AGROSUS
www.agrosus.eu
AGROecological strategies for SUStainable weed management in key European crops

Stakeholder perceptions of the most frequently used agroecological method of weed control in Steppic Region (Ukraine)

PROBLEM

What are the most popular and effective agroecological weed control methods used in the Steppic Region in Ukraine?

STAKEHOLDER PERCEPTIONS

Surveys and interviews with farmers reveal that crop rotation, inter-row cultivation and mechanical tillage are universally valued, with most of respondents emphasizing their importance. Additionally, over 98% recognize the value of qualitative seed material and competitive cultivars and hand weeding (85%). Practices that were popular in the past but are less common now include mowing, and grazing (over 70%). Mixed cropping and higher planting densities are less emphasized, with 40% and 25% of respondents respectively noting their decline. Methods like soil cover and flame weeding are known by 63% but used by few, with only 12% unfamiliar with these techniques.

Figure 1: Winter wheat fields in steppic Ukraine during the ripening phase

Figure 2: Winter wheat fields in steppic Ukraine during the leaf development phase.

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No GA 101084084

Funded by the European Union

RECOMMENDATION

Key agroecological strategies for effective weed control should include a well-planned crop rotation to prevent soil depletion and pathogen accumulation, enhancing soil fertility with legumes mixed with mechanical tillage for maintaining soil structure, reducing erosion, and conserving moisture through practices like no-till and strip-till. Utilizing siderates and green manure steam as well as organic mulching for soil protection, moisture conservation, and weed suppression. For specific crops, strategies include optimizing tillage methods for winter wheat and corn and combining stubble peeling with deep tillage for sunflowers. Integrated approaches combining mechanical, biological, and chemical methods are crucial for effective weed management and sustainable agriculture.

Figure 3: Winter wheat fields in steppic Ukraine during the stem elongation phase.

KEYWORDS

tillage system, winter wheat, inter-row cultivation, crop rotation, green manure, siderates, mixed cropping, qualitative seed materials

AUTHORSHIP

Fedoniuk, T., Polissia National University (PNU), Zhytomyr, Ukraine
Pazych, V., Polissia National University (PNU), Zhytomyr, Ukraine
Skydan, O., Polissia National University (PNU), Zhytomyr, Ukraine
Kovalchuk, O., Polissia National University (PNU), Zhytomyr, Ukraine

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No GA 101084084

Funded by the European Union