LOCATION

Norway

PARTNERS

LD
Landbrukets
Dataflyt

MIMIRO

SINTEF

Trøndelag Forskning og Utvikling

4.1

Dairy Farmers' Dashboard for the Entire Milk and Meat Production Value Chain

CHALLENGE

Farmers have to handle an increasing number of digital systems and solutions that affect their daily work as well as production and investment decisions. Today's digital solutions do not communicate or integrate well enough together and are not largely based on the needs of the farmer. In addition, administrative and production systems produce different types of data that is difficult to use for decision support. Thus, the dataflow for farmers is a big challenge and equally an opportunity for business development in the sector.

AIM

The main aim of this pilot is to develop a farmer's digital dashboard delivering a better view or outlook of the farm activities and the farmer's cooperation with both private and public actors. This will ensure a more efficient use of digital tools by the farmer and a better and more customised decision support. In addition over time, the pilot aims to develop a new system for data collection, modelling and calculation of greenhouse gas emissions on farm level, and a new model for milk prognosis that are essential to optimise production in economic terms, animal numbers, milk quality and feed production.

HOW

With regard to the farmers' dashboard element of the pilot, Agricultural Dataflow, pilot partner, will build data infrastructure and models of farmers' dashboard for external suppliers, researchers, farmers and advisors. These are based on the existing dataflow infrastructure that 14,000 farmers use and the systems that are developed in technical parts of DEMETER. In the development process, farmers and related partners and industries in Norway will be involved. New apps and solutions for Norwegian farmers will be launched with easier registration and insight to continuously improve production. The focus from pilot partner, Mimiro is to use data from more than 500 dairy farms with automatic milking systems and apply machine learning techniques to develop algorithms for milk yield forecasting and culling strategy.
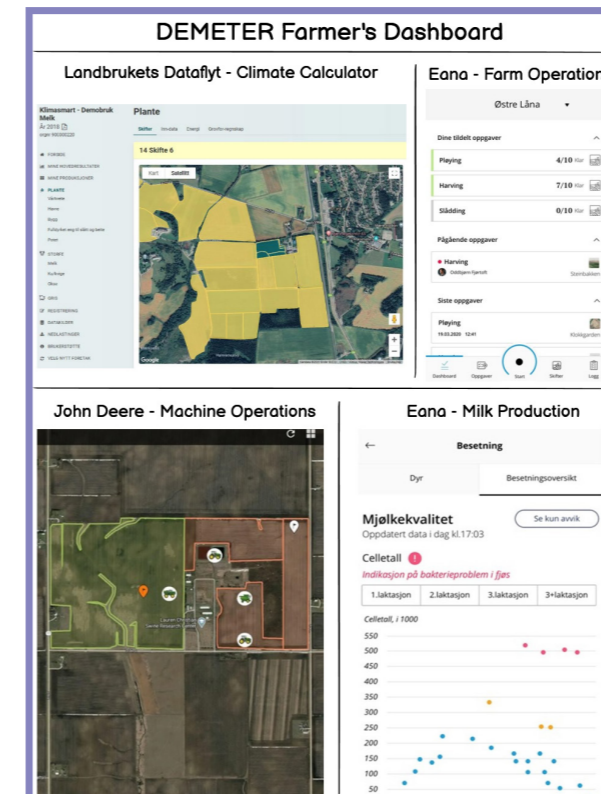
BENEFIT

The main benefits of developing a farmer's dashboard are more efficient production and better investment decisions. In addition, there are benefits for related partners with data access and solutions that optimise their production and activities. The pilot is expected to share knowledge and solutions regarding the main decision variables for each farmer and how these variables can be presented in one overall dashboard. It will also give information on how to get system suppliers and partners of the farmers to cooperate and interact, sharing data and web-interfaces. The cost-benefit for the farmer, related businesses and society will be detailed and what business models can be used for the developed tools in the pilot will be outlined.

