

Integration of traceability and geographical information for the development of farm advisory systems and the control of agro-environmental measures

Robert OGER and Dominique BUFFET, Centre Wallon de Recherches Agronomiques,
Rue de Liroux 9
B - 5030 Gembloux
oger@cra.wallonie.be

ABSTRACT

These last few years, European agriculture was subject to important evolutions. In the context of the new Common Agricultural Policy (CAP), a complete Land Parcel Identification System (LPIS) has been implemented in the different Member States as support for managing subsidies allocated to producers.

A range of regulations concerning the improvement of the CAP impact on the environment has also been progressively implemented in the different European Member States. In addition to production aspects, agriculture is now expected to carry out activities related to the management and maintenance of rural space as well as the protection of the environment. With this respect, the agro-environmental programmes are the key strategies integrating the environment as part of the agricultural policy.

In addition to the CAP reform, the protection of consumers becomes more and more important and new minimum traceability requirements, by virtue of the General Food Law Regulation EC/178/2002, apply to all the agro-food chain from the 1st January 2005. Traceability is a key element of this regulation and is defined according to this regulation as the ability to trace and follow food, feed and ingredients through all the production, processing and distribution stages; from primary production, at parcel level, to the consumer. By this way, the identification of the origin of feed and food ingredients is of prime importance for ensuring geographic traceability.

The aim of geographic traceability is to link geographic information with classic traceability data. It requires therefore taking into account geographic information relating to a traced product at the production parcel level as for example the parcel vicinity, the agro-ecological context or the events occurring during the production phase.

The introduction of the geomatic elements into the traceability process is considered as an integration tool for the production sector. This enables the management and the spatial analysis of this information at the primary production level. For farmers, the evolution of the CAP management system is required in order to improve the follow-up of agricultural activities and to gather information on the destination of their products. It is also necessary to use this procedure to involve farmers in a traceability system. The challenge will not simply be to create geomatic tools but above all to create farm advisory systems and diagnostic tools adapted to the producer needs. This should also encourage the informatisation of agriculture and should ensure an integration of the different available tools by harmonising procedures and standards. This should also facilitate online access to shared geographical and traceability data resources and therefore ensure a better efficiency in checking the conformity of good agricultural practices.

In order to be effective and efficient, geographical based traceability systems need to include a diagnosis of the environment surrounding the parcels. Even if traceability mainly concerns the characteristics of the agricultural practices applied to production parcels, it is also important to get information on the agricultural practices carried out on neighbouring parcels which may have an impact on them. This information is often missing or in non-standard format. One solution to this

problem is to complete the Land Parcel Identification System (LPIS) used for the control of Common Agricultural Policy (CAP) with other data obtained from remote sensing with a view to define simple indicators related to the CAP management control and monitoring which can also be used in integrated agricultural management systems.

The knowledge regarding the agricultural land use that can be obtained by using these systems could also result in a considerably improved decision support systems for policies governing agricultural management, land and environment.