

ANIMAL AGRICULTURE IN THE EU & MULTIFUNCTIONALITY

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In the future, animal production systems in the European Union (EU) are expected to confront increasingly competitive markets, increasing world demand for animal protein, higher quality and safer foods, and sustainable production systems. Farming systems will need to be sustainable, diverse, multifunctional, and territorial based as well as efficient in order to meet these demands. New forms of regulations are proposed at different levels to accommodate these challenges.

Key words: Europe; animal production systems; sustainability; diversity; multifunctionality; territoriality; policy regulations.

This paper provides an overview of the future of animal agriculture in the European Union. Ongoing changes will continue to shape the future of animal production systems within the EU. These changes include market globalization, increased daily consumption of animal food products, increased world consumption and trade in animal food products, vertical integration of some sectors of the food chain, an increasing demand for a secure and safe food supply, and a strong demand for the sustainable development of agriculture. It is, of course, difficult to predict with accuracy, how events will unfold. Several feasible scenarios have been developed for the EU in the year 2010. The main scenarios are as follows:

- *Scenario 1.* A fully liberal global market in animal food products triumphs with more or less regulation by increasingly shared responsibility, or by intergovernmental bodies or by cooperation between world economic zones.
- *Scenario 2.* Europe is a society facing a regional crisis. Animal food production is taking place in a turbulent neighborhood.
- *Scenario 3.* Europe is a creative society operating in an environment where the world market is increasingly open but with strong cooperation among producers, industry, governments, and countries leading to sustainable agricultural development.

The EU is actively seeking to make Scenario 3 a reality, that is, sustainable agricultural development is achieved in an open world market system. However, agricultural production is viewed as a form of economic activity that simultaneously supplies food products, inputs for industry, and traded and non-trade goods and services. These products and services particularly benefit rural areas but society as a

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whole. This concept of multifunctionality is becoming the foundation for a European model of agriculture as a whole.

Changing European Demand For Animal Products And Services

The first objective of Europe is to maintain a plentiful supply of animal products and services. Since the 1970's the Western world has been self-sufficient in food production, becoming an exporter of meat, dairy, pork, poultry, and eggs. Europeans want to maintain the security of their food supply and are aggressively pursuing this goal. Europeans also want to ensure a safe food supply while maintaining the rural way of life. In the past, Europe has pursued lower production costs and, as a result, lower food prices. This objective has been largely achieved over the last forty years, with the share of household expenditure devoted to food purchases dropping to 16 percent, instead of 25 percent fifty years ago. This is a result of agricultural productivity increases driven by technology advances. However, given existing social, environmental, and safety concerns there appears to be a less pressing need for this constant drive toward lower prices. Instead, one can observe increasingly differentiated markets, based on the type of food product sold and the mode of production.

Europe is also trying to improve the overall quality of its food products. Within this context, food safety is an issue of great importance. After a series of food contamination scandals, in particular the BSE (bovine spongiform encephalopathy) crisis, the Europeans are taking a cautious approach. The problem of food safety is being addressed by source traceability. European food products will be increasingly traced from all around the world; therefore, any problems that arise will be immediately stopped at the point of origin.

The organoleptic quality of food also remains highly important to Europeans. Instead of industrial food processes leading to standardization, producers are predominately concentrating on the production of organoleptic food qualities, taking account of the fermentation of microbial flora, which are natural sources of flavor in food products and one of the means of typicity. Concerns about animal welfare within the context of production agriculture are also translating into specific product characteristics. The EU is working on some common regulations on the basis of animal welfare considerations.

Increasing Product Diversification and Quality Signals

The refocusing of EU agriculture suggests increasing diversification of food production. This diversity is a reflection in the intrinsic nature of the food products themselves, in the agricultural practices, in the flavor, tastes, conformity, and texture of foods corresponding to the life circumstances of the people making food choices. In order for food qualities to reflect consumer demands, these qualities will increasingly need to be defined and described to provide the public with clear signals.

Product origin will be important. Foods originate from the natural environment as well as from the production methods by which they are grown. Quality signals are being linked to both such factors giving products typicity. Hence, a food's origin is increasingly determined, not only by its trademark or brand name, but also by the ways it was produced and its physical origin -- the native soil on which it was grown, as the French call it "terroir." Some food products are therefore characterized by origin label and protected by legal instruments.

Agricultural Services

Europeans are generally united in the view that any agricultural operation or activity should provide multiple services or benefits to society. Of course, societal benefits may be reflected in the form of higher food quantities and/or lower prices paid in the market place. However, externalities may also exist, including non-traded activities that reflect desirable environmental and social services. Negative externalities may also exist and can be associated with concentration, intensification, and specialization of animal agriculture.

Europeans are demanding more sustainable agricultural production systems that take account of these externalities. The multiple functions assumed by farmers are being recognized and factored into the demands for agricultural product characteristics. This trend will continue in the future. Externalities will also be taken into account in community food labels. The overall sustainability and development of integrated economic, ecological, and social agricultural systems have become a common perceptual frame for approving farming and livestock production practices. Sustainability is being used to preserve natural resources and the functioning of systems for future generations.

These societal demands translate into specific goals. For example, agricultural research is focusing on maintaining the autonomy of family farms, setting targets and standards for agricultural jobs, product quality, animal welfare, efficiency, and so on. Environmental targets include better management of water, soil, and air quality, biodiversity, landscapes aesthetics, cultural heritage, natural environmental risks, and energy efficiency. Specific animal production practices will serve multiple functions; for example, maintaining, managing, and developing grasslands appropriately contributes to reduce pollution; creating aesthetic landscapes; and meeting animal welfare goals. Restoration of hedges and hedgerows is also one example of an agricultural practice that could serve multiple goals.

