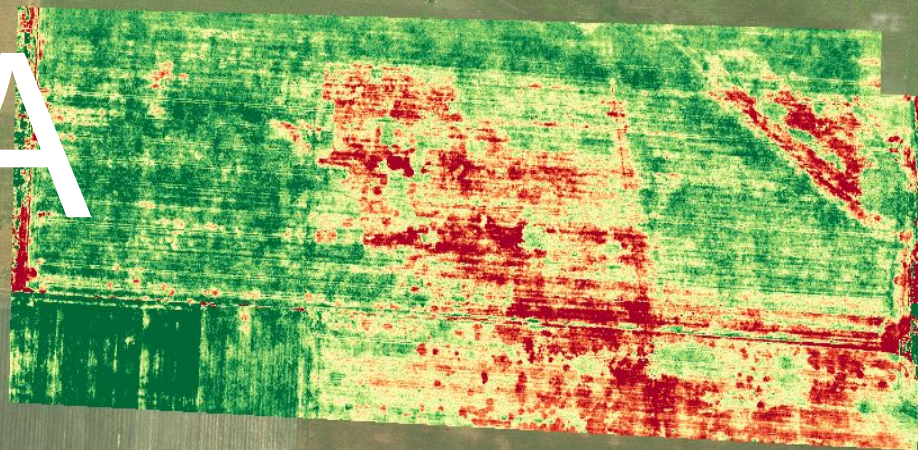


Sri Lanka
Drone Technology

László SZABÓ, MOON42 Ltd.

