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AGROecological strategies for SUStainable weed management in key European crops

Stakeholder perceptions of the most frequently used agroecological method of weed control in Mediterranean Region (Cartagena, Spain)

PROBLEM

What are the most used and recommended agroecological methods for weed control in Mediterranean almond and olive orchards?

STAKEHOLDER PERCEPTIONS

In the surveyed group of farmers, tillage or mechanical cultivation is the most used method, applied by 81% of respondents, followed by live cover (70%) and weed cover (67%). In contrast, combined systems (11%), intercropping (8%), and grazing (4%) are the least used methods. No respondents have used inert mulches, bioherbicides, or thermal weed control. Historical data shows that mowing (15%) and intercropping (8%) were once used but are no longer practiced. Farmers have heard about but never used inert mulches (70%), grazing, intercropping, and bioherbicides (61%). Thermal weed control, bioherbicides, and grazing are the least known methods, unfamiliar to 42%, 38%, and 35% of respondents, respectively. In interviews, stakeholders overwhelmingly recognized mowing, inert mulches, living mulching, intercrops, and weed covers (90%). Mechanical cultivation, permanent cover crops, bioherbicides, and thermal weed control were also well known (80%). Temporal cover crops were the least known (74%).

Figure 1: Inert mulching, plastic (Sanchez et al.2012. Horticulture)

Figure 2: Living mulching, pruning (ID-David)

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

For sustainable weed management in Mediterranean almond and olive orchards, implement cover crops, mulching, weed covers, and intercropping. Emphasizing the inclusion of livestock could be a viable and economical addition. Expanding knowledge of bioherbicides and biotechnological methods is crucial for diversifying weed control strategies.

Figure 3: Weed cover (MD Gómez-López, Huesca)

Figure 4: Live cover (MD Gómez-López, Toledo, 2023)

Figure 5: Intercropping, lavender (Professional Agro. UCO/UPCT Diver farming)

KEYWORDS

perennial, mulching, pruning, intercropping, weed covers, thermal weed control

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