Exploring the potential of black soldier fly-composted frass fertilizer in the control of nematodes and boosting potato yields in Africa	Emmanuel O. Anedo	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya
16:20	Quantifying dioxins and polycyclic aromatic hydrocarbons in edible insects from East Africa	Dr. Carolyne Kipkoech	German Federal Institute for Risk Assessment (BfR), Berlin, Germany
16:40	Effects of Gainesville diet fortification with steamed legumes on growth performance of Black Soldier Fly larvae compared to chicken feed	Thomas Freimuth	Research Institute for Farm Animal Biology (FBN), Dummerstorf, Germany

### Session 13: Room - Black Soldier Fly: Selective Breeding and Safety Assessment; Chair: Chandra Dev Borah

17:10	Advancing Black Soldier Fly selective breeding through computer vision-based phenotyping	Sarah Nawoya	Center for Quantitative Genetics and Genomics, Aarhus University, Denmark
17:30	Safety assessment of black soldier fly larvae reared on food waste	Dr. Ivã Guidini Lopes	Department of Biosystems and Technology, Swedish University of Agricultural Sciences, Alnarp, Sweden

**17:50** End of Lectures – Announcement – Room - Black Soldier Fly - Dr. Thomas Piofczyk

**19:30** Evening Event (Ratswaage Hotel Magdeburg - Ratswaageplatz 1-4, 39104 Magdeburg, Germany)

# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



Thursday, September 14, 2023

08:00 Gathering at Venue

Time	Topic	Speaker	Company / Institute
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### KEYNOTE LECTURE: Room - Black Soldier Fly

08:30	Optimizing insect industry with artificial intelligence (AI)	Urs Liebau	Center for digital GreenTech, August-Wilhelm-Scheer Institute, Clausthal, Germany
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### Company Presentation: Room - Black Soldier Fly

09:00	YOUR SOLUTION PARTNER FOR INSECT PROTEINS	Dr. Christian Kling	ANDRITZ AG
09:10	Company Presentation		Royal Dutch Kusters Engineering, The Netherlands
09:20	Insect farm automation: the benefits of data	Jasper van Dijke	Viscon Insect Technology
09:30	Jumping from the idea to an operative protein plant: Planning approach and best practice from the project management perspective	Artur Kühl	REINARTZ GmbH & Co. KG, Germany

### Session 14: Room - Black Soldier Fly: Food and Nutrition; Chair: Prof. Dr. Laura Gasco

09:55	Cuticle-reduced Black-Soldier-Fly-meal used as a sole source of the dietary protein shows casein-matching lean-mass retention efficiency and dietary-indispensable amino acids score in mice	Dr. Roeë Gutman	Laboratory of Integrative Physiology (LIP), MIGAL - Galilee Research Center, Department of Animal Sciences, Faculty of Sciences and Technology, Tel-Hai College, Israel
10:15	How to convince consumers to eat insects?	Prof. Dr. Ir. Arnold van Huis	Laboratory of Entomology, Wageningen University & Research, Wageningen, the Netherland
10:35	Black soldier fly larvae's role in transforming blends of dairy manure and soybean curd residue mixtures	Dr. Kashif ur Rehman	DIL Deutsches Institut für Lebensmitteltechnik e. V. (German Institute of Food Technologies), Germany

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### Session 15: Room - Grasshopper: Insect Processing for Food and Feed; Chair: Prof. Mik Van Der Borgh

09:55	Amsterdam residents' attitudes towards various scenarios of urban initiatives with edible insects	Dr. Maryia Mishyna	Food Quality & Design Group, Wageningen University & Research, Wageningen, the Netherlands
10:15	Effects of common regional by-products on performance and nutritive value of black soldier fly larvae (BSFL) in fattening	Laura Schneider	University of Applied Sciences Bingen, Germany
10:35	The effect of processing on nutritional value of insects: the case study with mealworm and Jamaican field cricket	Prof. Ing. Lenka Kourimska, Ph.D.	Department of Microbiology, Nutrition and Dietetics, Czech University of Life Sciences Prague, Praha, Czech Republic

### Session 16: Room - Cricket: Nutritive Value; Chair: Dr. Sebastian Berthold

09:55	Small-scale estimation of greenhouse gas emission from insects: the case of black soldier fly larvae on chicken feed	Giacomo Rossi	Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany
10:15	Iso waste-based diets as substrate for yellow mealworm larvae	Dr. Sara Bellezza Oddon	Department of Agriculture, Forest and Food Sciences, University of Turin, Italy
10:35	Inclusion of rapeseed meal in feed for Jamaican field crickets: effects on feed conversion, nutritional value, and metabolome	Dr. Martin Kulma	Department of Zoology and Fisheries, Czech University of Life Sciences Prague, Czech Republic

