



LOCATION



Poland

PARTNERS



2.4

Benchmarking at Farm Level Decision Support System

CHALLENGE

There are several different data sets for agriculture, but many of them are rarely used in practice. Farmers often have challenges with the practical use of data when making decisions on the farm, especially in management. Data interoperability is a problem and furthermore, the data does not indicate how their farm performs against others of similar economic size. ICT systems are available, but time is needed to learn how to use these technologies, when the farmer is needed in-field.

AIM

This pilot aims at developing services to support benchmarking on the productivity and sustainability performance of farms, leveraging and extending existing Decision Support Systems (DSS) for farmers. This will involve monitoring different conditions and parameters affecting such indicators, collecting the data and integrating it in a unified layer accessible by the DSS.



HOW

This pilot will provide a simple to use benchmarking system that allows the use of ICT and IoT technologies in practical management and decision support, with a focus on data integration. The system will be developed on a layer of decision support based on modelling and data processing from many sources and structures like local data, public data, Farm Accountancy Data Network, and market information. This will be complemented with security mechanisms and implement computational benchmarking models with interfaces that reuse/extend existing decision support and farm management systems (as an added value feature).

The system contains farm management interfaces for the farmer and their advisor alongside data exchange with external and internal systems, e.g. DSS and benchmarking methods on many levels of data. The main functionalities will be a calculation of the economic size of the farm based on dedicated algorithms and instructions, the presentation of graphs showing the current and historical state of affairs for farms of similar economic size and the presentation of information on prices of agricultural products and materials needed for production in previous years. The benchmarking system will be complementary with existing advisory systems such as Electronic Platform of Services for Users (EPSU) and the polish national advisory project, eDWIN.



BENEFIT

Facilitation of farm management at various levels of production volumes and types is expected to help with decision making for farmers by using a broad spectrum of data. This will also improve farmers' access to comparable data from his/her own farm with others. Data will be aggregated at the farm advisory system level. All activities are also aimed at increasing the knowledge of farmers and the accessibility of digital skills.



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DEMETER Integration

Pilot 2.4 supports the productivity and sustainability performance of the farms, leveraging and extending existing decision support systems for farmers, by means of monitoring different conditions and parameters affecting such indicators, collecting the data, and integrating it in a unified layer accessible by the DSS. It uses implemented services - eDWIN advisory platform including advisory backoffice and Farm Management System interface. eDWIN platform is provided by WODR and PSNC and has developed components and tools for data collection and integration, as well as three benchmarking models. Pilot 2.4 uses FADN data, on the EU and local Polish level. All of this integrated by means of DEMETER AIM interoperability and benchmarking enablers



Feedback From Farmers

Most farmers calculate the costs and revenues that occur on the farm in a traditional way, i.e. with a paper, a pen and a calculator. According to the respondents, information on agricultural markets is important in farms, which is why most of them are interested in obtaining this information free of charge. Most farmers expressed their willingness to compare themselves with another farm in terms of costs incurred.

Advisors believe that economical data like farms parameters and market information is important in farms and farmers would be willing to take advantage of free information on this topic. Farmers would be interested in comparing their own results with that of another farmer in terms of costs incurred and income obtained, and would be willing to use the information service and selected tools for making calculations and comparisons.

Outcomes

Systems produced in Pilot 2.4 were integrated with a platform in the eDWIN Advisory Platform. Integration is based on the data layer. The user creates its account in the eDWIN platform to aggregate its reference fields data. If a user decides to use a benchmarking module, systems calculate and publish benchmark results to the farms of their region, size, production type and economical type.

The eDWIN platform consists of a number of applications dedicated to farmers, advisors, but also other actors who may be interested in using the data produced within eDWIN. The new one is developed in Demeter benchmarking pilot service.

