



CaneFit

Weed Detection – Product Specifications

Weed Infestation Overview Map

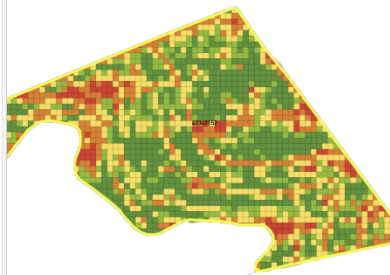
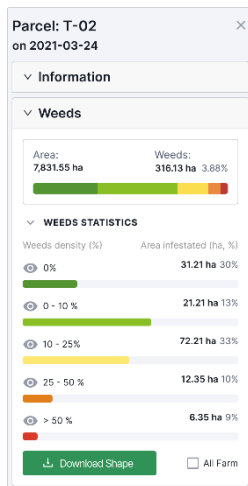
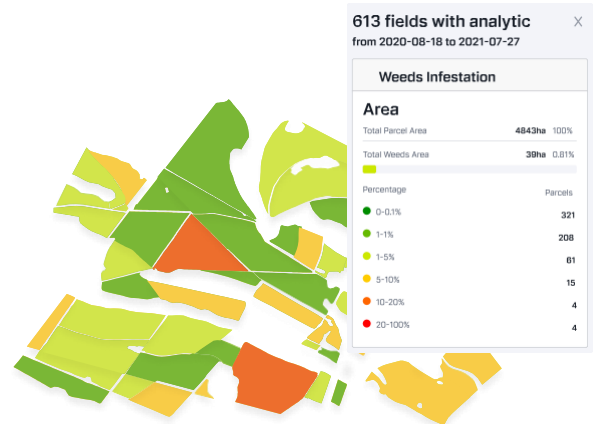
USE CASE

Compare weeds infestation levels (relative covered area) among all parcels of the same drone flight in order to:

- Define the most severe fields and better plan the sequence for control
- Treating sooner the more severely infested fields, resulting in more effective weed control

OUTPUT

Total area of weeds coverage per parcel is computed and compared with its respective parcel total area. Different percentages of weed appear in different color gradients.



Weed Density Map

USE CASE

Geolocate and quantify weed infested areas within the selected parcel, that presents visible weeds patches bigger than 0.5x0.5m and that constitute areas of weed over the crop, so that user can:

- spot all relevant areas of weed that may cause yield losses;
- accurately scouts the most infested areas first;
- avoid spraying herbicide in areas without weeds;
- saving time and costs with inputs and operation.

OUTPUT

Gamaya's deep learning segmentation model detects all weed patches (any vegetation within the crop area other than sugarcane and bigger than 0.5x0.5m). it generates a regular grid of 10x10m representing the density of weed within every single square than.

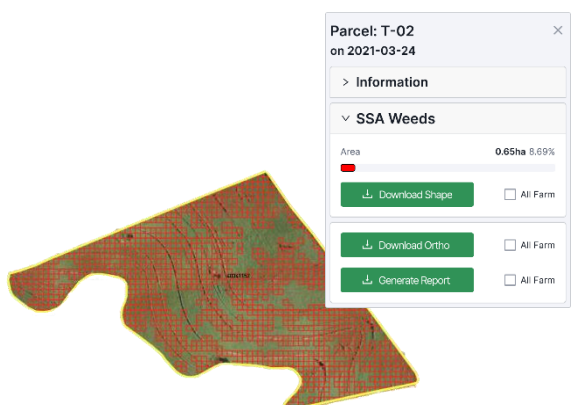
Weed SSA Map

USE CASE

Provide maps/files ready to be used in site-specific application machinery in the field for weed control. It gives the basic information needed to guide both manual spot spraying application and ssa (site-specific application) for precision farming sprayers.

OUTPUT

10x10m regular grid overlapping the weed density map where weeds are present. squares with 0% of weed density are ignored in this grid visualization. In vector format, .GeoJSON for sprayer machines.



General specifications

DATA FORMAT	Geotagged .jpg (raw data) or .tif (orthomosaic)
DRONE	Any UAV that can follow the basic protocol for flight specifications
CAMERA	HD-RGB (specified by Gamaya)
GROUND RESOLUTION	3-4.5 cm/ px
DATA UPLOAD	Gamaya uploader interface. Account is created prior to data acquisition.
CUSTOMER DATA SETTINGS	Basic request specifications: <ul style="list-style-type: none">- sugarmill unit- if service will include ortho alignment and parcel boundaries editing .shp file containing:<ul style="list-style-type: none">- farm name- parcel id code (parcel name)- planting/last cut date- variety (optional)
INTERNET SPEED	Internet connection min 10 mbps recommended
WEB PLATFORM	Gamaya's web platform: https://app.gamaya.com/
ACCESS	Authenticated user access for employees (requires internet access)
DRONE PLATFORM	
WEB PLATFORM FEATURES	<ul style="list-style-type: none">- sugarmill unit, farmland & individual field views- visualization of the results in an interactive maps- statistics of total weeds density map and ssa area in hectares and percentage of weeds per parcel- table view showing results per parcels of the entire chosen time period or entire selected farm or entire sugarmill unit- export to .shp (for field boundaries, weeds density map and ssa map) and .tif (ortho) files (gis compatible format) specifications
PERIOD OF DETECTION	Early growing stage fields. plants size between up to 1m
GROUND RESOLUTION	3-4.5 cm/px
NUMBER OF FLIGHTS	
DETECTION ACCURACY	Analytics shall consistently detect weed patches with overall accuracy of 90%
DATA PROCESSING TIME	72 hours from the time of all data upload (after training time)