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DEMETER Integration

Pilot 4.1 developed a milk prediction solution and a dashboard for farmers that are made available as Demeter enablers. In the work other Demeter solutions are tested and adapted in the final solutions. The AIM ontology is of clear value for farmers to see how they are performing compared to their quota. It is also a building block for a culling assistant in order to simulate herd strategies and optimize production goals. AIM is also of clear value because of how the Farmers dashboard is structured. AIM is also the data format used in the different components that makes up the milk yield prediction tool.
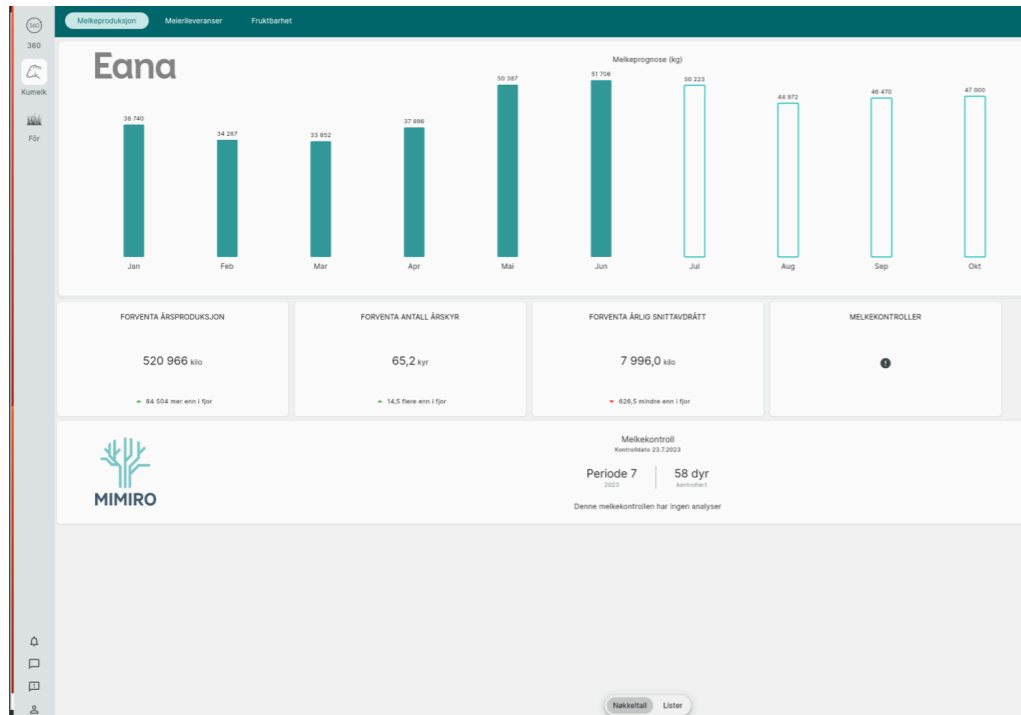
Feedback From Farmers

The milk prediction solution gives farmers more databased support for important but difficult decisions about culling and cow management. Core feedback from farmers is the need to trust the underlying data, it has to clearly represent their perception of the current status. It is also key to give a better understanding of why the prediction looks as it does. When you trust the data, and understand the prediction, you can start use it for simulations. The dashboard is useful and adds something to the existing solution including easy access to an overview and some details such as prices, costs and benchmarking.

Outcomes

The developed DSS for milk prediction is going to be commercialized as part of bigger solution from Mimiro that is currently used by over 6300 farmers in Norway. The developed DSS for Farmers Dashboard gives farmers and their advisers easy access to data in a way that provides relevant overviews and the ability to use the many digital solutions they have more effectively, including new data presentations that are more easily available than before. Landbrukets Dataflyt, with 14000 farms as users of their digital platform today, has great interest in continuing to work further in the direction of a full commercialization of the farmers dashboard, which will allow actors to develop dashboard components, which can be shared with other actors, or kept internally.