



AGROECOLOGY FOR WEEDS

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AGROECOLOGICAL WEED MANAGEMENT REPOSITORY

The Agroecological Weed Management (AWM) Repository (<https://www.goodhorizon.eu/platform/awm-practices/>)

is a virtual space where you can freely and openly find information and educational material on current and agroecological weed management practices in the European Union. You can browse and learn about several weed management practices and crops.

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ROW SPACING

DESCRIPTION & BENEFITS

Adjustments of row spacing refer to the modification of the distance between crop rows in agricultural fields to:

- **optimize plant density, sunlight exposure, and resource utilization**, thereby enhancing crop growth and productivity,
- **alter and manipulate the weed flora and the competitiveness of crops against weeds**
- **create a denser canopy** that shades out weeds and reduces their access to light and resources
- **facilitate access to crops, harvest and mechanical means** and application of other weed management practices by widening the row spacing



TIPS

STRENGTHS

- Efficient inter-row cultivation and mechanical weeding, reducing weed competition and facilitating weed management
- Flexibility to optimize spacing based on crop species, soil conditions, and local climate
- Enhanced light penetration and air circulation between rows can promote crop growth and yield

WEAKNESSES

- Initial investment required for equipment and infrastructure to adjust row spacing systems
- Potential challenges in adapting existing farming practices and infrastructure to adjust in row spacing
- Risk of reduced crop density and yield in some cropping systems, if spacing adjustments are not carefully planned and managed

OPPORTUNITIES

- Collaboration with agricultural advisors and equipment manufacturers to develop specialized machinery for adjusted row spacing
- Integration of cover cropping or intercropping between rows to further suppress weed growth
- Adoption of precision agriculture technologies for adjusted row spacing, optimizing resource use and maximizing weed management effectiveness

THREATS

- Reluctance of farmers to change established row spacing practices or invest in new equipment and technologies
- Potential for increased soil erosion and nutrient runoff in regions with wider row spacing, particularly on sloping terrain or in areas prone to heavy rainfall
- Competition with existing land uses or cropping systems that may require specific row spacing configurations, limiting flexibility and scalability

- **do your own experiments** in small land parcels with different row configurations to find the best one for your cropping system
- **select narrow row spacing in crops** if you want to increase their competitive ability against weeds due to rapid canopy closure
- **select wider row spacing in crops** that require mechanical cultivation or intercropping systems
- **consider various factors when adjusting the row spacing** (e.g., sowing density, morphology of plants, available tools and machinery, intra-competition, nutrients demand, changes in crop protection practices etc.)
- **regularly monitor the crop growth** to make decisions about fertilization, irrigation, and crop protection
- **combine the adjustment of row spacing** with other environmentally friendly agroecological weed management practices to reduce weed pressure

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