EU CAP NETWORK

Workshop ‘Innovative arable crop protection – using pesticides sustainably’

Amsterdam, the Netherlands
19-21 April 2023

Funded by the European Union

Tailored flowerstrips and undersowing

Christine Judt | Austria

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Flower strips and undersowing control aphids in fava bean

Christine Judt / FiBL Austria

#EUCAPNetwork
#SustainableCropProtection
#arablefarming

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What is your project/initiative about?

- Duration: May 2019 – April 2022
- Problem: Pea necrotic yellow dwarf virus (PNYDV) damages leguminous plants.
- No regulation of PNYDV → transmitter (aphids).
- Insecticides not successful nor environmental friendly → new strategy needed.
- Partners from practice, research and consulting have joined forces to test the concept of natural pest control

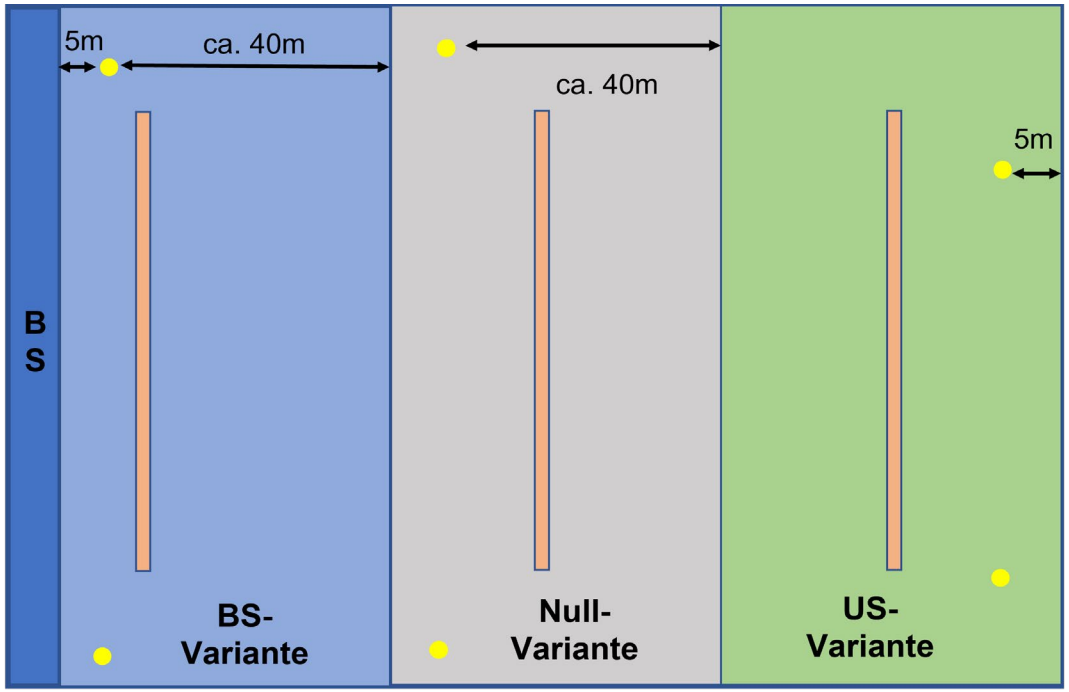
How do you contribute to a reduction of pesticide dependency in your work/project?

Development of tailored flower strips (FS) and undersowing crops (USC) to attract natural antagonists of aphids.

→ Aphid outbreaks and the transference of PNYDV are reduced in a natural way, no need or reduction in insecticide spraying.

