PRACTICE ABSTRACT NO. 17

Effect of broccoli-vetch intercropping on the incidence of pests in broccoli

Problem

Broccoli is affected by a wide variety of pests. There is a decrease in the number of insecticides that can be used, and customers are increasingly demanding to farmers zero residue crops.

Solution

Habitat diversification can be an effective measure to reduce the level of pests in crops. The inclusion of vetch (*Vicia sativa*) as a companion plant between broccoli may help reduce the level of pests.

Outcome

Broccoli-vetch intercropping entails the reduction of the level of some pests compared to broccoli monocrop, in particular the level of *Plutella xylostella, Aleyrodes proletella,* and *Brevicoryne brassicae*

Applicability box

Geographical coverage

Worldwide broccoli growing areas

Application period

Vetch is sown at the same time as broccoli

Required time

Vetch is maintained until broccoli is harvested and then destroyed together with broccoli residues.

Period of impact

Since plantation to harvest

Equipment

Mechanical adapted seeder

Practical recommendations

- It is recommended to sow vetch (*Vicia sativa*) between broccoli rows.
- Vetch needs more time than broccoli to complete its life cycle, and broccoli is harvested before vetch seed production, avoiding vetch development as weed in the following crops.
- The pest reduction observed in intercropping might be related to the physicochemical characteristics of the mixture, which make it less attractive to pests than broccoli monoculture or could interfere with pest plant location behavior.

Picture 1: Broccoli-vetch intercropping in the field

Practical testing/Farmers' experiences

The effect of broccoli-vetch and broccoli-floral strip intercropping on the level of pests and auxiliary fauna was evaluated using three replicates. No effect of the floral strip was observed, however vetch showed positive effect reducing the level of *Plutella xylostella* and *Brevicoryne brassicae* by almost 50% compared to monocrop. No differences were found in the level of auxiliary fauna.

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Further information

- Webpage: https://www.remix-intercrops.eu/
- Facebook Page: https://www.facebook.com/RemixIntercrops/
- Wiki: http://vm193-134.its.uni-kassel.de/En.DiversiWiki/index.php/Mixture_practice_for_farmers_and_advisors
- Check the Organic Farm Knowledge Platform for more practical recommendations.

About this abstract

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ReMIX is a H2020 multi-actor project that will allow designing cropping systems based on agro-ecology for the benefit of farmers and the whole EU agricultural community. ReMIX will exploit the benefits of species mixtures to design more diversified and resilient agro-ecological arable cropping systems. Based on a multi-actor approach, ReMIX will produce new knowledge that is both scientifically credible and socially valuable in conventional and organic agriculture. The project will tackle practical questions and co-design ready-to-use practical solutions. The project will span from the specification of end-user needs and the co-design of in-field and on-farm experiments to demonstrations with evaluation of new varieties and practices. ReMIX will contribute to the adoption of productive and resilient agricultural systems. The project is running from May 2017 to April 2021
Website: www.remix-intercrops.eu

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