

## **SUPPORTING EUROPEAN ORGANIC ANIMAL PRODUCTION VIA PORTAL TECHNOLOGY**

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### **Introduction**

Food safety and traceability are the key points of the future demands of the consumers due to the last decade's problems in food chain. Organic Animal Production (OAP) is a promising sector, covering according to IFOAM (2005): (a) the protection of the environment, (b) the maintenance and growth of soil fertility, (c) the respect of consumers' health, (d) the biodiversity maintenance of agricultural ecosystems, (e) the possible recycling of substances and resources within the agricultural exploitations, (f) the view of agricultural exploitations as units in equilibrium, (g) the integrity maintenance of OAP products, from the moment of production till their sale, (h) the ensuring of crop cultivation and animal keeping in harmony with natural laws, (h) the optimal agricultural production yield, and (i) the use of new and effective technologies on OAP and on animal breeding, according to each species demands.

OAP, even though is a quite new sector for some European countries, has gained increasing interest, due to European Union (EU) and national governments' political support and more important, as a result of consumers' demand for organic food products. The total number of organic livestock kept in Austria, in 2003, was 319,169 cattle, 85,017 dairy cows, 60,014 suckler cows, 76,880 sheep, 35,698 pigs, 664,377 poultry. In Belgium, in 2000, were 72 equidae, 24,497 bovine, 7,530 sheep, 1,552 goats, 10,399 pigs and 119,559 poultry. In Germany, in 2003, livestock was kept in more than 11,000 organic farms. In Finland, in 2002, 411 farms had certified OAP. In Denmark, in 2002, over 41% of all organic farms were cattle. In Iceland, in 2003, 28% had cattle, 65% sheep, 2% other animals. In Ireland, in 2002, were 573 organic beef producers and 286 organic lamb producers. In Italy, in 2003, the certified organic animals were 189,806 cattle, 436,186 sheep, 102,211 goats, 20,513 pigs, 1,287,131 poultry, 1,068 rabbits and 76,607 bees. In Netherlands, in 2000, were 864 equidae, 31,089 bovine, 18,882 sheep, 14,220 goats, 24,449 pigs and 232,945 poultry. In Norway, 1128 farms (46%) were cattle (dairy) and sheep production. In Sweden, in 2002, 21,683 were dairy cows, 13,348 suckler cows, 55,156 other cattle, 860 dairy goats and dairy sheep, 15,569 ewes, 24,762 lambs, 1171 sows, 24,806 other pigs, 247,344 laying hens and 31,072 chickens for fattening (EISFOM, 2005). Into this new sector, many problems and obstacles can be

overcome using appropriate information and communication technologies (BIO@GRO D1.1, 2005).

The aim of this paper is to present a Web-based information system for OAP (termed as OAPIS) using Web portal technologies. The OAPIS system aims at providing a central access point for all participants involved in the OAP value chain (organic farmers, veterinarians etc.). It will provide access to multilingual, specialized, updated and certified OAP online information regarding as well Farm Animals' Hygiene, access to electronic business (e-business) services (e.g. product search, price observation) and mobile services (e.g. alerts for production protection), and user-friendly access via various communication channels (Internet, mobile devices). The OAPIS system is part of an electronic services (eServices) system for overall organic agriculture in Europe that based on the research work performed in the context of EU *e-Content programme* 11293 "BIO@GRO".

### **Materials and methods**

The OAP system will have two important characteristics: Firstly, the services provided by the system will be specialized according to different OAP needs in local, regional, national or European level. Secondly, the provision of these services will follow the OAP participants' needs and their exact requirements. The participants will be able to access the OAPIS services in a well-structured and clear manner, meeting their needs.

In order to have a clear view of the OAP value chain, it is necessary to distinguish its participants and their roles. These are the following (Costopoulou *et al.*, 2004):

- *Veterinarians* and consulting firms, who inform other OAP participants (such as organic farmers) about Animal Health and Welfare.
- *Organic farmers* (individuals or groups), who produce and sell organic products (meat, milk, eggs) and are interested in purchasing livestock.
- *Traders* (wholesale enterprises, retail stores, certified shops, supermarkets, and health food shops), who buy organic products from farmers and distribute them.
- *Processing companies* that purchase organic animal products and use them as raw material (milk, meat, eggs ect.) for the production of final products for consumption.
- *Consumers/citizens*, who search out information about organic products. They can be individuals (citizens) or collective consumers (e.g. restaurants, hotels).
- *Ministries of Agriculture*, which are responsible for the provision of all necessary legislation, for the coordination of developing initiatives and for the monitoring and supervision of the certification system.

- *Certification and Inspection Organizations*, which are the exclusive certification agencies for organic farmers.
- *Research institutions and Universities* that are in charge of the research for technological improvement and development of the OAP sector.
- *EU Agricultural Agencies*, which are responsible for OAP activities in Europe.

## **Results**

OAPIS will support information services, e-business services, and mobile services. Information services will include OAP news, announcements, events, best practice guides, links with related agencies such as certification bodies, monitoring organizations etc. E-business services will include legislation, law and administrative documents related to OAP, market reports, market information and trends, product price reports, advertisement services, online markets etc. Mobile services will include alerts for OAP announcements, production protection etc. In addition, these services will be distinguished into public and private services. Public services concern information that are available free of charge. Private services are the e-business and mobile services and are only available to registered users. Figure 1 illustrates the OAPIS framework.

OAPIS users will be: (a) customers (e.g. consumers/citizens, processing companies) who wish direct access to OAP information and organic farmers' finding, and establishment of customer-organic farmers relations, (b) organic providers (e.g. farmers, traders, processing companies) who wish reliable access to OAP information and customers' finding, efficient promotion of organic products and quick response to customers demand, enhancement of their credibility and reputation, and establishment of provider-customer relations, and (c) third parties (e.g. certification and inspection organizations, ministries, universities and research institutes) who wish easier disposal of OAP information to organic providers and access to agricultural agencies portals for electronic delivery of public or private services. The implementation of OAPIS will be based on Web portal technologies (e.g. HTML, XML, Web services, databases) and will allow content management functionalities.

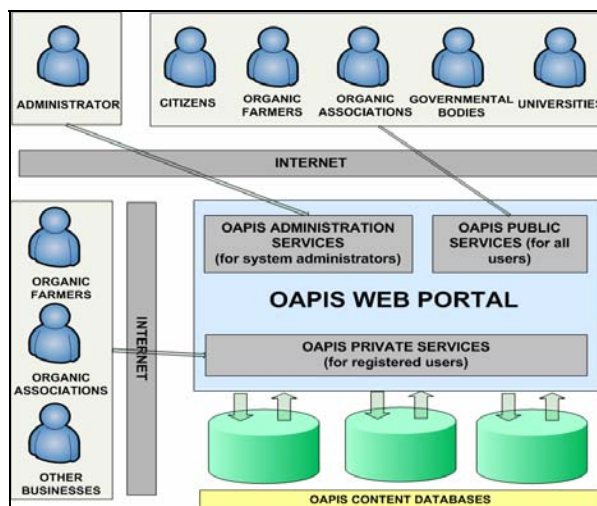


Figure 1: The OAPIS framework

## Conclusions

The fully implementation of OAPIS will become a gateway for providing the participants of the OAP value chain with rapid access to accurate and specialized OAP information and services, and helping them to do their organic activities more efficiently, to make better informed decisions and to become more competitive (Xylouri et al., 2001). We believe that OAPIS will contribute to overall development of organic agriculture sector in Europe.

## References

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