



Insekten
Fördernde
Regionen

BENEFICIAL FLOWER STRIPS IN ARABLE CROPS

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LIFE19 GIE/DE/000785

IRSR - our aspiration/our options

- improving the diversity and quantity of insects in all types of crops →
- increasing the area of insect-promoting measures
 - in-crop measures
 - off-crop measures

mandatory prerequisite:
financial compensation of cultivation area



Beneficial Flower Strips – the concept

Beneficial Flower Strips (BFS) are:

- (annual or) perennial areas
- sown with native wildflowers and cultivated plants
- **explicitly needed or interesting for pollinators and/or specific beneficals**
- to promote biodiversity in arable farming.
 - → most important project goal

+ no pesticides, in-crop

Inspired by: Tschumi, M., et al. (2016): "Tailored flower strips promote natural enemy biodiversity and pest control in potato crops." *Journal of applied ecology* 53.4: 1169-1176.

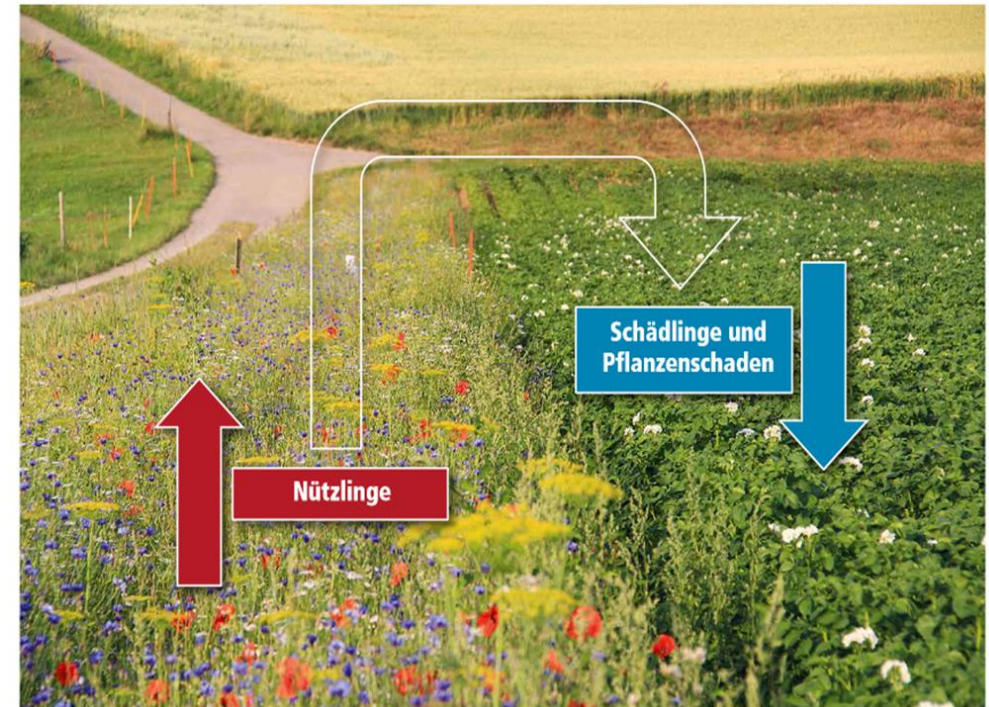
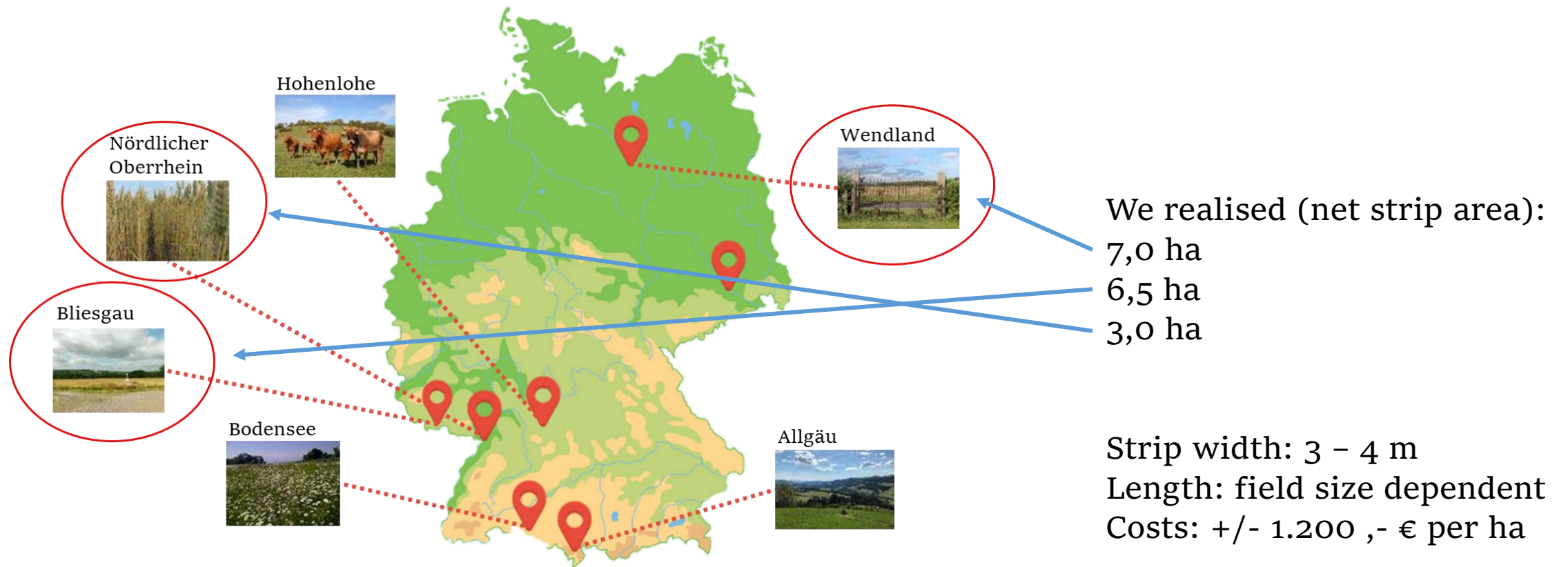


