



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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ELECTRIC WEEDING

DESCRIPTION & BENEFITS

Electric weeding is a relatively new method that applies high-voltage electricity to kill weeds by damaging plant tissues and even affecting root systems. This practice:

- **can precisely target weeds** without damaging crops if it is combined with precision agriculture tools (e.g., cameras, sensors, machine learning algorithms to identify weeds)
- **causes desiccation of the weed** also affecting the root system
- **Is effective against various types of weeds** including annual and perennial, grasses and broadleaves

STRENGTHS



- Precise targeting of individual weeds, minimizing unnecessary treatments and damage to crops
- No soil disturbance
- Quick results which is important for farmers but also desirable to reduce the competition between the crops and weeds

OPPORTUNITIES



- Growing need for sustainable alternatives to synthetic herbicides and electric weeding could be ideal even for urban areas for weed management
- Technological advancements that could reduce the costs and energy consumption
- Combination with other cultural, mechanical and precision weed management practices

WEAKNESSES



- Initial costs for investment to this equipment, maintenance costs and energy consumption
- Varied effectiveness against perennial weeds
- Safety issues as the operators need to be well-trained and take all necessary security measures

THREATS



- Competition with other technological weed management practices and ongoing innovations
- Special maintenance that requires the presence of specialized engineers and companies near the farm
- Potential regulatory barriers with regard to the use of electricity to manage weeds



TIPS

- **perform electric weeding** when weeds are in the early growth stages to achieve the best results
- **regularly maintain** the equipment and try to invest on advanced weed detection tools to improve the effectiveness
- **track the energy consumption and analyze the trade-offs** comparing with other weed management practices to check which one(s) can reduce the weed pressure and are economically viable
- **follow the safety standards**
- **combine electric weeding with other practices** to improve the resilience of the farm (e.g., cover crops)

LIABILITY DISCLAIMER

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