



AGROECOLOGY FOR WEEDS

www.goodhorizon.eu

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.

The **Agroecological Weed Management (AWM) Toolbox**, our Decision Support System that supports the user to reduce the use of synthetic herbicides and/or improve weed management by combining different Agroecological Weed Management (AWM) strategies with cover crops is LIVE !

<https://dss.goodhorizon.eu/>



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DECISION SUPPORT SYSTEMS + HERBICIDES (REDUCED RATE)

DESCRIPTION & BENEFITS

Decision Support Systems + herbicides reduced rate combines digital tools, models, field scouting and agronomic advice to support more precise herbicide decisions. DSS can help identify whether a reduced authorised rate may provide acceptable weed control based on weed species, weed density, weed growth stage, crop competitiveness, weather, soil conditions, product efficacy and economic thresholds. This practice can:

- **reduce unnecessary herbicide use**
- **improve dose selection and timing**
- **lower input costs** where reduced rates are effective
- **support** field monitoring and record keeping

STRENGTHS

- Improves herbicide decision-making by linking dose choice to weed species, weed density, crop stage, weather conditions and expected control needs
- Could reduce herbicide input and treatment costs where weed pressure is low to moderate and conditions favour effective control
- Supports more knowledge-based and need-based weed management instead of routine full-rate horizontal applications

OPPORTUNITIES

- Could reduce herbicide use and support pesticide-reduction objectives while maintaining acceptable weed control in suitable situations
- Could be integrated with precision spraying, weed mapping, field records and economic thresholds for more targeted weed management
- Could strengthen Integrated Weed Management when combined with crop rotation, cover crops, mechanical control, false seedbed and herbicide rotation

WEAKNESSES

- Requires accurate field scouting, weed identification and reliable input data; poor data can lead to ineffective recommendation
- Effectiveness depends strongly on weed growth stage, product efficacy, application timing, weather, crop competitiveness and sprayer calibration
- Availability and quality of DSS tools may vary by crop, region, language, weed flora and regulatory context

THREATS

- Repeated use of reduced rates, especially with the same mode of action, may increase selection pressure for herbicide-resistant or less susceptible weeds
- Poor DSS recommendations, outdated models or lack of local validation may reduce farmer confidence and lead to poor weed control
- Legal misuse of herbicide rates, poor record keeping or non-compliance with label conditions may create agronomic, environmental or regulatory risks

TIPS

- **use reduced rates only when allowed** by the herbicide label and national regulations
- **enter accurate information into the DSS**, including weed species, density, crop stage, soil type, weather and field history
- **apply reduced rates only when** are small, susceptible and actively growing
- **avoid reduced rates where herbicide resistance is suspected or confirmed**
- **calibrate spraying equipment carefully** to ensure accurate application
- **monitor treated fields** to check weed survival, regrowth and crop injury
- **rotate herbicide modes of action** and combine DSS-supported reduced rates with non-chemical AWM practices

LIABILITY DISCLAIMER

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