
Future challenges concerning animal breeding and health

S. Pavón

Directorate General for Health and Consumers (DG SANCO),
European Commission, Brussels, Belgium

The EU animal health strategy¹ is mainly aimed at transmissible animal diseases, and it does not specifically address health problems linked to animal breeding practices. Besides, the European Commission has in place a number of initiatives in the field of animal breeding which also contributes to protect the health of individual animals. For instances, the Commission is funding several research projects dedicated to research in livestock production, contributing to develop animal breeding and health via projects funded by DG Research. The following are examples of research projects funded by the European Commission: Quantomics (2010-2013: <http://www.quantomics.eu/> and 6 million Euros), Gene2farm (2012-2016: 3 million Euros), Low Input Breed (2009-2014: <http://www.lowinputbreeds.org/> and 6 million Euros) or NextGen (2010-2014: <http://nextgen.epfl.ch/> and 3 million Euros biodiversity oriented).

Animal breeding and health

In addition, the European Commission supports the EU reference laboratory responsible for rendering uniform the testing methods and the assessment of the results for pure-bred breeding animals of the bovine species (Interbull, which is a permanent Sub-Committee of ICAR: www.icar.org).

One of the main objectives of the Commission with these initiatives is to ensure that trade in bovine genetics and their imports from third countries are harmonised and based on reliable information. This goal is being achieved via several activities like: to investigate and to provide standard methods for both national and international genetic evaluation of bovine populations, to perform regular international comparisons of what performance of pure-bred bovine animals for breeding, to provide methods and perform regular validation of national genetic evaluations of bovine populations and to provide technical assistance to Member States in matters related to assessing the genetic merit of bovine populations.

This will help to provide important information which can be used for Veterinary medicines, Scientist on animal diseases, Veterinary preventive medicine and Genetic diseases and to bring valuable information on issues like the role of the genes in predisposition to diseases caused by different pathogens, metabolic disorders, development/physiological disorders, information on the effects of genetic resistance to diseases, medication and vaccination and genetic resistance against pathogens

¹Reference COM (2007) 539 final

In the EU, at present bulls of dairy breeds are selected based on balanced criteria which considers not only high level of milk and milk component productions but also on criteria like: longevity, mastitis resistance, female fertility, calving difficulty, cow temperament and conformation traits related to fitness. The starting of the development of genetic evaluations for these traits in the EU is relatively recent.

Animal breeding and welfare

The Treaty on the functioning of the European Union refers explicitly to Animal welfare as follows: "In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage." .

Several elements have contributed to animal welfare become a major and legitimate concern in the EU : the new cultural approach to animal welfare, new interests of society and policy makers in promoting compliance with welfare standards and - appropriate information is disseminated-. Consumers are concerned about the humane and responsible treatment of animals. The latter was highlighted in the "Attitudes of EU citizens towards Animal Welfare", during the Eurobarometer Survey, March 2007. In this survey, it was noted that 62% of European consumers stated that they would change their shopping habits and purchase products which are more animal welfare-friendly.

The EU has a wide range of legislative provisions concerning the welfare for animals. Council Directive 98/58/EC concerning the protection of animals kept for farming purposes states: "natural or artificial breeding procedures which cause or are alike to cause suffering or injury to any animal concerned must not be practised" or "No animal shall be kept for farming purposes unless it can reasonably be expected on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare". The European Food Safety Authority's (EFSA) Animal Health and Welfare panel provides independent scientific advice to the European Commission, the European Parliament and EU Member States. Its scientific opinion focuses on helping risk managers to identify methods to reduce poor welfare and to improve health. While EFSA has no mandate to give advice on ethical or cultural issues related to welfare, it has produced scientific report on the effects of farming systems on dairy cow welfare and disease (July 2009; EFSA-Q-2006-113). Some of the main conclusions of this study are that leg disorders, mastitis and reproductive disorders are considered major components of poor welfare in dairy cows. The panel concluded that long term genetic selection for higher milk yield is one of the major factors affecting the health of dairy cows as well other aspects of their welfare.

On the request of the Commission EFSA has produced in 2012 a series of scientific opinions on the use of animal-based measures to assess the welfare of dairy cows, pigs and broilers.

