



Software Imagination & Vision



EQUIPPING ROMANIAN FARMERS TO

BECOME MORE SUSTAINABLE

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ROMANIAN PILOT'S GOALS UNDER DEMETER - SIMAVI & APPR

- Development of a decision-making tool, in order to streamline activities related to maize crops.
- \checkmark Use of information collected by APPR in maize fields (phenological data).
- ✓ Use of an already existing farm management platform (INOVAGRIA).
- ✓ Use of multiple data sources and correlating them to support accurate decisions (eg, satellite data, weather parameters, soil sensors).
- Recommendations and real-time alerts on the optimal period of agricultural works.
- Creating farm clusters and profiles corresponding to geographical position and crop types

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DEMETER - INOVAGRIA

Respectăm traditia. Cultivăm i

- ✓ The management of all operated land
- \checkmark Subsidy simulation, application submission
- Management of leased land \checkmark
- crop
- Nutrient plan and nutrient records keeping \checkmark
- ✓ PPP records keeping
- \checkmark Analysis of data from sensors installed in the field
- Analysis of NDVI vegetation indices/satellite images \checkmark
- \checkmark Alerts and recommendations



INOVAGRIA 100% integrated app:

 \checkmark Management of technological mix and agricultural works by



Romanian pilot – contribution to DEMETER PROJECT

- 15 maize growing farms endowed with smart sensors on the monitored parcels
- Develops an algorithm for calculating the optimal N amount depending on expected yield
- Sets up the right moment for input application/spraying
- Contributes to trans-national digital platforms for managing agricultural area
- Testing and validation of data collected via IoT (soil and air sensors)

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Determining the temperature and water stress:

- Mapping the affected areas
- Assessing plant health
- Input application recommendations.



DIAGNOSIS of MAIZE FIELDS

INOVAGRIA - Satellite images, NDVI, overlap the farmer's lands and allow the detection of areas affected by stress (depending on the colour) and fall into the following categories: **Optimal nitrogen level** Average nitrogen level Low nitrogen level







Determining the temperature and water stress

(cont'd): assessing the level heat intensity and frost

intensity; assessing the soil moisture.



DIAGNOZA CULTURILOR AGRICOLE DE PORUMB

INOVAGRIA – The weather info collected by the sensors installed on the farmer's land allows to determine the intensity of the heat / frost and the degree of soil moisture – allowing the user to see the variation of weather parameters over a selected period of time



29 July 2022



- Mapping the Nitrogen level for selected plots;
- Recommendations for nitrogen application rate according to soil yield (precursor crops, soil quality and type, previous amounts used); Nitrogen level



INOVAGRIA – Returns the calculated recommended nitrogen rate for a maize plot, based on the data entered by the farmer in the technology sheet - nitrogen fertilization information



DEMETER: FERTILIZING PLAN for MAIZE FIELDS

- Recommendations for the optimal period of agricultural works (eg nutrient application)
- Determination of nitrogen levels in plants.



INOVAGRIA – Fertilization recommendations can be made based on weather forecasts. Depending on the weather parameters, the recommendations can be: Optimal, Satisfactory, Not recommended.



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- **Profit maximization** by optimizing input use;
- Variable rate for input application across the same land plot;
- Setting up the most appropriate time for different agricultural operations/works;
- Crop monitoring and historical analysis of different phenological stages;
- Handy and timely assessment of the plant health -satellite & weather data, sensors;
- Shortened time for a science-based decision regarding PPP applications for pest and disease control.











Thank you for your attentio!

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