



TECHNOLOGY FOR ENVIRONMENT

Targeted application of herbicide by the first ever completely autonomous robot for the ecological and economical weeding of row crops, meadows and intercropping cultures.



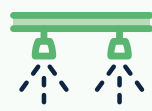
100% AUTONOME

Solar traction without recharging.
Works up to 12 hours a day
without a human operator.



HIGH PRECISION

Thanks to the precise
detection, no crop
affected, no yield loss.



90% LESS HERBICIDE

Less herbicide used.
Reduce your costs and your
environmental impact.

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

MARCH - APRIL

Eradication of perennial weeds in meadows and intercropping fields

MAY - JUNE

Weeding beetroot*

JULY - AUGUST

Eradication of weeds in meadows and intercropping fields

SEPT. - OCT.

Weeding rape* and eliminating perennial growths in meadows and intercropping cultures

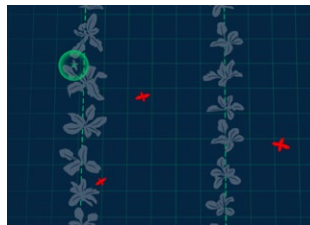
HOW IT WORKS



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 85%** both in and between rows.



The robot can easily be transported by tractor.

TECHNICAL SPECIFICATIONS

- 1 Photovoltaic panels
- 2 Camera and artificial vision for guidance and positioning
- 3 Navigation by GPS and sensors
- 4 Electrical drive
- 5 Rapid robotic arms with sprayers
- 6 Tanks for two different products



Specifications for information purposes only, subject to change without notice.

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	> 85% of weeds are detected and destroyed**
Surface area covered	max 3 ha/day, max 10 ha/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 decrease depending on the conditions of use.



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