### 10:55 Coffee Break and Poster Exhibition

### 11:00 Warning Day (Warntag)

**(Your Mobile Phone will receive Test Warning Message – To be Conducted by Federal Ministry of the Interior and the Federal Office of Civil Protection and Disaster Assistance)**

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### Session 17: Room - Black Soldier Fly: Genetics & Genomics; Chair: Dr. Thomas Piofczyk

11:25 WGS sequencing reveals Genomic diversity in *Hermetia illucens* Ben Gradus, PHD/MBA NRGene, Israel

#### 11:45 Warning Day (Warntag)

**(Your Mobile Phone will receive Test Warning Message – To be Conducted by Federal Ministry of the Interior and the Federal Office of Civil Protection and Disaster Assistance)**

11:50 What are we missing in our genomes? Revealing the Hidden Variation in Black Soldier Fly Genomes Christine J Picard, PhD Department of Biology, Indiana University Purdue University Indianapolis (IUPUI), Indianapolis, IN USA

12:10 Improving black soldier fly genetics by crispr\cas9 gene editing Dr. Idan Alyagor FreezeM Cryogenics LTD, Israel

### Session 18: Room - Grasshopper: SPECIAL: ValuSect Session 2; Chair: Dr. Sabine Van Miert

11:25 Meeting the insect industry's demands: highlights from a voucher scheme Carl Coudron Thomas More University of Applied Sciences, RADIUS, Geel, Belgium

#### 11:45 Warning Day (Warntag)

**(Your Mobile Phone will receive Test Warning Message – To be Conducted by Federal Ministry of the Interior and the Federal Office of Civil Protection and Disaster Assistance)**

11:50 Ammonia emissions of *Hermetia illucens* larvae grown on different diets Siebe Berrens Thomas More University of Applied Sciences, RADIUS, Geel, Belgium

12:10 Implementing mealworm oil in cosmetics Dr. Geert Verheyen Thomas More University of Applied Sciences, RADIUS, Geel, Belgium

### Session 19: Room - Cricket: Food & Feed; Chair: Prof. Lenka Kourimska

11:25 Evaluation of poultry bloodmeal as a constituent of housefly larvae feed Esther Kangah University of Groningen, Groningen, The Netherlands

#### 11:45 Warning Day (Warntag)

**(Your Mobile Phone will receive Test Warning Message – To be Conducted by Federal Ministry of the Interior and the Federal Office of Civil Protection and Disaster Assistance)**

11:50 Cross-cultural survey on consumer acceptance of insect-based food in China and France Dr. Géraldine Boué / Xin Yan, PhD Oniris, INRAE, Nantes, France

12:10 Live insect larvae and meat quality in broiler chickens: can the different cooking methods influence meat proximate composition? Ilaria Biasato, DVM, PhD Department of Agricultural, Forest and Food Sciences, Department of Veterinary Sciences, University of Turin, Turin, Italy



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### 12:30 Poster Exhibition/ Fingerfood Imbiss

#### Session 20: Room - Black Soldier Fly: Special Application, Contamination, Insecticides; Chair: Prof. Dr. Laura Gasco

13:30	Live black soldier fly larvae improve growth performance and feed efficiency in broiler chicken rearing	Nathalie Stöhr	University of Applied Sciences Bingen, Germany
13:50	Rare earth elements bioaccumulation in <i>Hermetia illucens</i>	dr inż. Piotr Bulak, PhD	Institute of Agrophysics, Polish Academy of Sciences, Poland
14:10	Insecticidal potential of chitin-enhanced black soldier fly frass fertilizer extracts against onion fly ( <i>Atherigona orientalis</i> Schiner)	Lawrence Ouma Onyango	International Centre of Insect Physiology and Ecology, Nairobi, Kenya

#### Session 21: Room - Grasshopper: Miscellaneous: Contamination, Insecticides etc.; Chair: Chandra Dev Borah

13:30	Insects as feed: antibacterial and prebiotic potential and in-depth characterization of <i>Hermetia illucens</i> L. larvae and of their isolated protein, lipid, and chitin fractions	Maria Giulia Bonomini	University of Parma, Department of Food and Drug, Parma, Italy
13:50	Using insect-composted organic fertilizer to increase yield and economic returns of bush beans ( <i>Phaseolus vulgaris</i> )	Agnes Chepkorir	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya
14:10	Bridging the gap between R&D and commercial Black Soldier Fly farming	Vincent Reda	BETTER INSECT SOLUTIONS, Denmark

