

Factsheet Nº 5

How climate change is reshaping weed-plant interactions

INTRODUCTION

Climate change is leading to a change in the species, phenology and dynamics of weeds found in agricultural ecosystems, **creating new challenges for farmers**. The plasticity of weeds allows them to adapt to new environments, altering their abundance and distribution, *impacting global agriculture*.

Management strategies must be re-evaluated due to the increasing complexity of these interactions and the management of resources.

For example, rising temperatures and changes in rainfall patterns may:

- 1 favour the growth of certain weed species, making them more competitive against crops. For example, C₄ weeds, which thrive in higher temperatures, can become more dominant
- 2 accelerate the growth cycles of weeds, leading to more frequent and intense infestations
- 3 intensify the competitiveness of weeds for resources, compromising crop yields
- 4 alter herbicide resistance patterns

KEY TAKEAWAYS

1 Developing more robust control strategies is crucial; combinations of physical and biological control are proving effective.

2 Agroecology plays a fundamental role in efficiently managing weeds, guaranteeing a fair and lasting ecological transition.

FIGURE 1. Winter weeds at seedling stage (left) and flowered (right)
(cc: Dr. Alexandros Tataridas, University of Coimbra)