P.92. R.D.I. International part of the MOON42 Group

SENSORY DATA





WHY METEOROLOGY STATIONS ARE IMPORTANT

WE HAVE TO
KNOW THE
DETAILS

The
profitability
can be
increased
at least with
30%



WHAT KIND OF DATA CAN BE COLLECTED BY DRONES

RGB – red, green, blue

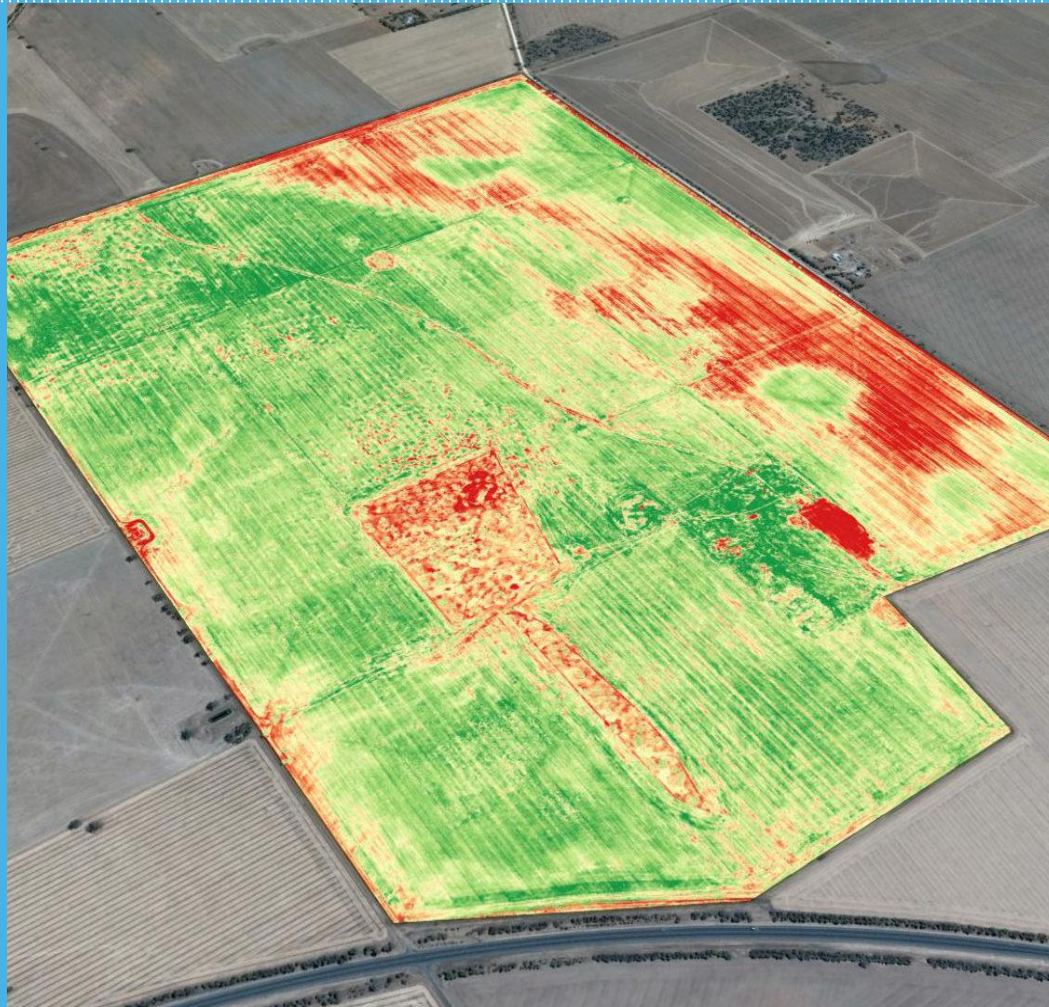
The most important: green

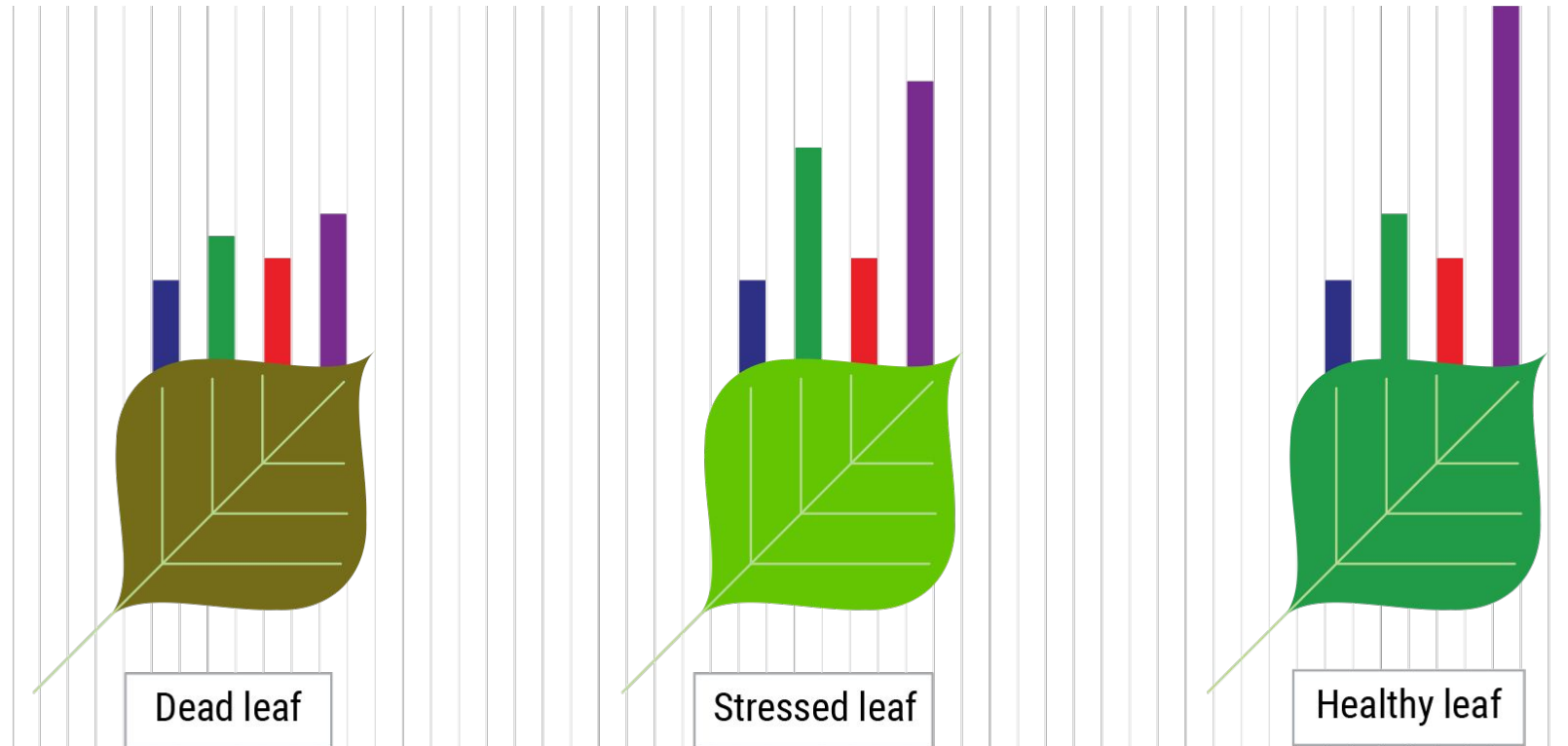
NIR – Near Infra Red

The healthier leaf reflects more NIR

RGB + NIR: very good result

**Regular drone pictures for
historical record to see the changes
(positive and negative)**





Automatic flight planning

Picture analyses

Personal recommendations

Communication channels





MOON 42
moon42.com





1

We can name
and follow
each and every
tree and plant



2

Leaf area
calculation
(this is regular
throughout the
year)



