PROJECT FACTSHEET

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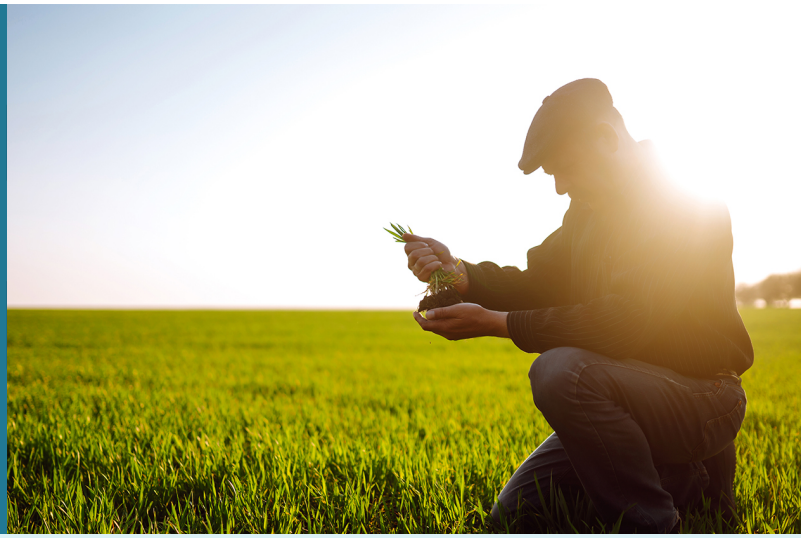
Sentinelle5

Healthy plants for healthy food



Inspiration

Plant pests and diseases cause yield losses and reduce the quality of plants. Depending on the crop grown, yield losses can range from about 50% to 80%, if pests, fungal pathogens, bacteria, viruses and weeds are left uncontrolled. Avoiding these losses requires the creation of an unfavourable environment for the development of pests and pathogens which can be achieved by growing resistant cultivars, crop rotation, tillage systems interrupting the pathogen's lifecycle or the use of pesticides.

An optimum efficacy of actions taken in the field with minimum of environmental impact can only be achieved if an effective method is implemented at the right time and in the right place. Software tools that integrate data and expert knowledge from various sources increasingly provide support for farm management decisions.

Innovation

Sentinelle5 aims to discover whether fungal pathogens in cereals and insect pests in rapeseed need to be controlled using on-farm monitoring programmes and newly developed software tools.

The emerging technology domain of precision farming aims at applying what is needed when it is needed where it is needed, thereby respecting the production capacity of natural resources at increasingly small scales without jeopardising farm income or agricultural productivity.

In the context of national and EU goals, crop protection strategies are developed and communicated to farmers, teachers and advisors that limit pesticide use to a minimum at the same time safeguarding yield and quality of plant materials produced in Luxembourg.

Project outputs include recommendations for optimising integrated cropping systems, decision support tools for managing pests and diseases in the major crops, molecular tools for the accurate identification and quantification of pests and pathogens, pest and disease warning bulletins, contributions to conferences, knowledge transfer at fairs and field days as well as publications in newspapers and scientific journals.

Impact

Sentinelle5 will not only contribute to the safeguarding of yield in the major crops grown in Luxembourg with quick detection of emerging pests and pathogens but also to the reduction of pesticide use and the protection of bees as well as other beneficial organisms in agricultural production systems.

As a result, it will enable prolonging the efficiency duration of insecticides and fungicides while maintaining a high level of food safety. This innovative project will therefore actively foster the adoption of precision farming technologies with benefits for both, agriculture and environment.

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Partners

Chamber of Agriculture (LU) , Lycée technique Agricole (LU) , University of Liège (BE)

Financial Support

MAVRD - Administration des Services Techniques de l'Agriculture (LU)

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