Abb. 1 | In ein Kartoffelfeld eingesäter Nützlingsblühstreifen mit schematischer Darstellung der Funktion. Gegenspieler von Kulturschädlingen werden durch die blühenden Pflanzen angelockt und reduzieren in der angrenzenden Kultur Schädlinge und Pflanzenschaden.
(Foto: Matthias Tschumi, Agroscope)

Size and location of BFS established



BFS enhanced crop types

Heidelberg (potatoes)



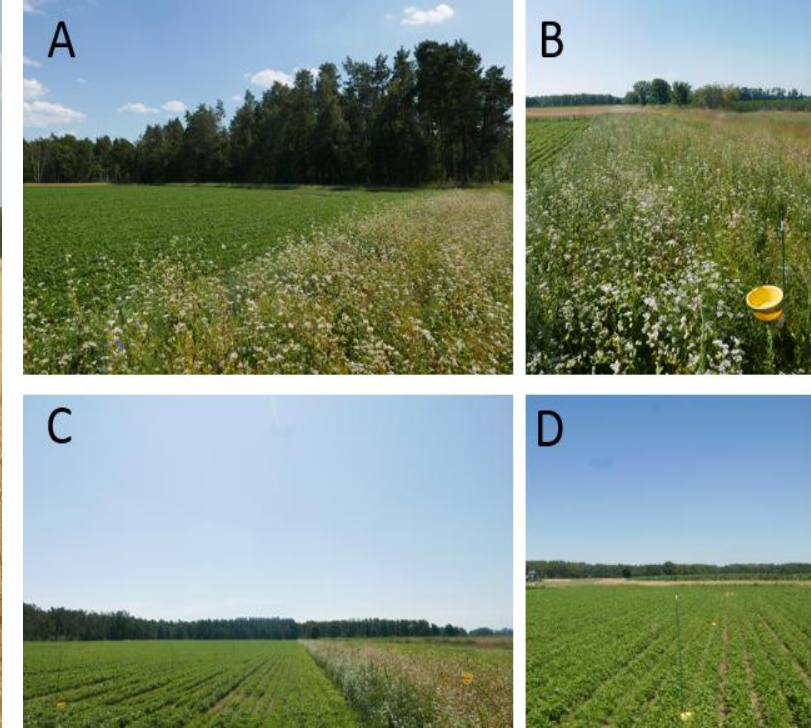
wild bees & wasps
→ Expert based report

Bliesgau (oats)



no monitoring

Wendland (parsley)



hoverflies, lacewings,
ladybug , (aphids)
→ Expert based report

The effects of BFS– our results I

In potatoes, based on expert report:

- more than 60 species of wild bees and wasps were observed
- observation of three red list species
- low diversity of plant components
- No repetition, no relations to the occurrence/abundance of harmful insects



