

## Strategies for weeding with laser

### Treatments in row crops

Today row crops (beets, maize, potatoes, and vegetables) require several weed control treatments in a season due to a low competition ability of the crops caused by slow growth at the beginning of the season, and large distances between the plants in the rows and between the rows. The open space favours the fast-growing weed species, even those that germinate late in the season due to high-temperature requirements (e.g., *Solanum nigrum*, *Urtica urens*, *Galingsoga* sp.).

### Treatment areas

Laser weeding in row crops has high priority in WeLASER to reduce pesticide use because laser weeding alone or in combination with mechanical weed control can replace several herbicide treatments in the season. In many crops, chemical weed control is not an option anymore due to the banning of herbicides, and the process is replaced with mechanical or hand weeding. However, weeds close to the crop plants constitute a significant problem that laser weeding can solve.



### Proposed solution

Focusing on a small area around the crop would increase the speed of the laser weeding, as a smaller area needs to be analysed, and fewer weeds have to be treated. The system speed in terms of controlled area per time unit is crucial for its usefulness in competition with other weeding methods. Based on the discussion with the stakeholders, WeLASER will prioritise focusing on weeds in the crop rows and especially on a limited area around the crop plants to increase the capacity of the system.

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