

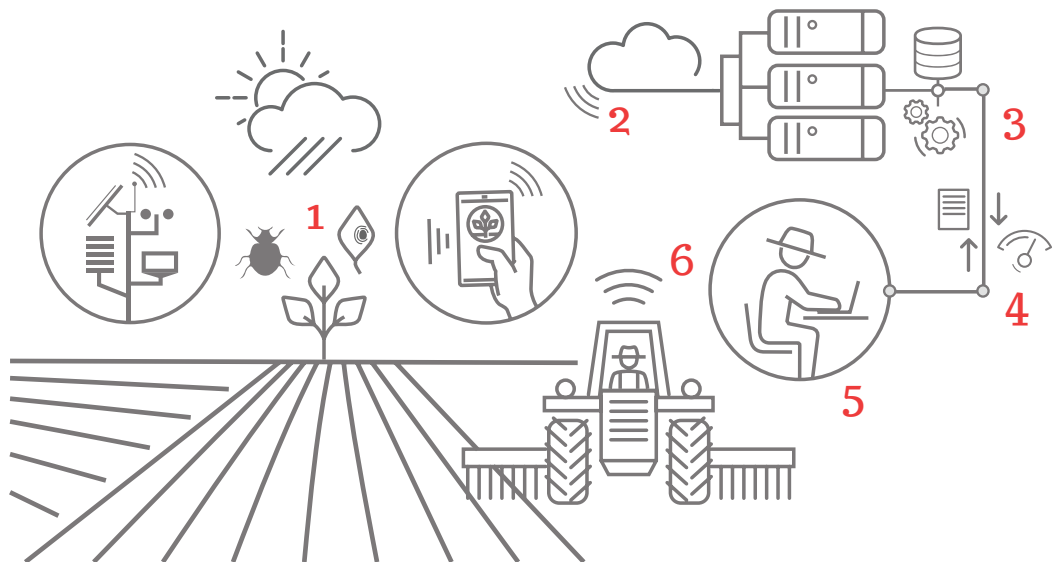
pomodoro.net[®]

ENHANCE YOUR TOMATO PRODUCTION

What is pomodoro.net[®]?

pomodoro.net[®] is an interactive web-based tool for sustainable industrial tomato farming. pomodoro.net[®] is a DSS - an expert Decision Support System.

DSSs are IT platforms that collect crop data in real time, through sensors and scouting tools (1), organize the data in Cloud systems (2), interpret them via advanced modelling and big data techniques (3), and integrate them automatically, generating information, alarms and decision support advice (4). Users resort to these data for precision crop farming management (5). Databases (6) also include farming data, so as to generate a continuous flow of updated information between the crop, the DSS and the user.



SYSTEM ARCHITECTURE

The crop and farming environment data are sent to pomodoro.net[®] on a continuous basis, through sensors and monitoring activities.



HOLISTIC APPROACH

pomodoro.net[®] considers all aspects of farming techniques.



WEB APPLICATION

No software PC installation required. The system constantly updates the apps.



EASY AND CLEAR

pomodoro.net[®] can convert complex climate and farming processes into easy and clear on-field choices.

pomodoro.net® - Background

Horta DSSs are the result of a complex innovation and knowledge transfer process.



Agro-Meteorological Network

Horta manages a network with hundreds of agro-meteorological stations across Italy. Weather data - gathered through a certified quality system ([CCPB of Bologna](#)) - supply key information in real time to the DSSs.



Experimental Platforms

CÀ BOSCO (Ravenna)

On its experimental platforms, Horta creates and tests the innovative techniques used in the DSSs. Platforms can be visited during the season, to assess the quality of the solutions offered first-hand.



Customer Service

Horta offers a complete service. Horta technicians guide users in getting to know and using the portal, and help them take full advantage of all DSS potential. In addition, Horta produces newsletters to provide technical updates at key points during the season, and recommendations on how to use the portal to meet the crop's needs.



R&D

Horta DSSs have highly innovative contents. Innovation is generated through constant and intense research activities, in partnership with the best Italian and foreign universities and research centres.

How does it work?

Horta DSSs are expert systems that integrate different information sources to produce easy and effective advice and alarms. DSSs do not replace agricultural technicians or entrepreneurs: their goal is to provide additional information to improve crop farming decision-making processes.



Geolocation

Every plot of land added to the DSSs is geolocalized, so that the system can keep track of the geographical characteristics of the farming site.



Soil

DSSs take into account the soil physical-chemical characteristics for each crop, in order to better define the water and nutritional needs of the crop.