Golden wasp (*Holopyga fervida*), highly threatened

→ Ask for full report: patrick.pyttel@bodensee-stiftung.org

More Than Just Flower Strips - European Conference, Frankfurt, 20. May 2025



Insect Responsible
Sourcing Regions



Good food, Good life

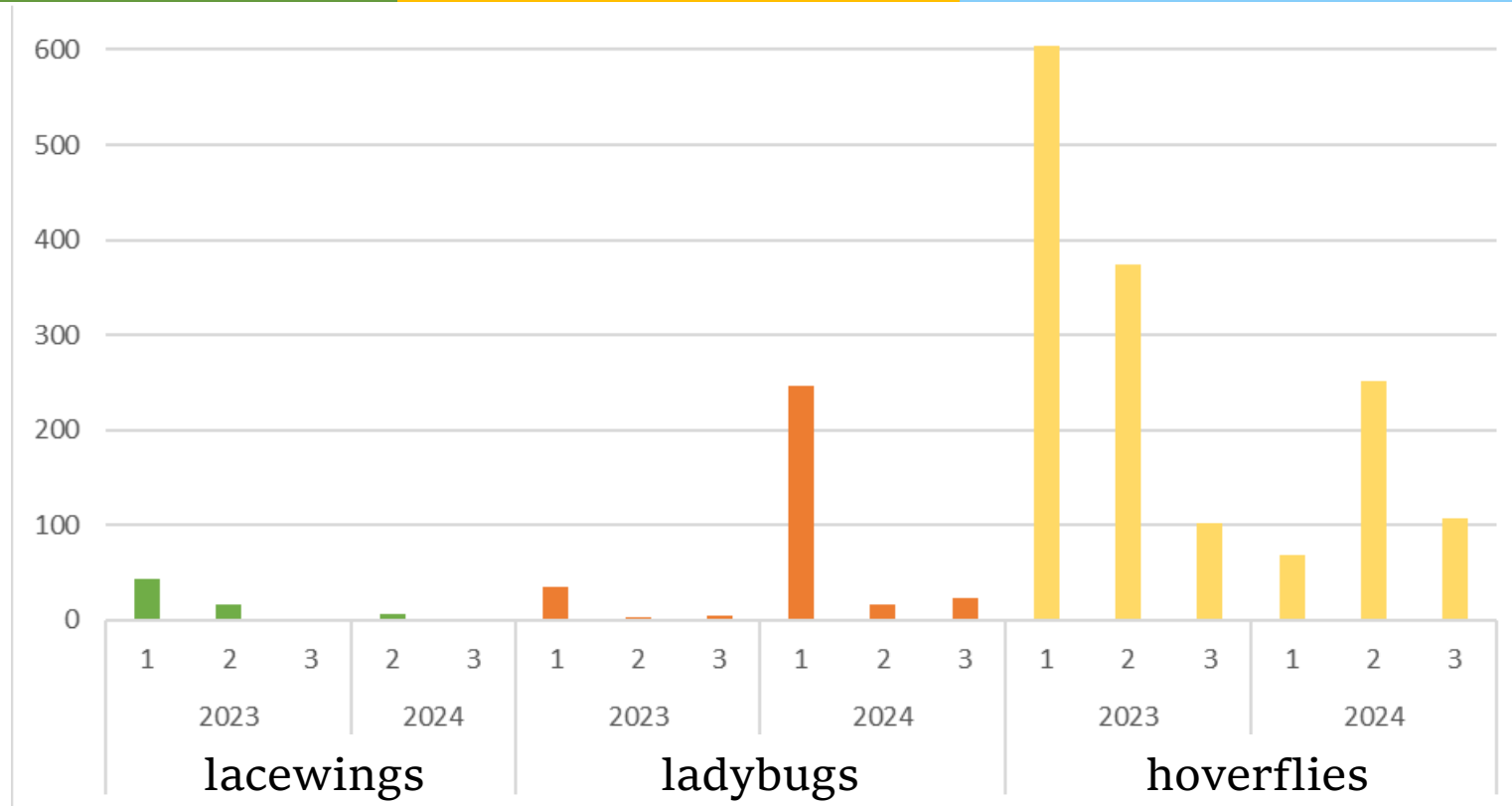
With financial support from



The effects of BFS– our results II

In parsley, based on expert report:

- 1509 hoverfly individuals of 34 species
- more than half of the hoverflies (59%) belong to aphidophag species
- at the time of the third repetition no aphids were detected in both years (outside BFS)



