Common agricultural policy CAP: measures to be undertaken making use of the remote-sensing applications, 2008-2013

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The Commission presents its interim report on the implementation of the remote sensing applications and on the use of the financial resources made available to it under Council Regulation (EC) No 78/2008.

The MARS crop yielding forecasting system: the system of production of crop harvest yield forecasts started in 1988 as a 10-year pilot project. The activity, which was then called Monitoring Agriculture with Remote Sensing (then abbreviated as MARS-STAT, now the acronym is AGRI4CAST), concentrated on the assessment of crop yields and production volumes of various crops within the EU, on the basis of meteorological analysis, agro-meteorological simulated crop growth indicators, low-resolution satellite data and statistical analysis using the Mars Crop Yield Forecasting System (MCYFS).

From 2008 and until 2013, this activity is implemented under Council Regulation (EC) No 78/2008. The system is operated in the Institute for the Protection and Security of the Citizen (IPSC) of the Joint Research Centre (JRC) at Ispra.

The MCYFS is a complex, integrated analysis tool addressing the objectives which are spelled out in the Regulation, specifically the monitoring of crop conditions, yields and agricultural production.

The system consists of several independent modules, which are integrated to monitor crop behaviour and produce crop yield forecasts. From a technical point of view, the MCYFS includes: 1) the maintenance of a meteorological database; 2) the application of agro-meteorological models; 3) the processing of low resolution satellite data; 4) statistical analyses and yield forecasts of the main crops at national level across the EUas well as visualisation tools.

The MCYFS is run operationally on an area covering the whole European Continent, the Maghreb countries and Turkey. The crops covered by the simulation models are soft wheat, durum wheat, winter and spring barley, grain maize, rapeseeds, sunflower, potato, sugar beet, field beans, pastures and rice.

Overall implementation: for the continuation of the operational services from 2008 until 2013a new project, called MARSOP3, was launched. In August 2007 a call for tender was published. After evaluation of the offer for Lot I (meteorological data) and Lot II (acquisition and processing of satellite data), a contract was signed with a consortium led by Alterra BV.

On the basis of the operational products delivered within this contract, the JRC carries out the analysis of crop conditions and prepares the yield and production estimates. These are made available to the European Commission, Member States and EU citizens.

The report describes the implementation of the specific measures undertaken in order to fulfil the objectives with regard to remote-sensing measures. These are (a) management of agricultural markets; (b) monitoring of crop conditions and estimates; (c) promotion of access to the estimates; (d) ensuring the technological follow-up of the agro-meteorological system. The Commission stresses that independence and reliability of the outputs prepared by AGRI4CAST are viewed as important assets by Commission services. The statistical analysis performed with the crop growth indicators is transparent, traceable and stored for all the crop simulation and years.

The report also describes the measures to be implemented: (a) collection and purchase of meteorological and satellite data; (b) spatial data infrastructure and website; (c) specific studies on climatic conditions; d) updating of agro-meteorological and economic models.

Lastly, the document deals with deliverables and costs: the Commission Member States and other interested stakeholders are provided with different deliverables which can be grouped into reports and bulletins on the one hand and information services and data on the other hand. All products are made available electronically and partially on paper format.

3) **Budget resource use** : the total financial resources under Council Regulation (EC) No 78/2008 in 2008 and 2009 (payment credits) amounts **to EUR 97.298 (2008) and EUR 2.370.340 2009) :**

- Lot 1 covers the procurement of meteorological and weather forecast data (including the densifying of network of meteorological stations). It covers the operational run and maintenance of the crop growth models operated within the MCYFS. Results in the form of database updates and maps are delivered to the database at the JRC daily or every ten days. Appropriate tools for exploitation of the results are maintained and developed. Maintenance and improvement of MARSOP website is also part of this lot together with overall coordination and management;
- Lot 2 covers the processing of remote-sensing data. The work performed covers all data enhancement steps between the acquisition of the raw imagery and the delivery of 10-daily composites (data ingestion, calibration, etc.).

Mars database and IT support: the MCYFS calls for the provision of IT services to ensure a timely production of bulletins. Work performed covers the management and maintenance of the database with all the remote sensing data, the meteorological data and the agro-meteorological indicators. Development and maintenance of analysis tools and websites are part of this component.