#### Session 22: Room - Cricket: Special *icipe* Session; Chair: Dr. Katharina Haupenthal

13:30	Insect Farming Innovations: Lessons from Africa	Dr. Chrysantus Mbi Tanga	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya
13:50	Socioeconomic and ecological impact of insect farming in sub-Saharan Africa	Dr. Menale Kassie	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya
14:10	Efficiency of garden fruit chafers to recycle animal manure: Implications on fertilizer quality, pathogen suppression and crop yield	Dr. Dennis Beesigamukama	International Centre of Insect Physiology and Ecology ( <i>icipe</i> ), Nairobi, Kenya

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Conclusion Speech & Prize Distribution: Room - Black Soldier Fly			
14:40	VDI Best Young Scientists Presentation Award & Public Interaction	Dr. Franziska Kersten	Member of the Bundestag (Social Democratic Party (SPD))
15:10	PPM Best Poster Award	Dr. Thomas Piofczyk & Dr. Sara Hadjiali	Pilot Pflanzenöltechnologie Magdeburg e. V. (PPM), Germany
15:20	Invitation to INSECTA 2024	Dr. -Ing. Oliver Schlüter	Leibniz-Institut für Agrartechnik und Bioökonomie e.V. (ATB), Germany
15:25	Group Photo (Please gather at the Venue Entry)		
15:30	End of Conference		

# INSECTA 2023 Program

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### POSTER PRESENTATIONS

POSTER NUMBER	POSTER TITLE
INS_POSTER_1	Incorporation of whole silkworm ( <i>Bombyx mori</i> L. 1758) pupae meal in rabbit feed: effects on growth and meat fatty acid profile quality
INS_POSTER_2	Safety and quality of farmed insects
INS_POSTER_4	Mealworm chitin as adsorbent in the removal of reactive dyes from aqueous solutions.
INS_POSTER_5	Attitude of owners and animals treated in veterinary clinics to mealworm-based pet food
INS_POSTER_6	CIPROMED: Alternative proteins exploitation in the Mediterranean food and feed chains
INS_POSTER_7	Management models to promote sustainability and resilience of agricultural production systems – The AGRITECH project
INS_POSTER_8	Individual reproduction performance as an efficient method of testing larval treatments on reproduction in adult stage
INS_POSTER_9	Microbiological quality of edible insect products
INS_POSTER_10	Effect of larval weight on quantity and quality of Mealworm protein isolates
INS_POSTER_11	Enzymatic conversion of Black Soldier Fly Larvae Oil to diols for the preparation of biogenic polyurethane foams
INS_POSTER_12	Simultaneous Determination of Chitin and amino acids by Ion-exchange-chromatography
INS_POSTER_13	Insect-based bioconversion of agricultural by-products into sustainable food
INS_POSTER_14	The bioaccumulation of rare earth elements in <i>Tenebrio molitor</i>
INS_POSTER_15	Performance of selectively bred Black Soldier Fly larvae in a production facility.
INS_POSTER_16	The newRIFF project: new life for Rice by-products and agricultural wastes: insects bioconversion for Fish Feed production
INS_POSTER_17	Influence of different substrates based on by-products of food processing on the performance of black soldier fly larvae
INS_POSTER_18	Novel approaches to age determination of <i>Hermetia illucens</i> adult flies (Diptera: Stratiomyidae)
INS_POSTER_19	Optimization of black soldier fly larvae (BSFL) feed conversion on industrial high-fiber side streams
INS_POSTER_20	Rearing black soldier fly larvae (BSFL) on industrial side-streams/by-products gaining valued frass as fertilizer
INS_POSTER_21	PauseM-Direct - Nursery in a package
INS_POSTER_22	Assessing the taxonomic and functional diversity of the Black Soldier Fly microbiome
INS_POSTER_23	EFFECT OF ADDITIVES TO BLANCHING WATER OF MEALWORMS
INS_POSTER_24	Environmental Impacts of <i>Hermetia illucens</i> Protein Production: A Life Cycle Assessment and Comparative Analysis

