



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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INTERCROPPING

DESCRIPTION & BENEFITS

Intercropping involves growing two or more crops simultaneously in the same field, either in alternating rows or mixed within the same row to:

- **create a more diverse and competitive cropping system** that can outcompete weeds for resources such as sunlight, water, and nutrients
- **disrupt or break weed growth lifecycle and reduce weed pressure** by sowing multiple crops with different growth habits and root structures
- **inhibit weed seed germination and growth** through the release of chemicals due to allelopathic effects (certain species)
- **promote biodiversity and overall agroecosystem resilience**
- **provide an alternative income resource for farmers**
- **provide resilience to the farming system** as if one crop fails, there will be another to be harvested



TIPS

STRENGTHS



- Enhancement of biodiversity through the cultivation of multiple crops in the same area
- Potential weed suppression through competition for resources
- Improvement of soil health (e.g., reduction of erosion, increase of organic matter, nutrient cycling)

WEAKNESSES



- Requires careful management to balance the needs of different crops and minimize competition
- Challenging to implement in narrow row crops and on large-scale operations
- Potential increase of labor and management costs compared to monoculture systems due to additional complexity (e.g., new machinery)

OPPORTUNITIES



- Potential higher overall yields compared to monoculture systems
- Market diversification and value-added products from mixed cropping systems
- Improvement of resilience due to crop diversification and reduction of risks for crop failure

THREATS



- Potential for increased pest, weed, and disease pressure, especially if susceptible and less competitive crops are chosen
- Lack of market demand or infrastructure for mixed crops, limiting economic viability for some farmers (especially smallholders)
- Risk of crop yield reductions if intercropped species compete excessively or exhibit allelopathic effects

- **select compatible crop combinations** considering various factors such as growth habit, nutrient requirements, and complementary resource use. The intercropping design should aim to maximize resource competition with weeds while optimizing crop yields and ecosystem services such as pest suppression and soil health improvement
- **choose the proper intercropping pattern.** Among several patterns (strip intercropping, relay intercropping, mixed intercropping) you should take into account the potential advantages in terms of weed suppression and resource utilization
- **ensure the proper crop management and crop protection practices,** including timely sowing, weed control between rows, use of pesticides and fertilizers, and appropriate spacing
- **regularly monitor the crop performance and weed populations** to be able to adjust strategies and optimize weed management throughout the growing season

LIABILITY DISCLAIMER

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