



**Practice Abstract 15 -
Farmtopia Early Warning Notification Service**

15. Farmtopia Early Warning Notification Service

Short Summary for Practitioners in English

Problem:

Farmers and advisors frequently need to react quickly to weather-related risks, pest pressure, disease risk and other events that can affect production, input use and sustainability. However, warning services often depend on isolated data sources, manual interpretation or disconnected applications. As a result, important signals from nearby farm observations, meteorological data and analytical models may not reach end users in time to support preventive action.

Solution:

The Farmtopia Early Warning Notification Service demonstrates how Farmtopia core modules can be combined to deliver a practical decision support service. It builds on the Digital Fieldbook, Data Integration and Data Exchange modules. The Digital Fieldbook provides structured farm observations and farm-level records; the Data Integration module supports access to environmental and meteorological data sources; and the Data Exchange module enables interoperable sharing and consumption of relevant information. The service applies notification logic and data processing rules to generate warnings based on nearby farm observations, weather forecasts and algorithmic risk indicators. The service has been integrated in Gaiasense FMIS, demonstrating its applicability in an operational ADS environment. The service was tested in Farmtopia SIP1, covering 5 farms and 2 rule based scenarios. During the testing, 3 warnings were generated using weather and field observations (temperature, humidity, irrigation).

Identifier	Operator	Value
Temperature [wsht30_temp]	<	50
Temperature [wsht30_temp]	<	
Relative Humidity [wsht30_rh]	<	
Has Irrigation [has_irrigation]	<	

Farmtopia Early Warning Notification Service

Benefits:

- Timely risk awareness: Converts environmental, meteorological and field-observation data into actionable alerts for farmers and advisors.
- Reuse of Farmtopia infrastructure: Combines existing Fieldbook, Data Integration and Data Exchange components rather than requiring a standalone warning platform.
- Operational decision support: Supports data-driven decisions that can reduce production risks and improve sustainable farm management.
- Scalability: The same architecture can support multiple warning types, including weather-driven alerts, observation-based warnings and rule-based notifications.

Practical Recommendations:

Farmers can use the service to receive practical alerts when predefined risk conditions are detected for their holdings or nearby areas.

-Advisors can configure and monitor warning rules for groups of farms, supporting more proactive and evidence-based advisory services.
-Cooperatives can deploy group-level warning workflows to improve coordination among members during high-risk periods.
-AgTech SMEs can use the demonstrated service pattern to develop Farmtopia-compatible DSS applications without rebuilding the full data ingestion, interoperability and notification stack.

Future Development:

Future updates may include expanding the set of supported warning scenarios, improving the configuration of rule thresholds, strengthening email and message delivery mechanisms, increasing validation with additional real-world datasets from Farmtopia SIPs and improving user interfaces for alert configuration.

Further information

- Farmtopia Early Warning Notification Service on Youtube channel: https://www.youtube.com/watch?v=fEBZsM0AD7c&list=PLtvRz_ee7OwiaYD2_IJsxRWVG_hhC3vTk
- For implementation questions, SIP teams should contact the WP1 and Task 1.4 technical coordination team through the established Farmtopia support channels.

About this practice abstract and Farmtopia

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Farmtopia: The project is running from September 2023 to August 2026. The overall goal of Farmtopia (**GA No.: 101083541**) is to democratize digital farming to empower small and medium farms.

Website: <https://farmtopia.eu/>

NEUROPUBLIC: As part of the Farmtopia project, NEUROPUBLIC is the coordinator of the project, contributing across all work packages. It leads WP1 on designing the Farmtopia Digital Solutions and contributes as an agricultural digital solutions provider within the Sustainable Innovation Pilots.

Website: <https://www.neuropublic.gr/>

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