



Stakeholder perceptions of the most frequently used agroecological method of weed control in Pannonian Region (Hungary)

PROBLEM

What are the most effective agroecological strategies for weed management in arable crops in the Pannonian Region?

STAKEHOLDER PERCEPTIONS

Farmers use tillage, crop rotation, and quality seed as their primary agroecological techniques. Additional methods such as inter-row cultivation, mixed cropping, cover crops, high seeding density, mulching, and mowing are also commonly adopted due to their compatibility with conventional farming and direct benefits to farmers. Despite the presence of these techniques, chemical weed control remains the dominant practice, praised for its effectiveness and simplicity. However, stakeholders reported the need for developing bioherbicides to minimize environmental impacts. Mechanical weeding (inter-row cultivators) was frequently cited as an alternative, with no-till, min-till, cover crops, and mulching also recommended. Other practices could be pre-cropping with competitive plants, high-density planting, and utilizing competitive cultivars. Concerns were raised about the labour-intensive nature of certain methods and the long-term sustainability of reduced soil disturbance. Participants acknowledged that since chemical use secures yields, it cannot be completely abandoned. There is a recognized need for further research on mulch-free systems.



Figure 1: Harvesting of crops in the field area covered by the project (Source: <https://kalasztenger.hu/>)





RECOMMENDATION

Testing of soil-friendly mechanical weeding methods and spray technologies that partially or eliminate herbicide use, as well as development of species-specific bioherbicides can reduce chemical dependence while promoting agroecological practices such as cover crops and competitive cultivars.

KEYWORDS

arable, weed, agroecological, herbicide

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