

Monitoring of the Walloon Agriculture State with Remote Sensing

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ABSTRACT

The research and development project "**Monitoring of the Walloon Agriculture State with Remote Sensing (SAGRIWATEL)**" started in January 2003 and is carried out in a close cooperation between scientists working at various Walloon research institutions (Agricultural Walloon Research Center, University of Liege, Catholic University of Louvain, Gembloux Agricultural University) and the Directorate General of Agriculture (DGA, Ministry of Walloon Region). The project is aimed at developing tools for the DGA to assist their monitoring of the agricultural production and the environment (agro-environmental measures). According to the case, these tools were designed for control and technical support or for the general monitoring of agricultural evolution in the Walloon region.

The proposed system reuses the Integrated Administration and Control System (IACS) database what proofs IACS ability to provide information for other applications than those it was designed for. The IACS information is integrated with satellite and airborne data as well as crop growth models. A number of applications wer put in place, such as:

- Agricultural production forecasting
- Water stress zone delineation
- Localisation and dimension estimation of grass covered buffer strips, hedges...
- Assessment of bare soil proportions during winter
- Soil erosion risk indication
- Farming crop diversity
- Crop sequence quality assessment
- Evolution of agricultural parcel size
- ...

The system profits from the fact that IACS has been in operational use in Belgium since 1997. It was initially intended to be a cartographic control system for farmer application forms. The aim of this project is an extension of the IACS system and hence a surprisingly interesting approach is used. The new system provides the decision maker with the best agriculture state monitoring tools enabling them to answer requests, particularly from the European Commission, very quickly. Moreover, the tool became operational within the shortest delay and appears to be easily adaptable to new requirements. This constitutes a considerable advantage in view of the frequent CAP evolutions. Finally, the approach optimizes the information provided by the farmers at the moment of their CAP declaration. This avoids loss of time with repetitive information requests meaning to some extent an administrative simplification.

The DGA will access the information by means of a GIS web interface of which a prototype will be available soon. It is foreseen that other Walloon institutions and Walloon farmers will be able to benefit from this technological progress too.

