



Stakeholder perceptions of the most frequently used agroecological strategies of weed control in perennial crops in the Mediterranean region (Valencia, Spain)

PROBLEM

What are the most effective agroecological strategies for managing weeds in perennial crops in the Mediterranean region?

STAKEHOLDER PERCEPTIONS

Mowing was the most frequently used weed control method among farmers, with 42% using it regularly. Other common methods included weed covers (26%), tillage (21%), and inert mulches (18%). Less frequently used methods included permanent and temporal cover crops (13%), grazing and bioherbicides (11%), and intercrops and living mulches (8% and 5%, respectively). Tillage (26%) and weed covers (16%) were the most frequently abandoned methods, while, living mulches (13%) and mowing (11%) had lower discontinuation rates. Stakeholders familiar with perennial crops identified tillage (65.2%), temporal cover crops (62.1%), and mowing (62.1%) as the most familiar strategies. Weed covers (60.6%), inert mulches (57.6%), and permanent cover crops (57.6%) also had widespread awareness. Mechanical and thermal methods, bioherbicides and intercrops, were less known but still considered useful. Participants highlighted key strategies for the Mediterranean region, including preventive methods like crop rotation, cover crops, and organic and plastic mulching. Mechanical methods such as mowing were frequently mentioned, with drip irrigation identified as useful for water management and bioherbicides seen as an alternative to conventional herbicides.



Figure 1: Orange field for the trial of agroecological measures to control weeds in the Mediterranean biogeographical area.



RECOMMENDATION

Focus on cover crops or managed spontaneous weed cover inter-row, and mulching or cover crops in the treeline, as central weed management practices. Explore grazing, bioherbicides, and drip irrigation to enhance sustainability.



Figure 2: Persimmon field for the trial of agroecological measures to control weeds in the Mediterranean biogeographical region



Figure 3: Persimmon tree with weeds present in the field before starting the trial of agroecological measures to control weeds in the Mediterranean biogeographical region.



Figure 4: Peach field for the trial of agroecological measures to control weeds in the Mediterranean biogeographical region.



Figure 5: Detail of weeds treated with herbicides in the peach field before starting the trial of agroecological measures to control weeds in the Mediterranean biogeographical region.

KEYWORDS

perennials, peach, persimmon, orange, agroecological weed control measures

AUTHORSHIP

Verdeguer Sancho, M., Polytechnic University of Valencia (UPV), Valencia, Spain