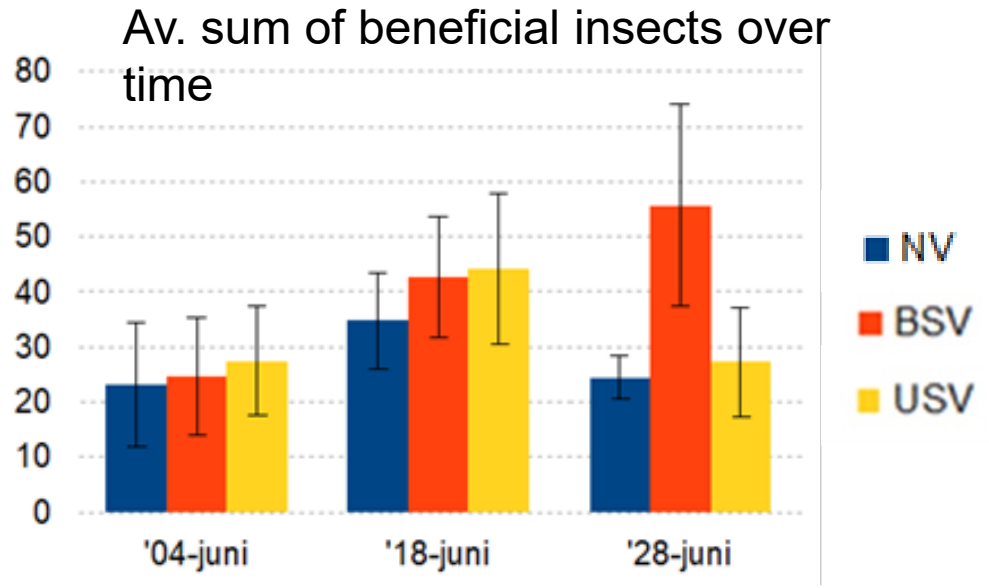
Experimental design, implementation and measures

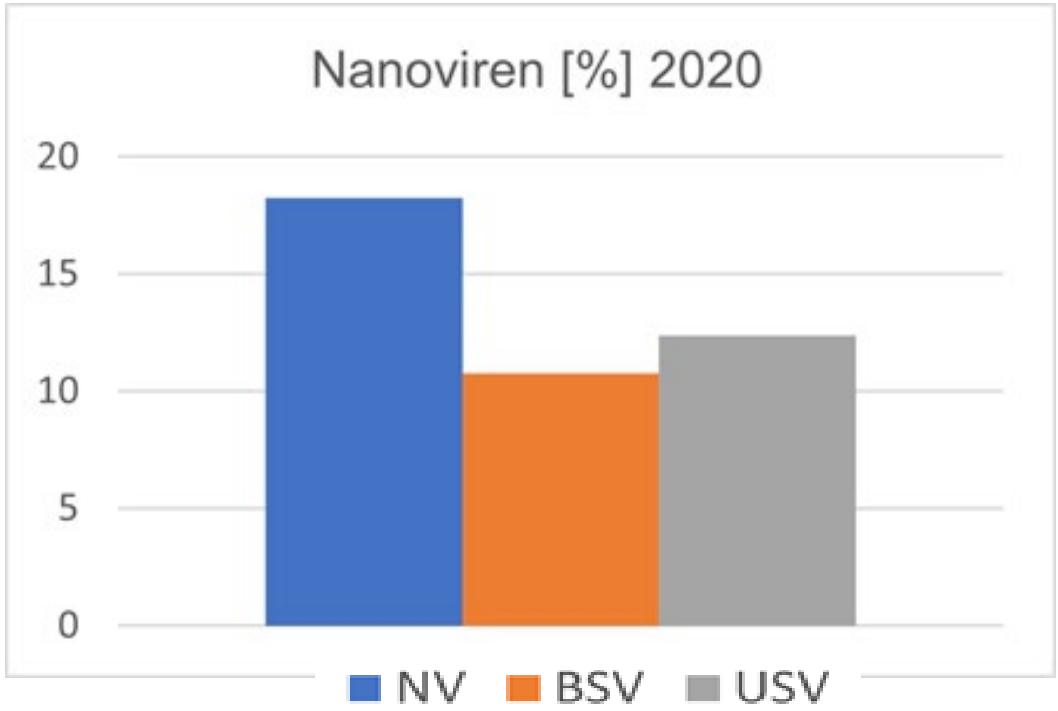
- Support of farmers with the implementation and management of FS and USC, accompanied by a scientific monitoring by experts.
- Monitoring of aphids, antagonists and PNYDV-infections in the field and evaluation of differences between our variants.
- Harvest survey, economic analysis.
- Spreading of the project results in agricultural and specific specialist groups.



Results (1)

- Successful establishment and management of FS and USC.
- More natural antagonists in fields close to FS or with USC than without.
- Natural antagonists could regulate aphids by time but not at the critical stage of infections.
- Nevertheless, 2020 significantly less infections in variante with FS and USC → varied reasons → further examinations necessary.