3

Biomass



4

Plant health
(relative)

- Orthoimage of the estate with a ground resolution of maximum 5 cm (raster format)
- DSM (Digital Surface Model) (raster format or point vector)
- Vectorized land use map (shp or kmz format)
- Estate map with digitized objects
- NDVI and other vegetation indices calculated for the whole estate
- Leaf area
- Plant measurements (individual trees are measured)
- Soil sampling scheme to be performed in management zones for the fertilization plan
- Soil sampling and mapping to define the soil parameters in 2 layers: 0-50 cm and 50-100 cm deep. This will be the baseline for the differentiated fertilizer application.
- Fertilizer recommendation

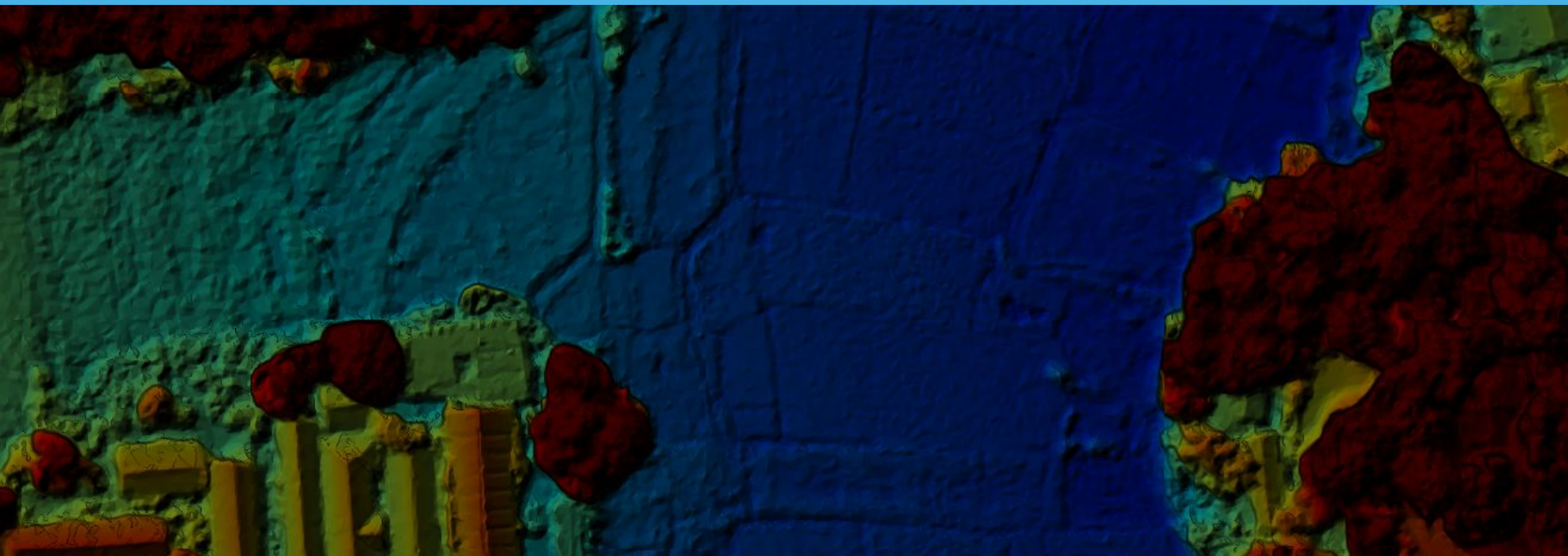


Orthoimage

Ground resolution: max 5 cms

Georeferenced

GIS ready



