GOOD

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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SOWING PATTERN

DESCRIPTION & BENEFITS

Adjustments of sowing pattern refer to the arrangement or orientation of seeds and their density within a field during sowing to:

- **optimize plant spacing and growth uniformity** resulting in rapid canopy closure (in narrow row spacing) and less competition with weeds across the entire field
- **affect weed emergence, growth and suppression**
- **enhance crop competitiveness** and ultimately, crop yields

STRENGTHS

- Precision sowing patterns can optimize crop density and spacing, reducing weed pressure and growth
- Flexibility to adjust sowing patterns based on crop species, soil characteristics, and local environmental conditions
- Diverse sowing patterns, such as strip intercropping or seed broadcasting, can promote biodiversity and ecosystem services

WEAKNESSES

- Initial investment for equipment and technology to implement variable sowing patterns, potentially limiting adoption among smallholder and family farmers
- Complexity in managing multiple crops or species within a single growing season, requiring knowledge and experience
- Risk of reduced crop yields and inter-species competition if sowing patterns are not carefully designed and managed

OPPORTUNITIES

- Integration of precision agriculture technologies for variable sowing patterns, enabling resource optimization
- Adoption of agroecological principles (e.g., diversity, resilience) to design sowing patterns, promoting promote natural weed suppression
- Peer-to-peer exchange of knowledge among farmers and synergies with consultants to develop crop varieties suited to specific sowing patterns

THREATS

- Reluctance of farmers to change traditional sowing methods or invest in new equipment and technologies
- Fluctuations in seed and machinery prices, limiting flexibility and scalability
- Potential increased weed pressure if sowing patterns are not optimized for weed suppression

TIPS

- **do your own experiments** in small land parcels with various sowing configurations tailored to the specific crops, field conditions, and weed pressure
- **create a diverse and competitive crop canopy** by adjusting the sowing pattern and/or sowing intercropped species
- **increase the plant spacing in wider row spacing** to allow mechanical cultivation
- **try to adopt precision sowing technologies** to achieve precise seed sowing and spacing, optimizing crop-weed competition dynamics
- **try to adopt precision sowing technologies** to achieve precise seed sowing and spacing, optimizing crop-weed competition dynamics
- **regularly monitor the effectiveness of this practice on the weed pressure**
- **combine the adjustment of sowing pattern** with other environmentally friendly agroecological weed management practices to reduce weed pressure

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