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INS_POSTER_25	Novel biomolecules from native myrmicine ants exploited for new applications
INS_POSTER_26	Self-selection feed design for crickets ( <i>Gryllus Bimaculatus</i> ) at different growth stages using food waste
INS_POSTER_27	The potential of monitoring system for <i>Gryllus Bimaculatus</i> based on loadcells and computer vision
INS_POSTER_28	Nutritional quality of <i>Tenebrio molitor</i> proteins obtained by Osborne fractionation
INS_POSTER_29	The use of waste polystyrene as feed for mealworms ( <i>Tenebrio molitor</i> )
INS_POSTER_30	Optimal balance between protein and carbohydrate in industrial diet for black soldier fly larvae ( <i>Hermetia illucens</i> ).
INS_POSTER_35	Black soldier fly larvae production performances are optimized by the supplementation of a multi-carbohydrase
INS_POSTER_36	Black soldier fly larvae production performances are optimized by the supplementation of HMTBa
INS_POSTER_37	Preliminary data on investigation of feeding rates for black soldier fly larvae raised on waste substrate: case study with food industry waste from Czechia and Italy.
INS_POSTER_38	The effect of temperature on the nutritional quality and growth parameters of yellow mealworm larvae ( <i>Tenebrio molitor</i> L.)
INS_POSTER_39	The Utilization of Black Soldier Larvae and Yellow Mealworms for The Conversion of Organic-Airport-Waste into Fertilizer/Nutrients/Energy
INS_POSTER_40	“Quality check” - Method for the conservation and storability of live larvae of the black soldier fly (BSFL)
INS_POSTER_41	Regional and seasonal side streams for sustainable mealworm production in the context of the Republic of Kosovo
INS_POSTER_42	Tannic Acid as a Feed Additive: Enhance Grasshopper Resilience and Survivability
INS_POSTER_43	YOUR SOLUTION PARTNER FOR INSECT PROTEINS
INS_POSTER_44	Utilization of house cricket frass for bioethanol production

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# ÖHMI

### **Adding Quality and Safety to Life - Testing, Inspection, Certification Services for Quality, Safety, Health and Environment**

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### New! Beetle inlay tray for egg production



After the introduction of several insect breeding trays for mealworm and Black Soldier Fly production, we can now announce our beetle inlay tray.

The Beetle inlay tray for growing mealworms was developed in partnership with our customers, enabling them to separate the mealworm beetles from their eggs. The mealworm beetles use their ovipositor to lay the eggs in the food on the bottom of the insect boxes.

The mesh ensures that the mealworm beetles remain separated from the eggs and prevents them being eaten. Besides labor saving, egg yield is considerably higher. Available for both the low breeding box type 6206 and the high BSF breeding box 6207.

### Visit our new insect website!

Beekenkamp Verpakkingen B.V. launched a new website especially for our insect breeding products.

Visit our website and get a customized quote without obligation for your insect breeding solutions today!

[WWW.BEEKENKAMP-INSECT.NL](http://WWW.BEEKENKAMP-INSECT.NL)



Beekenkamp Verpakkingen B.V. Korte Kruisweg 157 2676 BS Maasdijk  
+31 (0) 174 52 61 00 // [sales@beekenkamp.nl](mailto:sales@beekenkamp.nl)

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### VDL INSECT SYSTEMS

### INNOVATIVE INSECT FEEDING SOLUTIONS

VDL Insect Systems, part of VDL Groep, offers a complete range of modular scalable feeding solutions and services for each production phase and factory capacity size. Our goal is to provide insect growers innovative solutions to scale up their production to meet the growing demand for alternatives for the classic protein sources.

By using the broad network and industry activities of VDL Groep we can actively contribute to the industrialization of the insect sector. VDL Groep, headquartered in Eindhoven, the Netherlands, is an international industrial family business with 105 operating companies, spread throughout 19 countries, with around 15,000 employees.

Discover our specialism in precision feeding systems and solutions for dry, liquid, mash and solid feed:  
[vdlinsectsystems.com](http://vdlinsectsystems.com)





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VALUE ADDING TECHNOLOGY

### High-quality insect larvae separation

Rotoshifter technology

## Maximize your larvae yield?

with the Rotoshifter

**KUSTERS ENGINEERING**  
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**NETZSCH**  
Proven Excellence.

## FINE MILLING OF INSECTS AS A NEW PROTEIN SOURCE

Wet & Dry Processing Solutions for Your Production



NETZSCH Agitator Bead Mill *MASTERREFINER*

- Highest product quality at exact reproducibility
- Narrow grain spectrum down to the sub-micron area
- Flexible work with short preparation times
- Easy handling

NETZSCH Impact Mill *CONDUX® COMPACT*

- Hygienic Design
- Low space requirement
- Compact, user friendly design
- Low feeding height and easy access
- ATEX conform
- Fast and easy cleaning



