TARGETED APPLICATION OF HERBICIDE
BY AN AUTONOMOUS ROBOT

The first ever completely autonomous machine for the ecological and economical weeding of row crops, meadows and intercropping cultures.

20X LESS HERBICIDE
Thanks to the precise detection and discriminating spraying of weeds.

100% AUTONOMOUS
Works up to 12 hours a day without a human operator – solar powered, no rechargeable batteries.

130 KG OF SIMPLICITY
Lightweight design minimises soil compaction – reliable, robust and non-hazardous.
AN INNOVATIVE, AUTONOMOUS AND ECONOMICAL MACHINE

The robot works without being controlled by a human operator. It covers the ground just by getting its bearings and positioning itself with the help of its camera and GPS. Its system of vision enables it to follow crop rows, and to detect the presence and position of weeds in and between the rows. Two robotic arms then apply a microdose of herbicide, systematically targeting the weeds that have been detected. In bare fields or meadows the robot positions itself precisely thanks to its GPS RTK.

Reliance on solar power makes the robot completely autonomous in terms of energy, even when the weather is overcast. As it adapts its speed to the concentration of weeds, it is most suitable for use in fields where the level of concentration is low to moderate, in order to cover the ground at a reasonable speed. We recommend using the machine after an initial standard application of herbicide, in order to replace subsequent applications and thus save an important amount of herbicide (more than 20x less than with a standard treatment). The machine can be completely controlled and configured by means of a Smartphone app.

TYPICAL PATTERN OF USE THROUGH THE YEAR

<table>
<thead>
<tr>
<th>MARCH - APRIL</th>
<th>MAY - JUNE</th>
<th>JULY - AUGUST</th>
<th>SEPT. - OCT.</th>
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<tbody>
<tr>
<td>Eradication of perennial weeds in meadows and intercropping fields</td>
<td>Weeding beetroot*</td>
<td>Eradication of weeds in meadows and intercropping fields</td>
<td>Weeding rape* and eliminating perennial growths in meadows and intercropping cultures</td>
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HOW IT WORKS

Systematic sweep of the entire field – no corners are left out. The robot arm places a microdose just at the right spot, without any wastage. Weeds are detected with a success rate in excess of 95%** both in and between rows. The robot can easily be transported by tractor.

TECHNICAL SPECIFICATIONS

- Dimensions: 2.20 x 1.70 x 1.30 (width x length x height, camera folded down)
- Weight: 130 kg
- Width of area covered: 2 metres
- Speed: 0.4 m/s (average)
- Space between crops: 35 to 70 cm (adjustable)
- Maximum height of crop: 25 cm
- Robotic arms: Fast Delta – executing 4000 movements per hour
- Precision: < 2 cm
- Effectiveness: > 95% of weeds are detected and destroyed**
- Surface area covered: 3 hectares per day**, 7-12 hectares continuously with one pass per week
- Energy: Highly efficient solar cells (380W) and battery
- Sensors: Colour megapixel camera, GPS RTK, compass
- Navigation: 100% of the field covered
- Tanks: 2 x 15 litres – more than enough for one day of autonomous operation
- Control and configuration: By Smartphone or Tablet (Android/iOS)
- Communication: Short (WiFi) or long distance (mobile phone networks)
- Soil humidity / wind: Soil must not be too wet or viscous. Maximum wind 60 km/h at ground level.
- Other: Incorporates antitheft system

* Other cultures are in the pipeline and will be added with new software updates.
** In ideal conditions – may vary according to the conditions of use.