



NATUITION  
smart eco robots

# VIOLETTE™

## AUTONOMOUS PIONEER WEEDING ROBOT FOR SPORTS FIELDS

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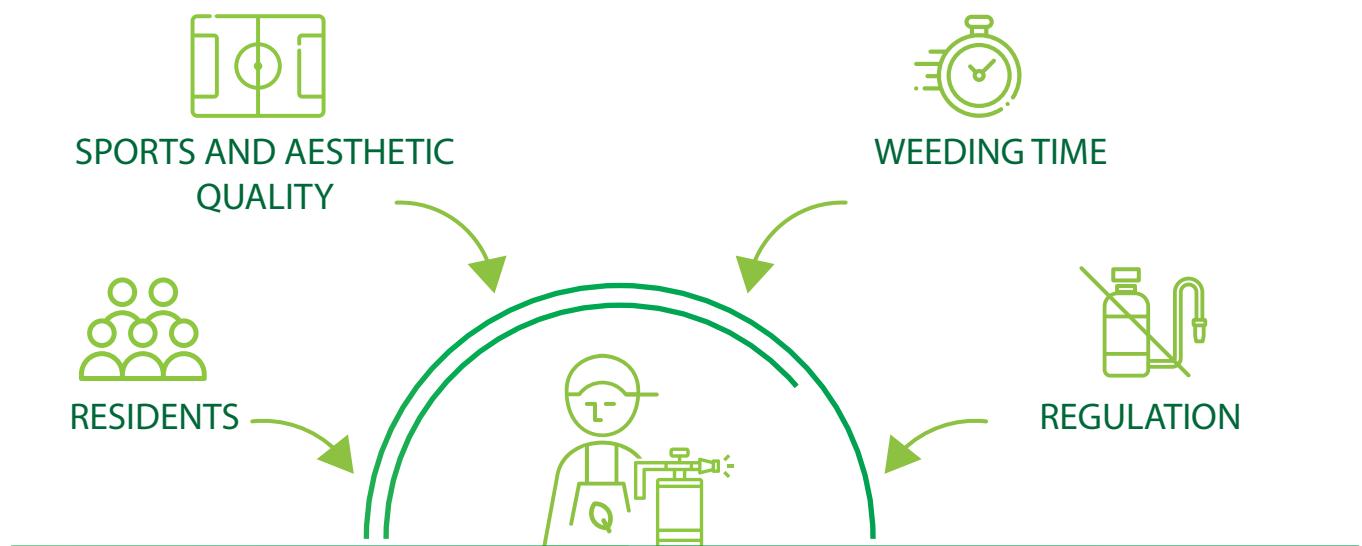
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MADE IN FRANCE



RÉGION  
**Nouvelle-  
Aquitaine**

# PREMIUM WEEDING WITHOUT EFFORT



Under the regulatory, the social, the sporting and the budgetary pressure, the autonomous mechanical weeding is naturally the solution for professional landscapers of sports fields: football fields and rugby fields.



## ONE FIELD PER DAY

Daily capacity of 7500 m<sup>2</sup> in 10h. A football field, A rugby field.



## AUTONOMOUS AND EASY TO USE

It records its perimeter (cordless) and works without any external assistance



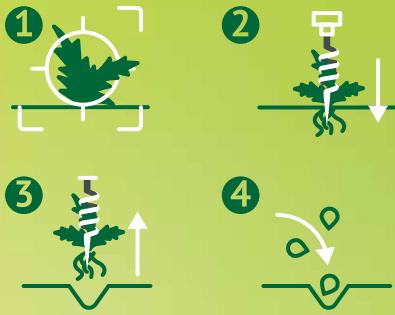
## 80% > 99% OF GRASS

And it is sustainable : the roots of weed are removed and picked up



## YOU NO LONGER HANDLE SPRAYERS

No more dangerous consumables  
No more stuff risks



The issue of weed control has become a societal concern. NATUITION company based in LA ROCHELLE innovates with a selective weeding equipment for sports fields. This equipment smartly locates the weed, accurately picks it up in mechanical way and replaces it with seedling blades of grass.

## PIONEERS OF TRANSITION



Goodbye to the chemistry, welcome to sustainable weed control.

Change benefits not only the well-being of future generations, but also the professionals of green spaces. Back, wrists, shoulders, knees are safe, there is no need to bend down.

Innovation: Weed control is clean without any harmful products; it is sustainable because the root is removed and collected. Also, the grass is improved because the loosened soil hosts a noble seed. The staff is wholeheartedly satisfied to restore the sporty and aesthetic quality of the sports fields.

The danger is to keep using herbicides because of the lack of a weeding solution. Landscape professionals, you are the pioneers of transition. The foliar exchange surface of a maintained turf/lawn is an environmental gain; a stadium forms an oxygen lung in an urban heat island. To master and sustain nature is the asset of tomorrow.



# FUNCTIONING



Great plantain



Daisy



Gold button



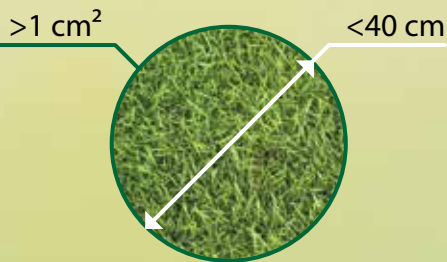
Dandelion



Mallow



Groundsel



The extractor head uproots the upper seedlings up to more than 1 visible cm and weeds to less than a 40 cm diameter. The software can identify the leaves in a dense grass.



The software detects and localizes weeds on the grass.

The root is targeted by the corkscrew.

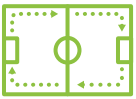


The current extraction speed is 6 weeds per minute. As fast as the hand and effortless.