[grinding.netzsch.com](http://grinding.netzsch.com)

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**WEDA**

### Feeding insects efficiently

- Fully automatic feeding system
- Production safety
- Dosing accuracy
- Processing of residual materials
- Maximum hygiene

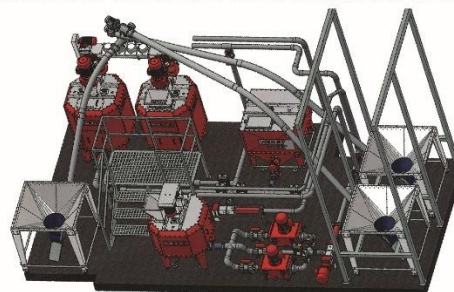
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### WEDA Insect feeding

Innovative solutions for sustainable insect production



Awarded with the DLG silver medal at EuroTier fair 2022!



Liquid feeding kitchen for farmsized BSF production

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## The backbone of your automated insect farm

Scale up with Viscon's automated logistics solutions. Make your operations scalable and easier to handle and let us develop a design proposal for your BSF or mealworm farm. The result? A synchronized flow of crates, pallets and bulk materials throughout your farm, in tune with your ambitions.

- design, build & integrate
- handling & transport
- storage solutions
- cleaning solutions
- control software

### Let's start your new project together!

**Jasper van Dijke**  
COMMERCIAL MANAGER  
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# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



Are you creating the future of pet food and animal feed? Whether it is plant-based or insect protein, we can scale production with you. Tested and validated in our pilot plant. A tailored solution that combines your requirements with our own expertise in engineering and delivering dozens of pet

food and animal feed plants globally. With the industry's broadest portfolio – from milling and conditioning, dewatering and drying, extrusion and pelleting, to process automation and service – ANDRITZ can tailor just the right solution for you. **Let's scale up your production together.**

For more information, visit our website. 

**ENGINEERED SUCCESS**  
andritz.com /alternative-proteins



# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



**REINARTZ**  
the origin of resources

**MAXIMUM YIELDS WITH REINARTZ**  
Insect proteins from sustainable production

- INSECT PROTEINS
- PLANT OIL
- PLANT PROTEINS
- BIOMASS

[www.reinartz.de](http://www.reinartz.de)  
in o f

# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



## COOPERATION TO ACCELERATE THE INSECT INDUSTRY

✓ The demand for alternative protein sources is one of the great challenges of the future in livestock farming.

✓ Using insects for protein production, this problem can be counteracted in the long term.

✓ Innovative systems for black soldier fly (BSF) and mealworm production

✓ Integrated systems - from kitchen to handling and air conditioning

✓ Fully automated systems

✓ Sustainable production by using residues from industry and food trade



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www.vdlinsectsystems.com



office@schauer-agrotronic.com  
www.schauer-agrotronic.com



# INSECTA 2023 Program

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**nrgene**  
canada

### Novel BSF Varieties

Developed for Efficient Industrial-Scale Production

#### Optimizing BSF Genetics Through Big-Data and AI

- Increasing larvae size and shortening the development and growth time
- BSF adaptation to different organic agricultural byproducts
- Generating genetic database representing the BSF's wide genetic diversity
- Optimization of the feed conversion rate

Up to  
**5x**  
Earning Increase

Reducing protein production costs below  
**\$1,500** /MT

**2024**  
Commercial elite BSF varieties available for out-licensing

CONTACT | [yana.voldman@nrgene.com](mailto:yana.voldman@nrgene.com) • [www.nrgene.com](http://www.nrgene.com)





# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



**Entocycle**

**The next generation of insect technology**

Machine-vision technology and in-line automation to accurately dose black soldier fly neonates.

NATURE DOESN'T BELIEVE IN WASTE, NEITHER DO WE. [ENTOCYCLE.COM](https://entocycle.com)



# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



## BUHLER x Entocycle

### Leading the way in delivering industrial-scale insect solutions worldwide

Bühler and Entocycle bring together unrivalled expertise in insect technology to provide scalable end-to-end insect farm solutions for businesses in waste management, large-scale food production, aquaculture and more.

**INTERESTED IN VENTURING INTO THE INSECT INDUSTRY?**

FIND OUT MORE AT

 [ENTOCYCLE.COM/COMPLETE-INSECT-FARM](https://entocycle.com/complete-insect-farm)

 [BUHLERGROUP.COM/INSECTS](https://buhlergroup.com/insects)

# INSECTA 2023 Program

## INSECTA 2023 Sponsoring Partners



# End of Program & Sponsoring Partners' List