Horizon Europe 2023-2027

GOOD
AGROECOLOGY FOR WEEDS

NEWSLETTER

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GOOD ANNUAL MEETING 2024

Photo 1: All partners in GOOD

The first Annual meeting took place in Pisa on the 28th and 29th of May 2024 with almost 80 participants in-person and remotely!
The progress so far has been excellent, and many activities are in the pipeline for the coming period. Co-creation activities in our LivingLabs, evaluation of agroecological weed management practices, drones, beneficial microorganisms, Life Cycle Assessments, business models, policies...and several other items are at the heart of the project!

An impression of the annual meeting can be watched here: https://youtu.be/3LnhXcNp7xk

ASSESSMENT OF SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACT OF AWM

A survey conducted within the context of Task 6.1, in which 483 farmers from eight countries (Portugal, Greece, Cyprus, Italy, Spain, the Netherlands, Serbia and Latvia) participated, revealed important trends and insights into farmers' willingness to adopt Agroecological Weed Management (AWM) practices. A key finding of the survey is that 63% of farmers surveyed plan to reduce herbicide use in the short term. However, the same percentage think other farmers will continue using herbicides without adopting AWM practices, indicating an awareness gap in the sector. Farmers are aware of AWM practices and almost half are willing to adopt them, indicating a growing recognition of the benefits of AWM. The benefits driving adoption of AWM include improving soil quality and ensuring food safety. However, the idea that AWM practices increase farmers' income is not seen as a strong driver. There is also the belief that more sustainable practices can increase production costs. A quarter of respondents disagree that AWM has a negative impact on profits. Barriers to AWM adoption are mainly farmers' reluctance to change their habits and the challenges of new farming activities, as well as insufficient infrastructure. The biggest obstacle is willingness to step out of the comfort zone, despite the realisation that understanding and learning AWM is relatively easy, but practice is more difficult due to lack of manpower. The future of the agriculture sector seems increasingly focused on practices that reduce herbicide use. Assessing the social, economic and environmental impacts of AWM practices compared to current practices will be crucial as the GOOD project progresses. The development of an AWM Network will provide guidelines for sustainable weed management, contributing to a more resilient and environmentally friendly agriculture.

NEWS FROM THE LIVING LABS

The Living Lab in The **Netherlands** focuses on advanced weed management (AWM) in onion cultivation. Effective weed control in onions using herbicides is becoming increasingly challenging due to the growing number of herbicides being removed from the market. Consequently, onion growers are actively seeking viable alternatives.
In the autumn of 2023, three different green manure crops were evaluated for their ability to suppress weeds and their impact on onion growth. In 2024, various weed control strategies are being tested in onions, including: 1] Chemical control, 2] A combination of chemical and mechanical control, 3] Full mechanical weed control and 4] Modern spraying technology (spot spraying) and robotic solutions
The study also investigates the effect of prior green manure cultivation on weed pressure.

On July 3, 2024, stakeholders and other interested parties observed the GOOD trial. The untreated plot, as shown in *Photo 2*, exhibited no remaining onions, only the weed chamomile. In contrast, *Photo 3* depicts the plot utilizing a combination of spraying and mechanical weeding, which demonstrated significantly better results.

Photo 3: Combination of spraying and mechanical weeding

Photo 3: Combination of spraying and mechanical weeding

Watch this video for an impression of all the activities in 2023 and 2024. https://youtu.be/y9zPtwb-jso

The Living Lab in **Sardinia** is about AWM in triticale. Watch their first video for an impression of the activities. https://www.youtube.com/watch?v=OPn4aMYgrvE

More news on the Living Lab activities will follow in the next newsletters: subscribe to our newsletter and follow our media for more day-to-day updates! https://www.goodhorizon.eu/news/

GOOD RESEARCH: SUSTAINABLE WEED MANAGEMENT: MYCORRHIZA SYMBIOSIS FOR STRONGER CATCH CROPS

In the Microbiology Laboratories of the Department of Agriculture, Nutrition and Environment of the University of Pisa, Italy, partners of the GOOD project have successfully isolated, identified and reproduced autochthonous mycorrhizal fungi from 14 Living Labs in 7 EU countries. These beneficial microorganisms, which form symbiotic relationships with the roots of most crops, play a crucial role in plant growth, nutrition and health, helping to reduce the use of chemical fertilisers and pesticides. In the GOOD project, these fungi will be used to improve the competitiveness of catch crops against weeds. Mycotrophic catch crops, such as Avena, Hordeum, Lolium, Trifolium, Medicago, Secale and Vicia, benefit from the increased availability of soil nutrients, while non-mycotrophic weeds are negatively affected. Moreover, mycorrhizal catch crops can serve as a strategic means for mycorrhizal inoculation of adjacent fruit trees. This innovative and sustainable method of weed management will promote the agroecological transition in Europe.

Photo 4: Trap pot-cultures for the production of native AMF inocula from the 14 LLs using highly mycothrophic plant species.