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GOOD
AGROECOLOGY FOR WEEDS

Practice Abstract Nº 22
Weed management in grapes in a conventional system, Italy

INTRODUCTION

This study evaluated the impact of cover crops and weed management practices in an inter-row vineyard system under conventional farming. Three cover crops (*Vicia faba*, *Trifolium alexandrinum*, and a two-species mixture of *Vicia villosa + Avena sativa*) were tested for their ability to suppress winter weeds. After cover crop termination, weed management strategies included herbicide application at full and reduced rates, mechanical soil tillage, and an untreated control.

PRACTICAL RECOMMENDATIONS

1. If herbicides are used, apply them at the critical growth stages of *Bidens spp.* and *Conyza spp.* to improve efficacy

2. Consider integrating cover crops to reduce reliance on chemical control
While effective against certain weeds, mechanical weed control may worsen *C. dactylon* infestations by cutting rhizomes, leading to their spread

3. *V. villosa + A. sativa* demonstrated the highest biomass production and the most effective weed suppression

MAIN RESULTS – OUTCOMES

- *V. villosa + A. sativa* was the most effective cover crop in terms of biomass production (373.2 g m^{-2})
- Herbicide treatment was less effective, likely due to the presence of herbicide-resistant *Conyza spp.* and the difficulty of controlling *Bidens spp.* and *Conyza spp.*
- In the summer, predominant weeds were *Bidens spp.*, *Conyza spp.*, and *Cynodon dactylon*. *V. villosa + A. sativa* reduced total weed biomass by 58% compared to herbicide application (recommended rate) and 85% compared to mechanical weeding

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