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

2007/0132(CNS) - 10/10/2011 - Follow-up document

The Commission presents a second 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, which provides the legal framework for these remote-sensing activities for the period 2008-2013. The provides that the Commission shall submit a final report no later than 31 July 2013 on the implementation of the remote-sensing measures and on the use of the financial resources made available to it under the Regulation. This second interim report is drawn up in view of a continuation of these measures within the framework of the CAP beyond 31 December 2013.

The report elaborates on a possible scenario for continuation of the existing MARS Crop Yield Forecasting System for the EU and of an extension to a wider global coverage with the objectives of further improving yield forecasts for the EU and of contributing to the international initiatives launched by G20 agricultural ministers.

The Mars Crop Yield Forecasting System (MCYFS) started in 1988 as a 10-year pilot project to produce crop yield and harvest forecasts. The activity, which was then called Monitoring Agriculture with Remote Sensing (abbreviated MARS), 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.

Assessment: the activity delivers independent, timely, scientific and traceable crop yield forecasts for all Member States and EU neighbouring countries for selected arable crops. This information is utilised by the Commission services for the following main purposes:

- update of crop supply balance sheets;
- assessment of climatic conditions and potential impacts of particular weather events in the Member States or regions (e.g. impact of a late frost event);
- monitoring of crop conditions in third countries.

AGRI4CAST yield forecasts are also provided to the Early Estimate System of Eurostat. Independence and reliability of the outputs prepared by AGRI4CAST are viewed as important assets by the Commission services. The statistical analysis performed with the crop growth indicators is transparent, traceable and stored for all crop simulations and years. A set of statistical indicators is provided for each of the models. At the end of the forecasting campaign, an error analysis compares the crop yield forecasts with the actual observed yields to quantify the forecast error and to evaluate the forecasting performance.

For information, the overall error, measured as the mean absolute percentage error of the end-of-campaign forecast for the EU-27 across all months and for all cereals together, has been 1.6% for 2007, -3.3% for 2008, -1.2% for 2009, and 1.2% for 2010, respectively, with negative values indicating an underestimation, positive values an overestimation of reported yields (reported yields of 2009 and 2010 are still preliminary).

The report states that the MARS System has provided effective and timely information and objective data in support to the decision making process for the deployment of the Common Agricultural Policy (CAP).

Beyond the primary objective of producing harvest yield and production forecasts, the system also provides useful insights into other fields relevant to EU agriculture such as climate change issues. Moreover, the MARS agro-meteorological system and remote-sensing applications have provided useful information not only to the European Commission but also to interested Member States, research institutes and other users, through the dissemination of products.

Future of the activity: the possible continuation of the MARS Crop Yield Forecasting System could include new activities to follow the needs of the CAP, which evolves and adapts to a changing global economic environment. In this context, independent and reliable information at world level is a basic requirement to ensure the correct and effective decision-making process within the EU. The new activities would include certain factors:

- a MCYFS enlarged to other main production areas of the world and to additional relevant crops;
- a modelling tool extended to EU crops other than those currently covered (e.g. to rye, oats, triticale);
- a more complete modelling of pasture systems able to provide quantitative estimates of biomass production.

The report notes that in 2011 DG AGRI launched a project called GLOBCAST (GLOBal Crop Monitoring and ForeCASTing) through an Administrative Arrangement with the JRC that will end in 2013. The aim of the GLOBCAST project is to study the enlargement of the MCYFS to other areas of the world (Russia and CIS countries, Argentina, Brazil, China, India, Australia, Canada and the USA) and to other crops of interest, like soybean and sugar cane. In the first year the JRC will re-visit the existing data and will adapt the software and modelling tools to organise and implement the future pre-operational system in the years 2012 and 2013. According to the assessment of the GLOBCAST project, the resulting activities could be thereafter included in the MARS programme for yield forecasts.

The GLOBCAST project aims to provide a major contribution of the EU to the recent G-20 initiative on food security and price volatility, in particular to the Agriculture Market Information System (AMIS), included in the "Action Plan on Food Price Volatility and Agriculture" adopted by the G-20 Agriculture Ministers. An extended MARS Crop Yield Forecasting System will contribute to AMIS via the Group on Earth Observation (GEO), which has as an objective to reinforce the capacity to produce and disseminate timely and accurate crop production forecasts on a national, regional and global scale. The EU is committed to participate in those initiatives with data and information on markets, stocks and productions. Deliverables of the existing MCYFS implemented under Council Regulation (EC) No 78/2008 and results of the GLOBCAST project are already and could continue to be contributions to the AMIS system.