SYSAGRIA

SysAgria is a compact integrated hardware and software device, energetically independent, which provides in real-time critical information about soil, air and light parameters, fundamental to the development of various crops, orchards, vines, etc.

SysAgria includes the latest generation of sensors incorporated in a compact system, water repellent, resistant to extreme weather conditions.
The system offers real-time data transmission, accessible from any location, using various types of wireless communication (Wi-Fi, LoRa, GPRS).

The device sends alerts when monitored values of the parameters deviate from optimal levels set for each crop.

The software is calibrated for each crop type and becomes an essential tool which ensures the qualitative and quantitative growth of the culture.

Compact and durable, minimal maintenance

Warranty 1 year with extension option

Battery life 3 years minimum

Monitored light parameters

Visible light
UV light (ultraviolet rays)
IR (infrared radiation)

Monitored air parameters

Temperature
Relative humidity
Relative humidity on the leaf
Wind direction
Wind speed
Freezing point

Monitored soil parameters

Soil humidity
Temperature
Hydrogen potential (PH)
NPK **

*** In process of being implemented*

Air Sensors

- Light (visible spectrum, infrared and UV)
- Temperature
- Relative humidity
- Wind speed
- Wind direction
- Evapotranspiration of the leaf
- Atmospheric pressure
- Precipitation

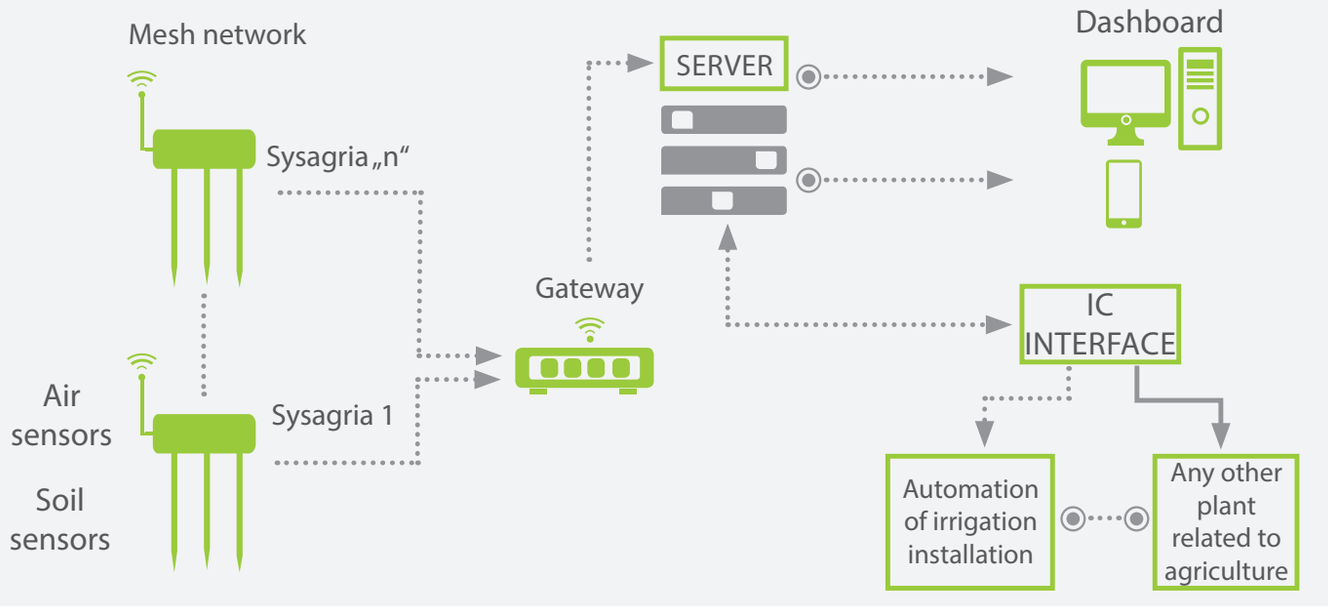
Soil Sensors

- Temperature
- Humidity
- PH (potential of hydrogen)
- NPK macronutrients
- Electrical conductivity

Local storage or in the Syswin Solutions Cloud

Access to statistical reports and comparative graphic alerts when monitored values of the parameters deviate from optimal levels set for each crop and when conditions for specific disease appear.

Availability of the data service: 24/7



SYSAGRIA Cereals Application

Key factor The Soil
Monitored Parameters

- The Ph
- The nutrients
- The conductivity
- The humidity
- The temperature

Specialists recommend that parameters are monitored throughout the entire phenological cycle, starting with the sprouting stage.

Each plant requires optimal conditions which facilitate and maintain the germination and growth. It is necessary to monitor the parameters for both young plants and mature ones.

SysAgria allows monitoring of parameters, on several levels of hight, for soil and air. Also, it offers warnings in the case of acid rains, excess water (flood), as well as the evapotranspiration.

The scenarios in which SysAgria can act

For maize crops, it is recommended to monitor the humidity at 20, 50 and 80 cm in the soil, because of the risk that the ground could absorb water too quickly. The electrical conductivity sensor determines the extent to which the plant is allowed to extract nutrients.

For wheat crop, evapotranspiration is recommended to be evaluated at least at two different levels above the ground.

SysAgria issues alarms and recommendations for harvesting, use of treatments and irrigation.

Irrespective of the crop type (wheat, barley, maize) and total area, SysAgria provides relevant information due to the energy independence and to the dispersion in the form of a complex mesh network.

SYSAGRIA Vineyard Application

Key factors

- Climate
- Vegetation
- Time
- Macronutrients

Disease detection and prevention is currently taking place based on warnings received from the weather stations. But these may be imprecise or late. Prediction based on the analysis of specific parameters is vital.

Thanks to the combination of air/soil sensors and smart algorithms based on scientific research, SysAgria can perform continuous monitoring. Thus, the fertilization process can be tracked and evaluated; the system is providing essential information on fertilizer take-up or soil pH evolution.

The evapotranspiration and leaf moisture sensor (temperature and humidity sensors in the air) informs about the risk degree to develop diseases and warns about the need for systemic treatment. Aggressive systemic treatment may affect the quality of grapes.

All this data creates a history and predictions become more and more precise.

The scenarios in which SysAgria can act

"Downy mildew" appears during wet and warm years. Increased humidity and increased temperature create the risk of appearance for this disease.

Predisposition to "Powdery mildew" is high during warm and dry periods.

NPK influences fruit, grape growth, pulp consistency, grapeadhesion to bunches. A low calcium content can lead to a compromised culture.

pH informs about the need for a treatment and influences the availability of nutrients in the soil as well as their absorption by the plant. The optimal pH spectrum for most varieties is between 5.5 and 8.0.

SysAgria contains industrial components from top manufacturers, such as

Certifications

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