There is a strong circular interaction between the quality of farming practices, which produce environmental and social externalities, the quality of the environment, the quality of food products, and farm tourism activities. We are, thus, moving towards a general demand of and response from farming systems. As the ingredients of this demand and the response of farming systems varies in time and space with countries and localities, the territorial dimension is of importance in most situations. The development of sustainable livestock production is deeply rooted in the territory.

World Demand For Animal Products And Services

Europe also has to contribute to supplies of animal products in order to meet projected world demand. The demand for animal protein is growing in developing countries due to population growth and rising incomes. There will be serious meat deficits until 2005 or 2010 in the Far East, Middle East, Africa, and Russia. In general, world animal production is expected to be able to meet demand through progress, technology, and competitive substitution. Substitution among the different sources of proteins is expected to increase -- more protein will come from granivorous animals than herbivorous ones, if the price of cereals and their by-products (for example, feedcake) remains low. For developing countries the objective will be to increase domestic production, and avoid a meat deficit and imports from industrialized countries. The EU will pursue a policy of exporting cheap production technology to developing countries. This technology will be adapted to the conditions of each country, that is, its existing technology, tools, and communications. Genetics can be a very efficient tool for delivering these new complementary production technologies if private international firms do not confiscate its advances and if genetic resources remain available. The EU plans to continue to competitively export pork, chicken, turkey, eggs, and cheese. The EU plans to lead the advancement of markets for original, high quality products.

Consequences Of Changing Consumer Demand For EU Animal Production And Policy

In brief, two main types of adaptations are expected to occur in relation to the trends just described. These adaptations concern the following:

- Policies on management of animal production.
- The maintenance and increased diversification of production systems.

One main policy implication of these changes is that, in the future, the management of animal production will frequently be contract based. A contract will be written between the producer and the food processor and between the producer and a food regulatory authority. These contracts are based on specifications about production methods and the characteristics of the final product. To guarantee the quality of their production and management practices to their partners, many farms could be certified by independent certifying bodies or by their own professional organizations. This should improve their chances of accessing the market, securing a reputation, and gaining access to product qualification procedures.

State policies are also being developed. Such policies are designed to induce farmers to adopt sustainable management practices in a wide range of local situations. In France, the 1999 Agricultural Bill (Loi d'Orientation Agricole) provides for a type of farming contract between the farmers and the state, which implements the multifunctionality of farming systems. The Contrat Territorial d'Exploitation (CTE), a land use and management contract with farms, is based on a comprehensive farming project that combines a general economic approach with a land-based approach.

Origin labels will characterize production systems of food products linked with their area of origin and guaranteed by name. Two legal instruments, the Protected Designation of Origin (PDO) and the Protected Geographical Indication (PGI), will protect these products and this "area of origin." These correspond to two different degrees in the link to the "terroir" and forbid other utilizations of this name.

In response to the diversity of consumer demands which create market opportunities, and in response to territorial diversity, the trend would seem to be towards an increase – or at least maintenance – of production systems heterogeneity. Grazing and forage livestock production systems will be distinguished on the basis of similar types of zones in Europe. The northern lowlands of Europe, which are easy to cultivate, lend themselves to increasingly intensive livestock farming. This land is likely to be utilized for grass and forage crops, corn, and high yielding dairy cattle and pigs. There will be more limited intensive use of the land for environmental track preservations. An extension of grassland areas is possible in the lowland and upland areas of Europe with dairy and beef production being a highly efficient use of upper land resources. In the humid mountain areas, livestock systems could be maintained or developed as a complement (or alternative) to forestry. Dairying, with high-quality cheese produced from the mountain pastures, and associated to a greater or lesser extent with sheep production, will also play an important role in land use, landscape management, and rural development.

In the dry Mediterranean areas, pastoral systems with sheep, beef cattle, or goats predominate. These systems make extensive use of rangelands and help control scrub encroachment and forest fires. A rich diversity of breeds, systems, and products should be maintained and developed in these difficult areas. Rating and genetic selection for hardy breeds is very efficient in several European countries, and will enable beef production to occur in these regions.

European pig production is a concentrated, intensive, high technology industrial farming system. Concentration has led to many environmental problems. In the future, therefore, segregation of pork production will be required; production may well be relocated to certain areas. There is some possibility for increased diversification of the industry both in terms of products and systems. There could be an increased diversification of production systems in Mediterranean-type pig systems and cured pork meats; in particular, mountain cured pork as in Spain, Italy, and southern France.

The production of eggs and poultry will be through vertically integrated production systems controlled by individual firms. Product diversification is already considerable in the poultry industry, for example, between fresh or frozen meat, between the processed parts of chickens and turkeys, and between white or dark meat.

Conclusions

European animal production systems are expected to confront increasingly competitive markets; increasing world demand; increasing demand for higher quality and safer foods; and a growing desire for sustainable production systems. In the future, farming systems will not only need to be efficient but also sustainable, diverse, multifunctional, and territorial-based. New technologies are part of a European future but they will need to be tailored to meet consumer acceptance of and preferences for differentiated product characteristics. New forms of regulations are needed at the local, country, and world levels to accommodate these challenges. Such changing consumer demands will need to be taken into account by the World Trade Organization and other international trade organizations.