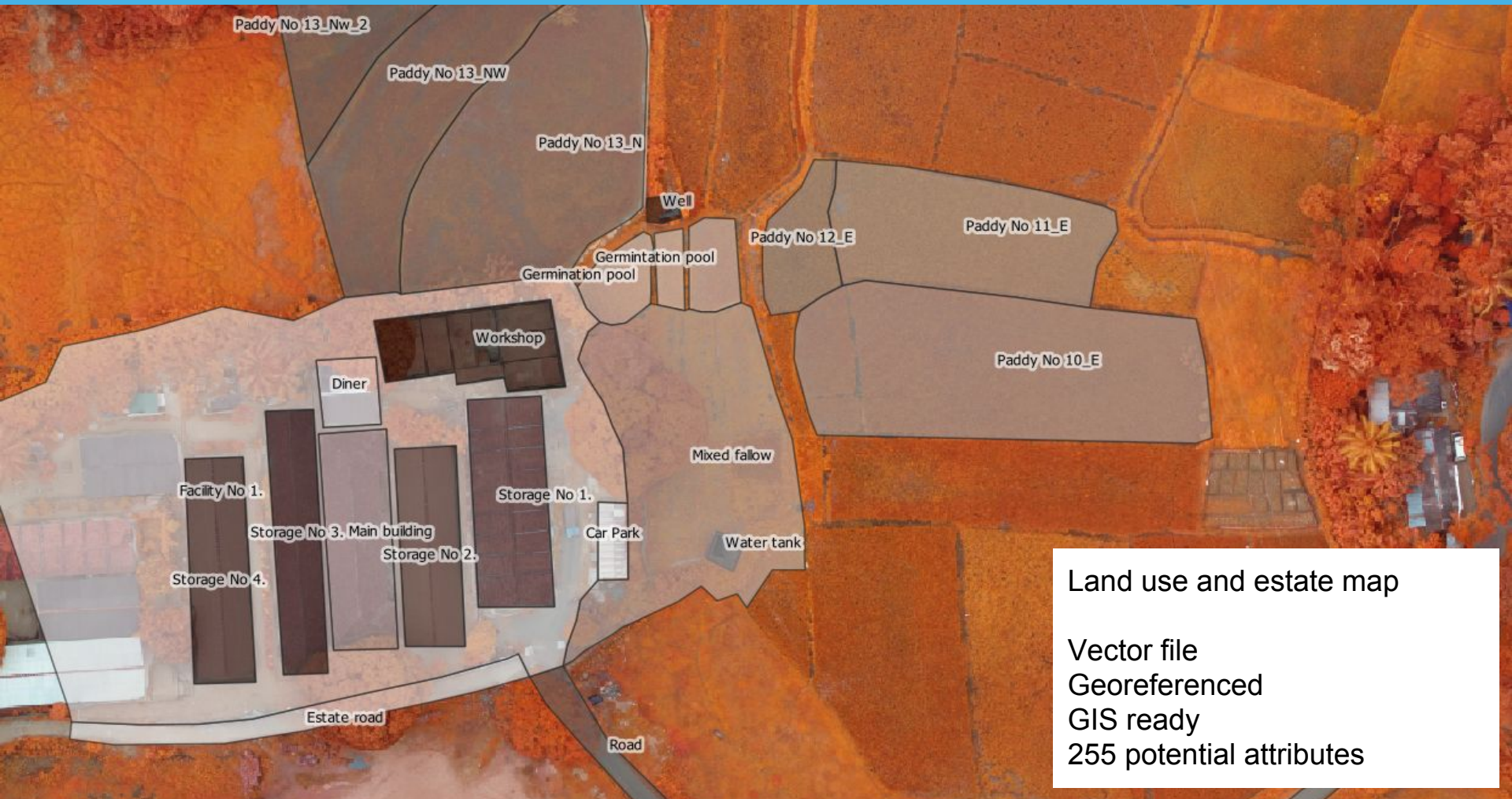
Digital Surface model

Ground resolution: max 10 cms

Georeferenced

GIS ready

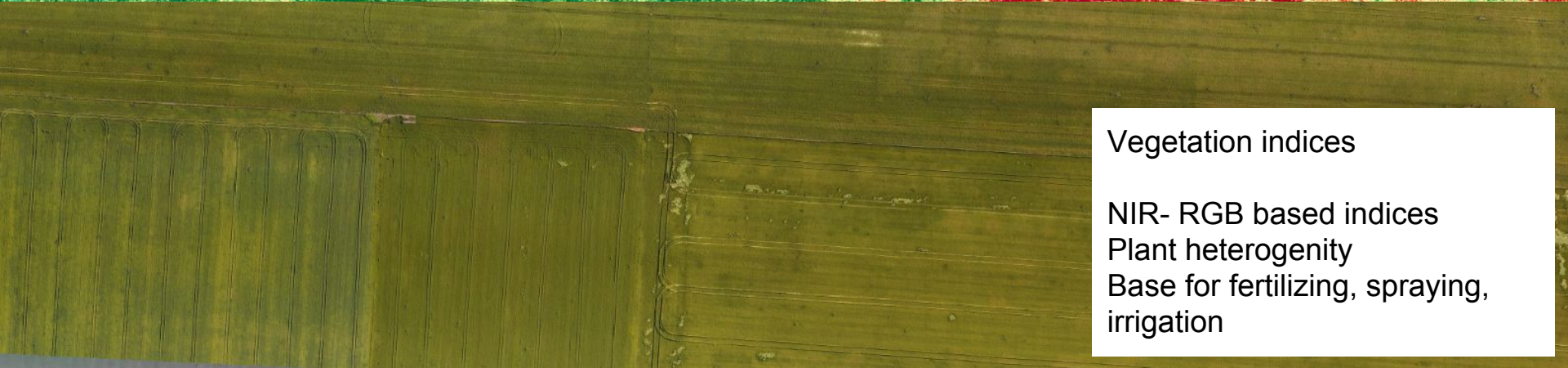
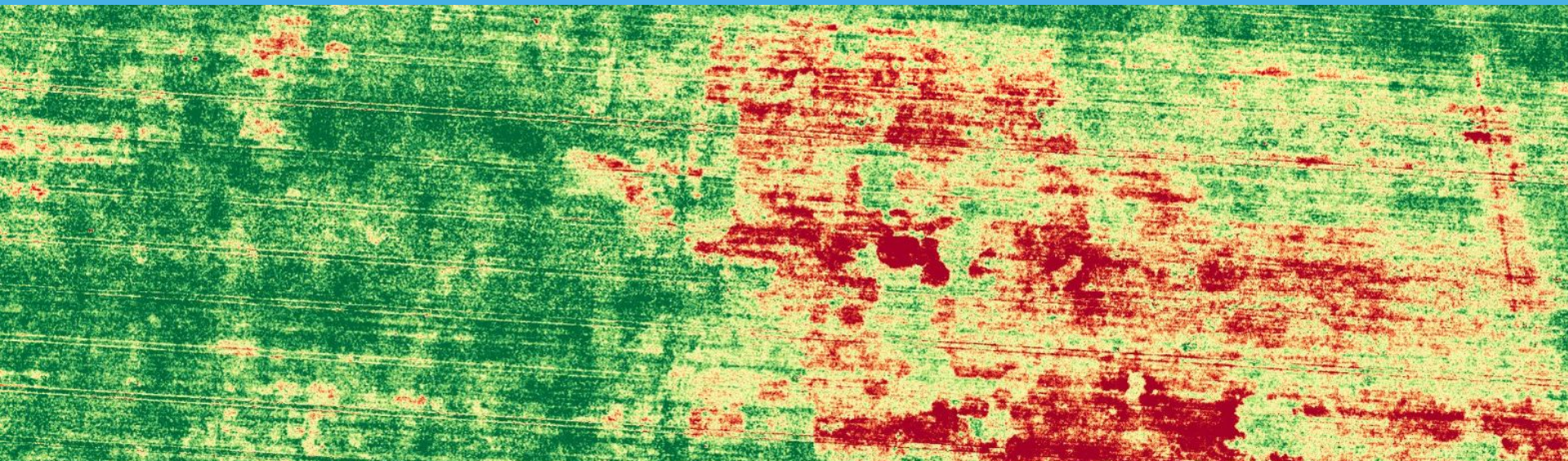
Point or raster format



Land use and estate map

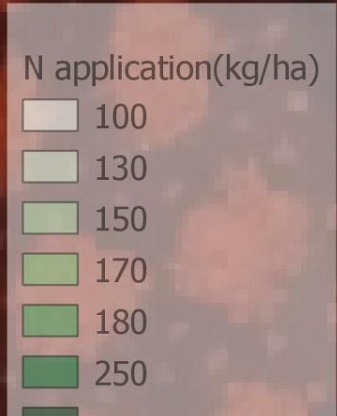
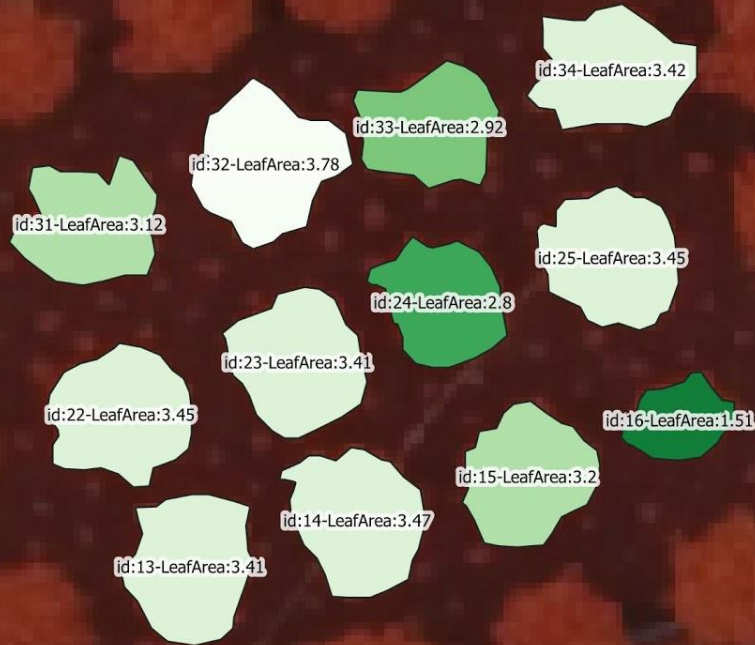
Vector file
Georeferenced
GIS ready
255 potential attributes