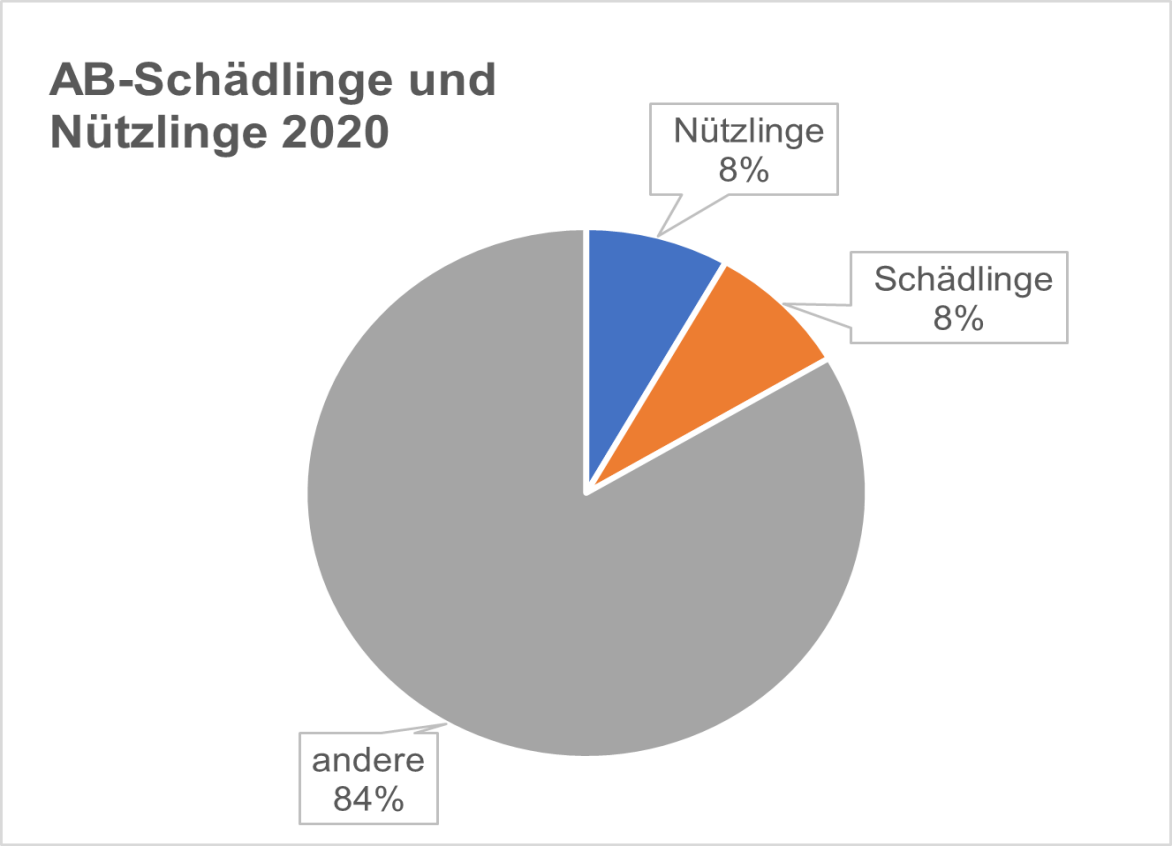




Results (2)

- Average harvests in both years.
- Economic analysis: FS and USC perform worse than zero variante.

- FS did not attract insect pests of fava bean.
- Demonstration of the high potential and importance of FS/USC in providing alternative habitat and food sources in the cultural landscape.



What are your experiences in the transition to sustainable arable cropping systems with reduced pesticide dependency? What challenges do you/did you face?

- Reservations to new strategies (e.g., fear of attracting pest insects by FS).
- Lack of knowledge / time to acquire new technics, tools.
- Lack of appropriate equipment (e.g., machines for sowing and mowing FS).
- Missing financial compensation.
- Natural challenges (PNYDV occurrence; climate change).

What are the most important steps, from your perspective, towards pesticide independency?

- Find and demonstrate successful alternatives in the field.
- Support farmers with knowledge and financially in the adaptation and implementation of new management strategies.
- Support farmers in making their own experiences, get them started.

Can you indicate which pillar(s) of the ICM is included in your example?

- Targeted control
- Monitoring & Evaluation
- Crop diversity

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All information on the workshop is available on the event webpage:

https://eu-cap-network.ec.europa.eu/events/eu-cap-network-workshop-innovative-arable-crop-protection-using-pesticides-sustainably_en