

Press Release

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Conservation Tillage for Sustainability: EIP Project "BioStripPlant" Successfully Concludes

On Thursday, 28 November 2024, the Leibniz Institute of Vegetable and Ornamental Crops (IGZ) hosted the final event of the "BioStripPlant" project. Funded by the European Innovation Partnership (EIP-Agri) and coordinated by agrathaer GmbH, the project aimed to develop and test an innovative cultivation method for organic vegetable farming in Brandenburg. Over three years, the project explored how strip-tillage combined with mulch and live mulch systems could enhance soil conservation and climate resilience. The results were now published in a brochure.

Strip-tillage provides a method of conservation tillage that loosens only the planting rows while leaving the spaces in between untouched. The project's findings highlighted numerous advantages of this approach. A rye mulch cover reduced evaporation, helping to maintain soil moisture levels, while live mulch systems, such as subterranean clover, offered a stabilizing effect on soil temperatures. On hot days, clover protected the soil from overheating, while during cooler periods, it mitigated excessive cooling.

Yield analyses revealed promising results for rye mulch, which achieved the highest yields among the tested methods. However, live mulch systems occasionally posed challenges due to competition for water and nutrients, which could result in reduced yields. Weed management also emerged as a critical factor. A sufficiently thick mulch layer was essential for suppressing weed growth effectively. In live mulch systems, targeted mowing was necessary to prevent excessive clover growth from competing with crops.

The project also provided valuable recommendations for practical implementation. To ensure the effective use of mulch systems, it was advised to establish criteria for discontinuing them in cases of insufficient biomass production. Additionally, there was a need for optimization in soil preparation on clay-rich soils and adjustments in fertilization techniques to prevent blockages when using organic fertilizers.

Co-Author of the practical guide Katia Heistermann (IGZ) emphasized that "BioStripPlant" has the potential to sustainably transform organic vegetable farming in Brandenburg and beyond. The combination of strip tillage and in situ mulch is a promising alternative to conventional cultivation systems, which not only reduces labour requirements and can maintain soil fertility but also strengthens farms' resilience to climate change challenges.

The project's insights and recommendations are compiled in a comprehensive practical guide for farmers, serving as a roadmap for adopting the method. It was presented at the concluding event at the IGZ.

Future research will focus on further refining its implementation and expanding its application to promote wider adoption in practice. In addition to the operational group of the project, consisting of the three horticultural firms, agrathaer GmbH, the Fördergemeinschaft Ökologischer Landbau Berlin-Brandenburg (FÖL) e.V. and the IGZ, representatives of the Brandenburg Ministry of Agriculture, Environment and Climate Protection (MLUK) and the State Office for Rural Development, Agriculture and Land Consolidation were also present. Together with the practitioner and project partner Maximilian Liebrich from the Bio-Gärtnerei Watzkendorf, there was a lively discussion about the opportunities and implementation possibilities of the tested method in organic farming.

More Informationen

Further information on the „BioStripPlant“ project:

<https://igzev.de/en/research/projects/82/biostripplant> <https://agrathaer.de/de/projekt/biostripplant-eip-projekt> (German)

Download of the BioStripPlant brochure (German):

https://agrathaer.de/files/Bilder/projekte/BioStripPlant/praxisbroschuere_bsp_ohne-passmarken.pdf

Contact

Katia Heistermann, Scientist in the project and co-author of the brochure | Email heistermann@igzev.de | Phone +49 (0) 337 01 78 358

Julia Vogt, Press and Public Relations | Email presse@igzev.de | Phone +49 (0) 33 701 78 163

Leibniz Institute of Vegetable and Ornamental Crops

The Leibniz Institute of Vegetable and Ornamental Crops (IGZ) is a research institute of the Leibniz Association and contributes to solving current global challenges with science-based findings from basic and applied research in horticulture. These include the preservation of biodiversity, combating climate change and the still widespread malnutrition. The institute is jointly funded by the Ministry of Science, Research and Culture of the State of Brandenburg (MWFK) and the Federal Ministry of Food and Agriculture (BMEL). The IGZ is based in Großbeeren.

Media



Caption: The Strip-Till machine for conservation tillage was used in organic vegetable production as part of the EIP project 'BioStripPlant'. Photo: agrathaer GmbH.

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Caption: Presentation of the practical brochure at the closing event at the IGZ. From left to right: Isabell Szallies (agrathaer GmbH), Michael Wimmer (FÖL), Katia Heistermann (IGZ), Laura Storch (agrathaer GmbH), Maximilian Liebrich (Bio-Gärtnerei Watzkendorf). Photo: agrathaer GmbH/I. Szallies.

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