INSECTA 2023 Program

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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 Hadjiali	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 Arteche 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_2 and ammonia emitted by *Tenebrio molitor* and *Acheta domesticus*	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 $4m^3$ and $24m^3$ fly mating chambers	Seppe Salari	Insectocylce, 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 *Hermetia illucens* 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 (*Hermetia illucens*)	Dr. Matthias Gosselin	Service des materiaux polymers et composites, University of Mons, HEPH-Condorcet, Belgium
12:50	Effects of *Hermetia illucens* frass on growth and development of bean plants (*Phaseolus vulgaris* 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 Scienes, 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 (*Hermetia illucens*): Case study of *E. coli*	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	*T. molitor* in circular economies: Key aspects of the implementation of *T. molitor* 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 (*Tenebrio sp.*): Implications on its biomass quality	Peter Musembi John	International Centre of Insect Physiology and Ecology (*icipe*), 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 (Acheta domesticus)	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 *Hermetia illucens* 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 *T. molitor* 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 *Tenebrio molitor* beetles is difficult and inconsistent	Dr. Juliane Hirnet	Stiftung Tierärztliche Hochschule Hannover, Germany
16:40	Feed conversion of salad roots in *Tenebrio molitor* 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 (*icipe*), 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)

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Thursday, September 14, 2023			
08:00	**Gathering at Venue**		
Time	**Topic**	**Speaker**	**Company / Institute**
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
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. Roee 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 Borght			
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 *Hermetia illucens*	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 (*Atherigona orientalis* 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 *Hermetia illucens* 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 (*Phaseolus vulgaris*)	Agnes Chepkorir	International Centre of Insect Physiology and Ecology (*icipe*), 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 (*icipe*), 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 (*icipe*), 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 (*icipe*), 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**		

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POSTER PRESENTATIONS

POSTER NUMBER	POSTER TITLE
INS_POSTER_1	Incorporation of whole silkworm (*Bombyx mori* 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 sus-tainable food
INS_POSTER_14	The bioaccumulation of rare earth elements in *Tenebrio molitor*
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 *Hermetia illucens* 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 *Hermetia illucens* 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 (*Gryllus Bimaculatus*) at different growth stages using food waste
INS_POSTER_27	The potential of monitoring system for *Gryllus Bimaculatus* based on loadcells and computer vision
INS_POSTER_28	Nutritional quality of *Tenebrio molitor* proteins obtained by Osborne fractionation
INS_POSTER_29	The use of waste polystyrene as feed for mealworms (*Tenebrio molitor*)
INS_POSTER_30	Optimal balance between protein and carbohydrate in industrial diet for black soldier fly larvae (*Hermetia illucens*).
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 (*Tenebrio molitor* 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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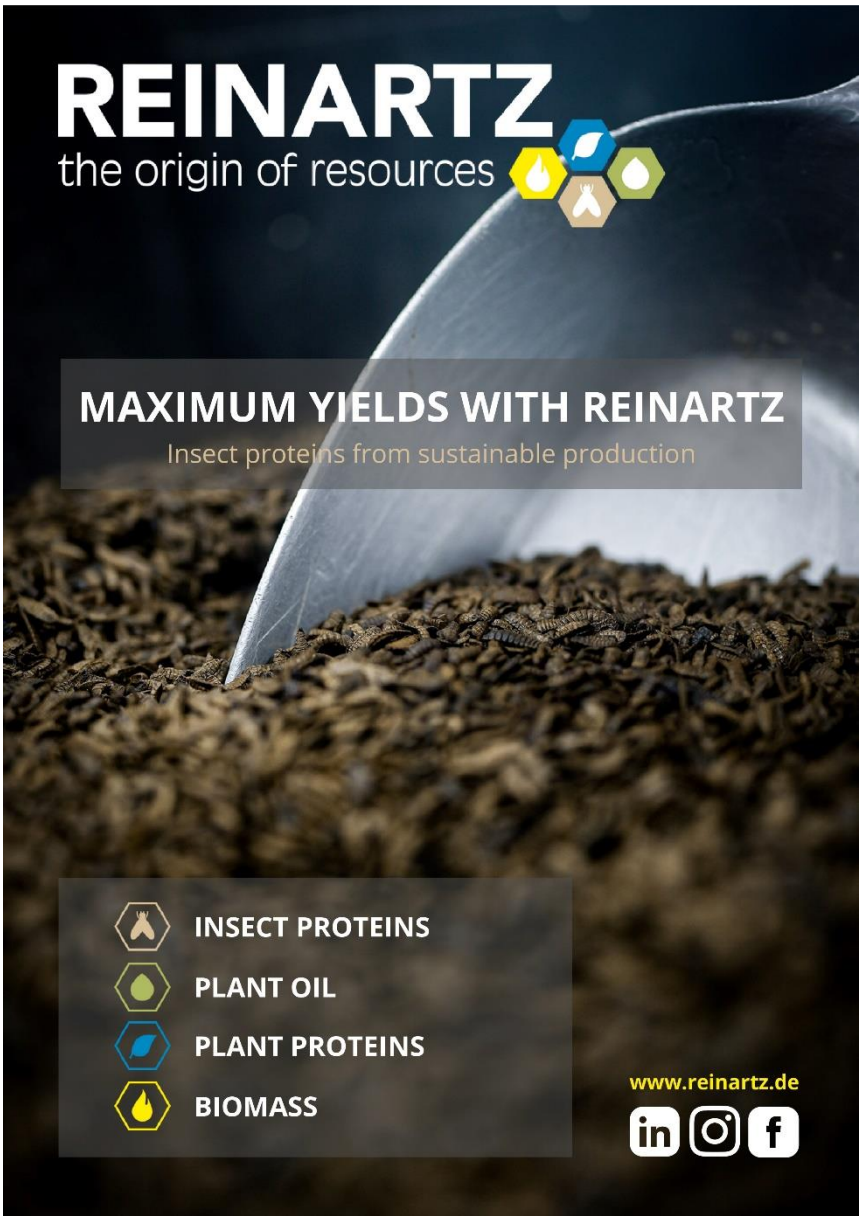

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End of Program

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