Product Features

DSSs use updated plant protection and fertilizing products databases, detailing all the technical specifications to select the products that best suit each application, also in relation to anti-resistance strategies.



Variety

DSSs take into account the specific characteristics of each variety, including growth rate, mineral nutrition needs, production goals, and disease/disorder resistance.



Weather and Forecast

DSSs acquire weather data and forecasts on an hourly basis, and use them in the mathematical models and decision support tools made available to the users. For this reason, Horta DSSs are an efficient tool to adapt farming techniques to climate change.

Ideal Recipients

Horta DSSs are flexible tools that can benefit many kinds of different users.



Technicians

Technicians who work for public bodies and producer organizations, private consultants, farming equipment network technicians: they can all use Horta DSSs to supply prompt and expert advice based on scientific information to production farmers. They can also organize their work and business visits based on DSS alarms, therefore optimizing their time and work skills.



Farming equipment manufacturers

Farming equipment manufacturers (varieties, fertilizers, plant protection products, biocontrol agents, etc.) can use Horta DSSs as tools to enhance their products, by helping users exploit the genetic potential of different varieties and the distinctive features of each product.



PO/Groups

Producer organizations can use Horta DSSs to address and monitor their partners' production processes, check the fulfilment of specific production goals, organize delivery, and supply homogeneous lots to their partners.



Farmers

Thanks to Horta DSSs, production farmers can increase their product yield, quality and health, and reduce production costs and negative effects on health and on the environment, in line with the modern principles of economic, environmental and social sustainability, integrated production and IPM (Integrated Pest Management). In addition, using the DSSs allows farmer to monitor the entire production process in a knowledgeable manner.

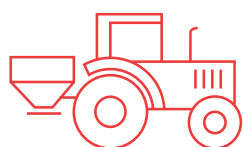


Farming industry

Through Horta DSSs, farming industries can manage their production chain day by day, monitoring their suppliers' crops and farming techniques, and the ecological footprint of raw materials.

Every day by your side

Horta DSSs are the result of a complex innovation and knowledge transfer process.



Fertilization plan before and after transplantation

pomodoro.net® provides N, P, K, Ca and Mg fertilization advice, by distributing the required nutrients in the different crop development stages (before transplantation, transplantation, plant development, berry development and ripening). The required nutrients - affected by the weather during the season - are processed through a specific agronomic calculation, and depend on the soil characteristics and on the expected yield.

Optimize fertilization and irrigation times and quantity, based on the specific site characteristics, to reach the expected yield.



Crop development

pomodoro.net® provides indications on the gradual phenological sequence, from leave sprouting to harvest ripening.

Scheduling interventions based on the plant development.



Pest management

Through predictive infection models, pomodoro.net® can help control pests (blight, bacterial diseases, alternaria, yellow noctuids), assess the need to intervene, and choose the best plant protection products,

**Control pests effectively,
reducing the number of interventions.**



Water balance and blossom-end rot risk index

pomodoro.net® can be used to estimate the soil water balance, based on soil analysis, rooting depth, crop evapotranspiration, recorded irrigation and rainfall measured by the relevant weather station. IN ADDITION, it also includes a blossom-end rot risk index, calculated based on evapotranspiration, water stress and varietal susceptibility. IT IS USEFUL to optimize water management, reducing the risk of water stress and blossom-end rot in dry years.

Avoid the plant water stress, and schedule irrigation/fertilization interventions based on the soil water provision.



Traceability and Integrated Production Regulation control

The Farm Operations Register on pomodoro.net® can be used to record all field operations, from soil tillage to product delivery. IT ALSO features an Integrated Production Regulation control and monitoring system.

Provides an overview of all farm management operations, and allows assessing (when entering data) compliance with the relevant IPR.



Sustainability

pomodoro.net® allows assessing the environmental impact of any on-field farm and company decision, through aggregate indicators (Health, Soil, Air, Biodiversity, Energy, Water).

Calculate the environmental impact of your crop.

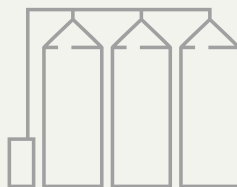
Why use pomodoro.net®?



**REDUCE
PRODUCTION
COSTS**



**REDUCE NEGATIVE
EFFECTS ON
HEALTH AND ON
THE ENVIRONMENT**



**INCREASE
YIELD**



**COMPLY WITH
REGULATION**

D.2009/128/EC and with the National
Action Plan (Ministerial Decree of 22
January 2014)