NDVI AND OTHER VEGETATION INDICES CALCULATED FOR THE WHOLE ESTATE



Vegetation indices

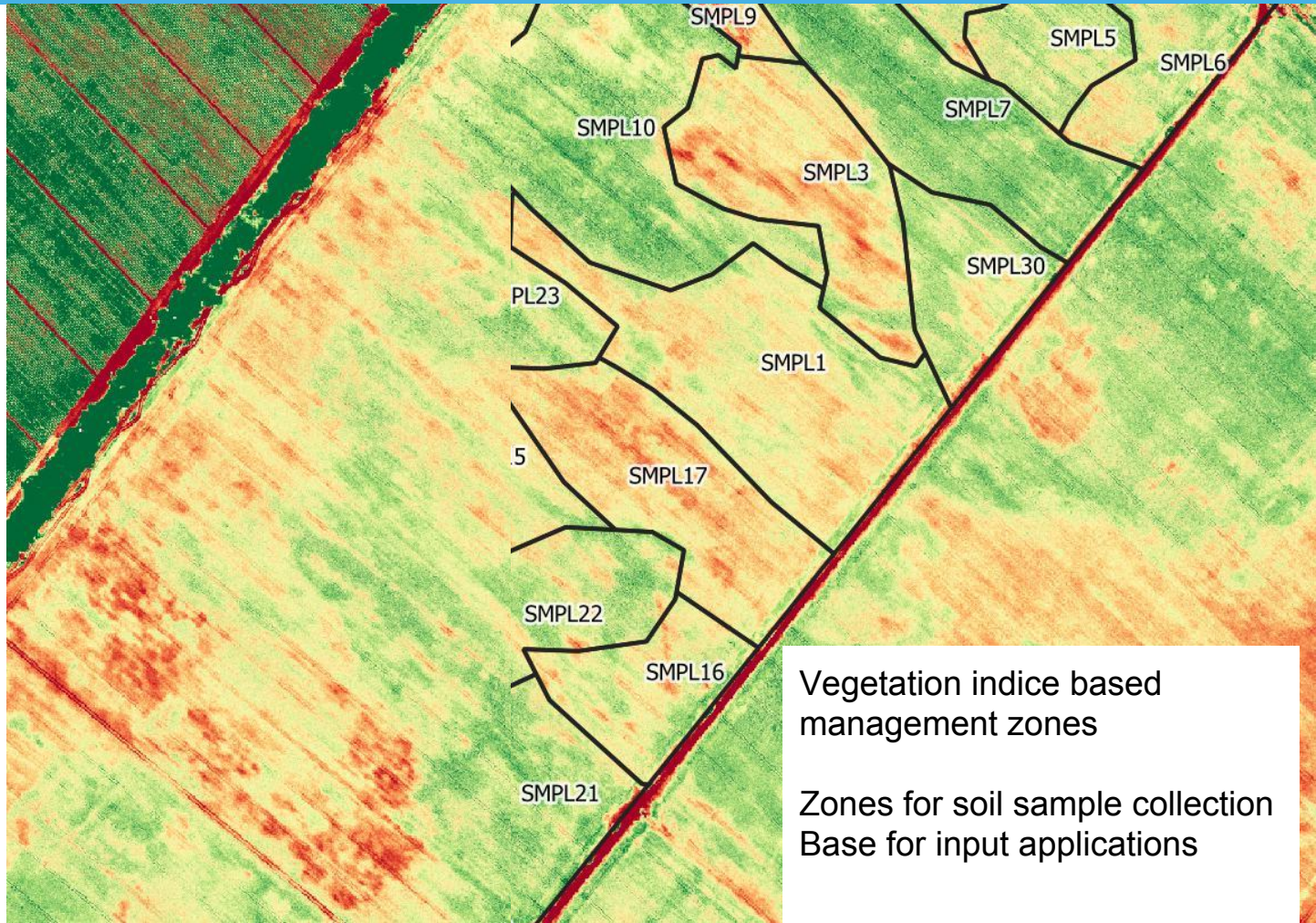
NIR- RGB based indices
Plant heterogeneity
Base for fertilizing, spraying,
irrigation