The Commission launched during 2013 new legislative proposal for a Regulation on Animal Health (herein after referred as: Animal Health Law (AHL)). The new AHL tends to pass from a fragmented legislation of circa 40 Directives and Regulations into a single and robust legal framework for animal health. It will lay down the overarching principles for prevention and control of transmissible animal diseases. The new AHL will extend the scope of disease prevention and control to kept and wild animals (not only production animals) and their products, terrestrial, aquatic and other animals. It will bring clearer definitions on responsibilities for keepers, operators, veterinarians, competent authorities and a sound risk based approach by introducing categorization/prioritisation of diseases for EU intervention. Other major elements introduced in this AHL include the improvement of the response to emerging diseases as well as more prevention (Biosecurity at farms, in transport, assembly, at borders), disease notification and reporting, enhanced surveillance and a clearer policy for the use of vaccines and in relation to disease control & diagnosis. The above-mentioned will also contribute to easier and safer trade via an enhanced convergence with international standards on animal health (OIE), and by introducing provisions on compartmentalisation and requirements for exports, while at the same time adding more flexibility to adjust to elements like climate changes and other emerging risks.

Animal health law

Certain EU breeder's organisations complain that genomic selection in the EU is on disadvantage in relation to third countries due to a policy of governmental subsidies policy. The last consequence of this allegedly unfair competition leads to an advantageous situation of imported products at lower prices in the EU market.

Animal breeding & international trade

The EU has always been a major exporter of genetic material and technology-related. Recently, new trade barriers imposed by third countries based on animal health grounds are emerging making international trade in genetic material more difficult. For some of those agents emerged pathogens, there would be a lack of international standards making it more difficult to set up safe international trade recommendations or guidelines. In addition, barriers having an "administrative" nature have also appeared as a major problem for international trade. Not least, environmental and biodiversity reasons have occasioned unjustified trade restrictions in this sector. In some cases those restrictions have as main objective, the protection of national/domestic production against imports from EU Member States. It seems to be a legal gap in the Agreements concluded in the framework of the World Trade Organisation (WTO). For instances, it is not clear whether this type of restriction would fall under the SPS (Sanitary and Phytosanitary) or the TBT (Technical barriers to trade) Agreements or any other. Till the above-mentioned questions are not solved, it will be difficult to challenge these types of trade barriers at international level, resulting on incertitude & unpredictability for operators in terms of international trade.

Genetic erosion and biodiversity

One of the major challenges for the Commission when trying to set an EU policy on animal breeding is how to address Biodiversity. Representatives of EU breeders organization tend to defend the line of having as many traits as possible (e.g. via genomic selection) in order to avoid the risk to fall under the so called "Genetic erosion". One of the major risks of genetic erosion is that less market-oriented breeds may be left behind in favour of more commercial breeds. This brings us to the main question: how to preserve and to ensure genetic biodiversity? And how animal breeding organisations can play a positive role in the preservation of genetic biodiversity? Local initiatives are not by themselves able to cope since a bigger infrastructure is needed (e.g. human & financial resources). Also there would be a need for the European Commission to actively participate in the work of international bodies (UN and WTO) on this issue. At the moment the EU treaty provides in this field, shared competences between the European Commission and EU Member States, making more difficult to have a single voice at international level. Others like Nagoya Protocol (still to be ratified by COM-DG ENV and MS). Finally, the Commission have additional instruments supporting the conservation of agricultural genetic resources such as the Rural Development Policy (Rural Development Council Regulation (EC) No 1698/2005).

Cloning and genomic selection

The European Commission plans to produce during 2013 a legislative proposal with measures on cloning technique in the EU for main farm animals. This has been particularly requested by the European Parliament. Cloning technique is rare in sheep, goats and pigs and it is more advanced in particular in dairy cattle and sport horses. In this proposal, the use of cloning for scientific / research purposes will not be affected.

There are several open questions on the application of measures to imports from third countries, in particular for imports of genetic material.

From the genetic perspective, it is important to have access to as many traits as possible. This could somehow contradict the final aim of the cloning technique as the latter tends to encourage the use of a limited number of traits. Other breeding techniques like genomic selection if used in a responsible manner could provide economically viable alternatives to cloning without compromising genetic diversity.

The future legislation on zootecnia

The European Commission is currently working on a new revision of the existing legislation on zootechnical standards applicable to breeding animals which is scheduled for adoption in 2013. This new proposal aims at simplifying and to improving the wording of the existing legislation. It will also address points of controversial interpretation of the existing legislation e.g. cross-border activities of approved breeding organisations and those points which because of lack of clarity have been the source of complains by competent authorities and operators. It is the duty of the Commission to create the enabling environment for the free circulation of breeding animals and their germinal products on the internal market and the freedom to provide services.

With these objectives EU Member States, operators and competent authorities shall ensure that activities like intra-EU trade in pure-breed animals, their germinal products the establishment of herd-books and the recognition of organisations and associations maintaining herd-books should not be prohibited, restricted or impeded on zootechnical grounds.

There are future challenges concerning animal breeding and consumer protection in the European Union. One is the issue of intellectual property rights, but another more important is how best to approach the consumer. Not least, there would be a need to set up more official channels of communication with consumer's associations such as the civil society dialogue.

Other challenges