The machine weeds a whole football field in 10 hours (1 weed for 4m²). In 2020, delivered machines will be qualified for 10 weeds per minute (free updating).

# SETTINGS

## THE PERIMETER IS RECORDED :



At high speed on the pitch, in a maximum speed of 20km/h, and can distinguish, with a removable beacon a hiking track, a tractor to a golf cart.

## THE LAWN HEIGHT:

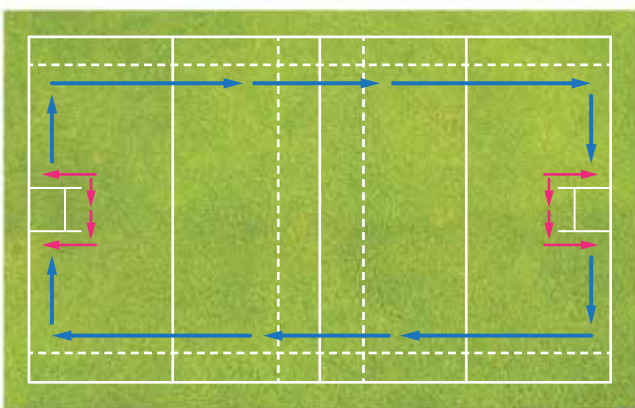


Indicating the height of the mowing grass speeds the detection of weeds up.

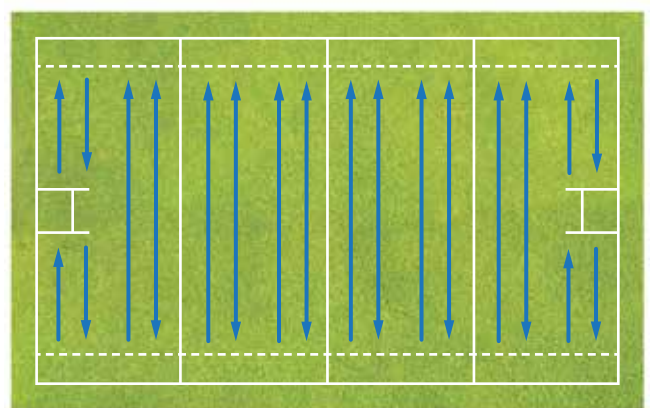


## WORKING TIME DEADLINE

The progress speed and the targets chosen are optimized to meet the staff's schedule due time.



An example of recognition in blue, the removal of creases in red.



The result of weeding perimeter

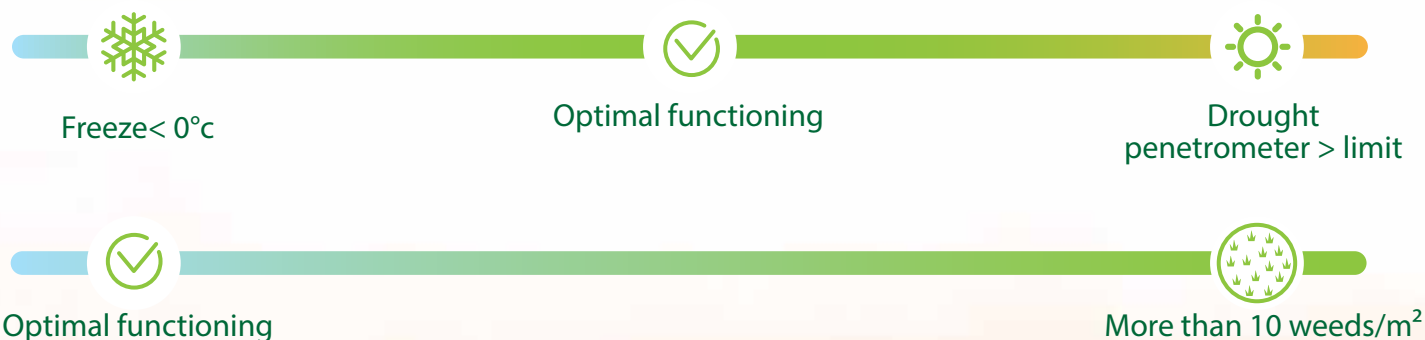
# USAGE



VIOLETTE weeds in well-tended and high quality sports lawns during the day, at night and when it rains



It does not work when the earth is frozen and the green colour is no longer dominant (non-irrigated grass)



- 1 If the machine is set up within the previously defined perimeter it turns on and begin working automatically.

Manual addition of a new pitch requires to follow instructions and make a round of the zone using beacon.

- 2 Then the machine is turned on.

The machine operates automatically and reports events.

You can consult the camera without a distance limit.

- 3 A notification is sent when the machine perimeter is weeded.
- 4 The machine is put back to its place of storage and recharged.

# MAINTENANCE



## REGULAR MAINTENANCE

The helical tool is tested to 100,000 extractions. It can be changed at the workshop by your authorized dealer.

The actuator is tested to 500 00 extractions. It can be changed in the workshop following a video procedure.

Cleaning: the machine can be cleaned with water( without high pressure).



## MID-LIFE MAINTENANCE

As post-sale customer service, engines are tested and bearings are replaced at mid-life (5 years).

The electronics are updated to ensure the security of spare-parts and operating systems.



## SOFTWARE

The software of the machine is open-source. Programmed obsolescence is thus avoided.

# TECHNICAL DATA



Carbody	Anodized aluminium
Power	100% electric, a long-lasting battery LiFePo
Energy	240 Wh
Autonomy	10 hours of operating
Charging	4h main grid
Transmission	Propulsion with variable speed
Speed	Transport 4km/h, working 0.2 ... 1 m/s
Slope	10%
Work width	50 cm
Tyre size	Mini 40 x 9.5" Maxi 80 x 9.5 "(210mm)
Conduct	Self-guidance GNSS RTK, no boundary wire