Abundance of all insects recorded (individuals per family: Chrysopidae, Coccinellidae and Syrphidae) in the recording period 2023-2024 (split into replicates 1-3)



Insect Responsible
Sourcing Regions

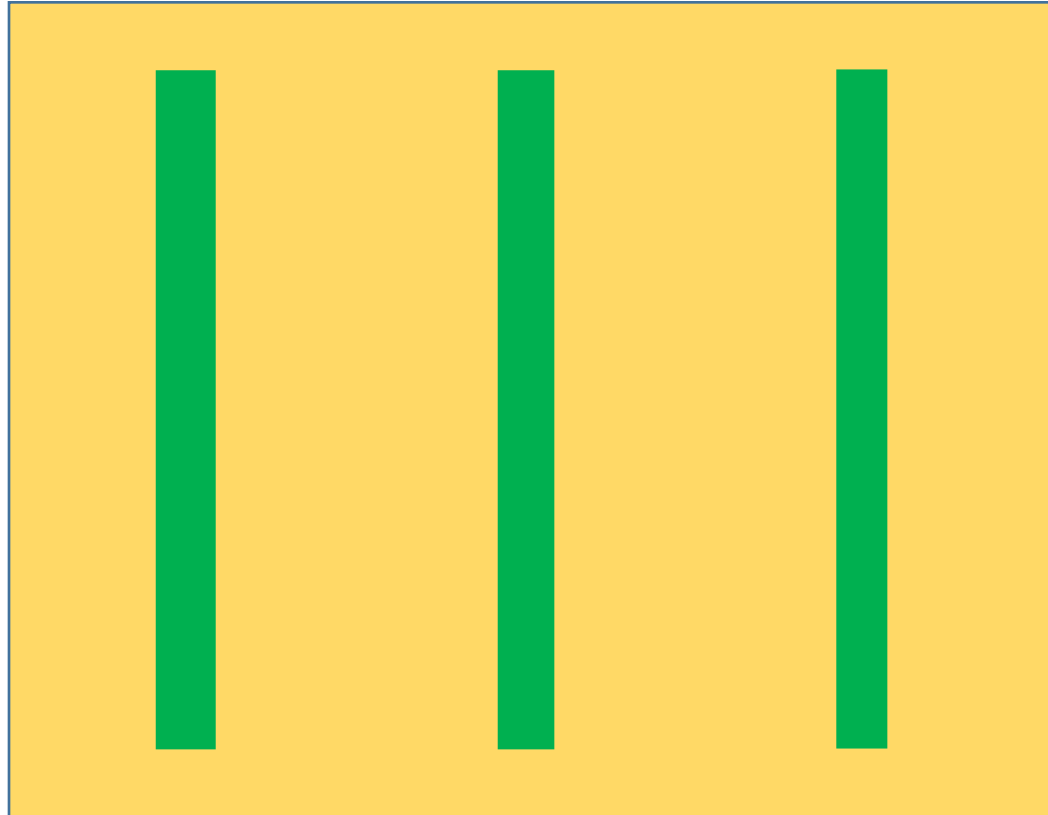


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Financial motivation of farmers I



1 ha BFS: 1.000€

Separation of
large fields:
100€/ha

- 1-2 machine widths
- No pesticides!
- 100 m BFS/ ha
- BFS have to be within the fields



Financial motivation of farmers II - an example



Field size: 15 ha, length: 800m, width: 195m

→ To get both reward types:
min. 1.500m BFS
= 2 strips, each 800m

Reward BFS:

$1.600\text{m} \times 3\text{m} = 4.800\text{m}^2 \mid 0,48\text{ha} * 1.000\text{€} = 480\text{€}$

Reward for field separation:

$15\text{ ha} * 100\text{€} = 1.500\text{€}$

Conclusions/Recommendations/Further research

- BFS are visited by numerous beneficial insects, especially wild bees, wasps and hoverflies
- BFS also “radiate” into the adjacent main crop areas and reduce pests effectively
- BFS are foraging areas for most wild bees and wasps, the arrival of species is therefore dependent on other habitats in the surrounding area (*to be identified*)
- to increase abundance of beneficials a continuous food supply (March to September) is needed → development/adaption of seed mixture (*to be determined*)
- Integration of habitats for beneficial insects (*to be researched*)
- *Expert observations are influenced by methodological weaknesses/constraints (more repetitions, increase length of observation periods)*
- Suitable financial incentive systems can also motivate farmers to create beneficial insect strips within large crop areas





Your questions and comments please!

For further information, full
reports and cooperation please
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Methods - expert based monitoring