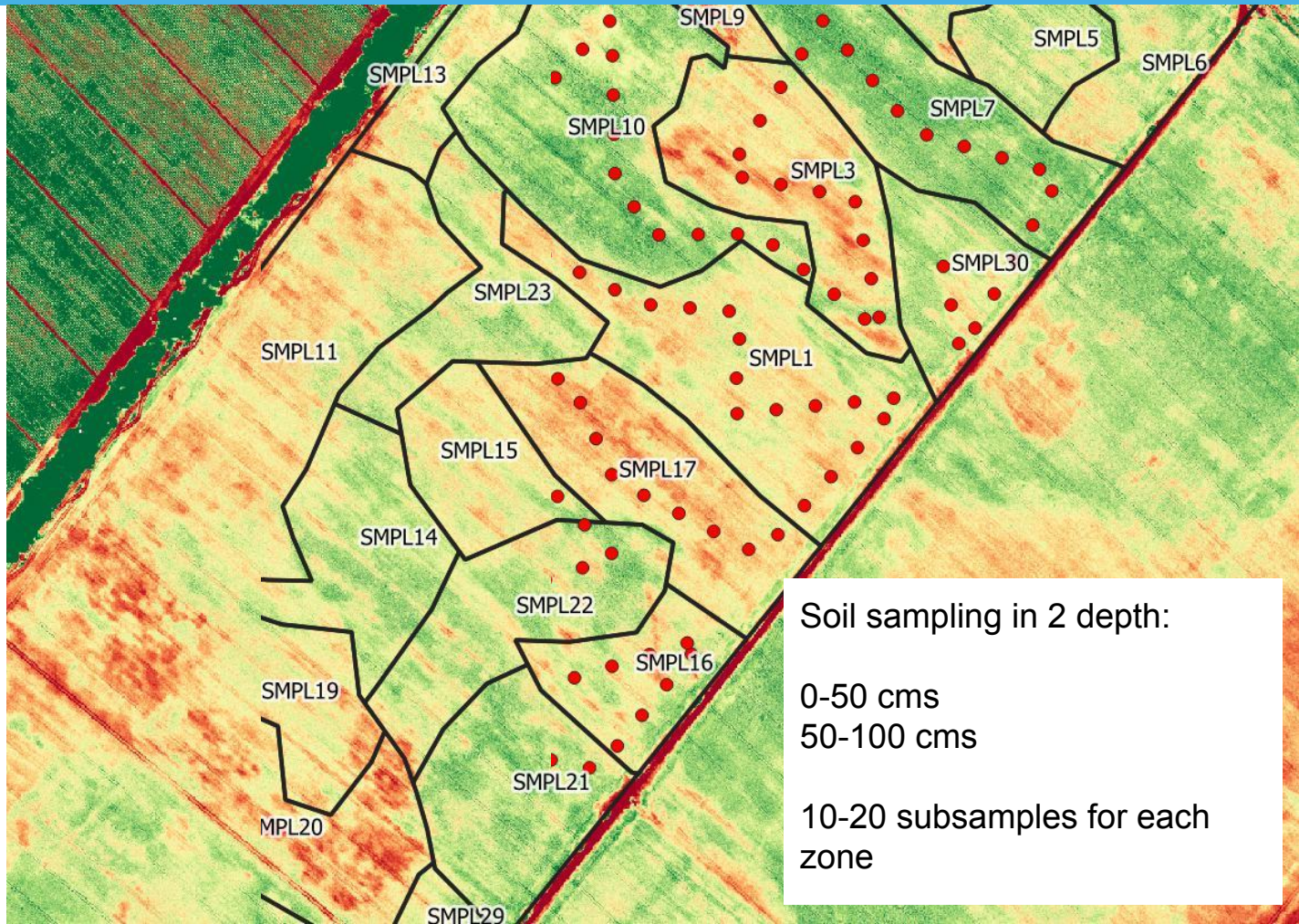
Plant measurements

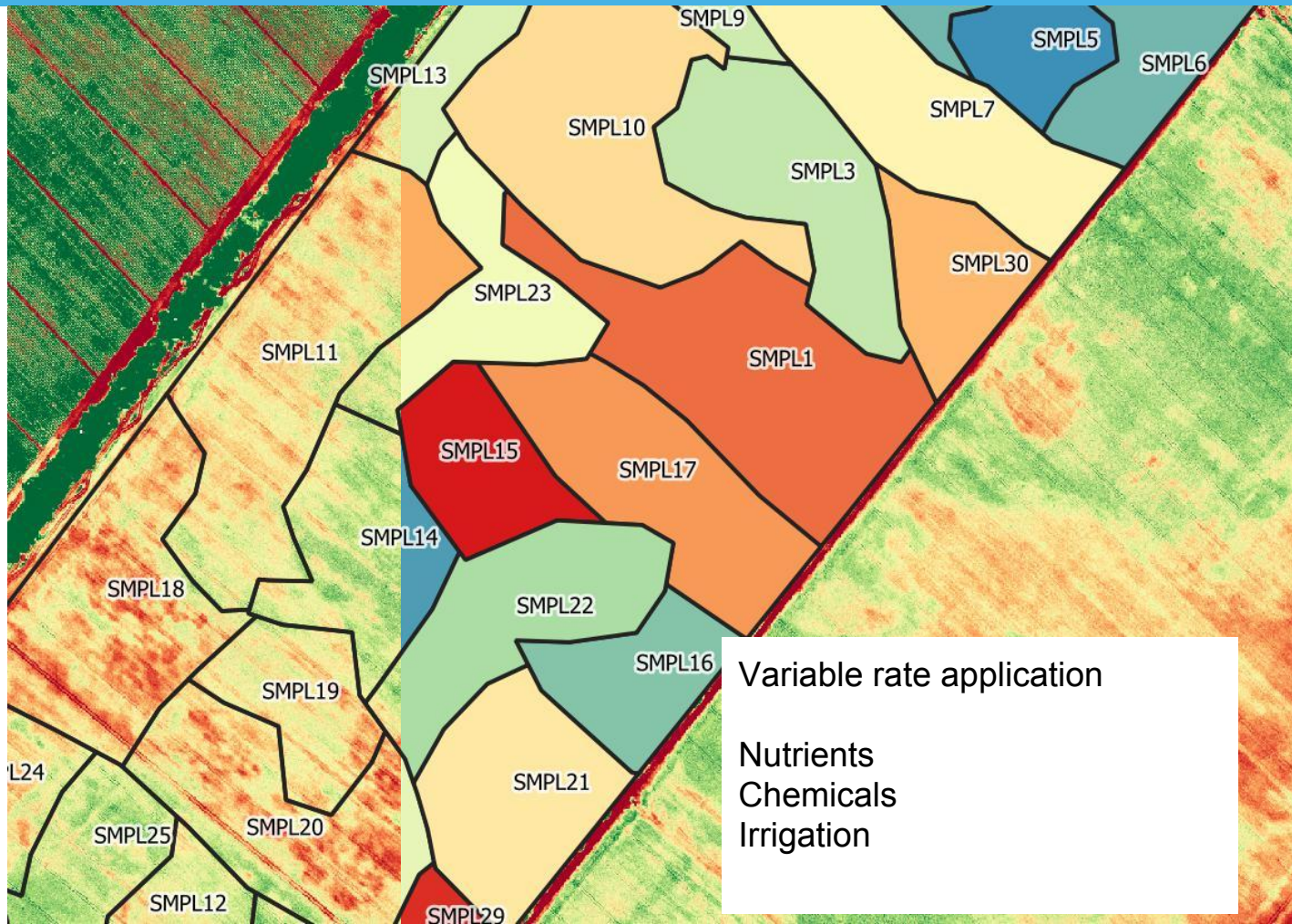
Tree and shrub like plants
Attributes for individual plants
Base for fertilizing, spraying,
irrigation

SOIL SAMPLING SCHEME TO BE PERFORMED IN MANAGEMENT ZONES FOR THE FERTILIZATION PLAN



SOIL SAMPLING AND MAPPING TO DEFINE THE SOIL PARAMETERS





Drone flight every 3 months. In some cases (depending on the production technology and the crop types) it can be more often.

Regular leaf area calculation and historical images show the changes.

Monitoring of each and every tree and crop, registering the changes and sending warnings or action plans.

We can propose experiments to try special methods and continuous monitoring and reporting. For this, we will need a reference field where the traditional methods should be used.

Setting up and continuously updated differentiated irrigation plan

Setting up and continuously updated differentiated fertilization plan

Recommendations regarding the special fertilization:

- Bacteria fertilizers
- Biostimulators
- Microelement-based targeted fertilization planning