Report of the meeting with the Swedish stakeholders for the Sustainable Farm Animal Breeding and Reproduction Technology Platform

Report by Andrea Rosati, European Association for Animal Production, and Anne-Marie Neeteson, European Forum of Farm Animal Breeders

The meeting with the Swedish stakeholders of the Sustainable Farm Animal Breeding and Reproduction Technology Platform was held in Uppsala at the Swedish Agricultural University on 21 November 2007.

Jan Philipsson (SLU) and Kjell Johansson (Swedish Dairy Association) were the local organisers of the meeting. Representatives of Swedish animal breeding and production organisations, Ministry of Agriculture, and from the Swedish University of Agricultural Sciences were participating in the meeting. A total of 37 people participated in the event.

The meeting was chaired by Margareta Håård (Svensk Avel). Andrea Rosati outlined what Technology Platforms are, and why they are important. He introduced FABRE TP, explained the process of Vision paper, Strategic Research Agenda (SRA) and Action Plan development. The presentation was then used to describe why and how FABRE TP has been established and a general outline of research items. The SRA is being discussed throughout Europe. The Swedish country discussion is the 24th of 31 country discussions.

The audience was invited to comment on the SRA and indicate specific Swedish issues. Below are the comments given at the meeting, with the addition of aspects and comments made in later discussions.

Livestock recording

During the meeting several research and problem areas were put forward. It was generally stressed that good and reliable livestock recording data constitute an important basis for research all over the world. Livestock recording needs to be better organised in developing countries. More in-line recordings at farm level and the retrieval of such information for research and global purposes is a challenge.

Genomics research and quantitative genetics

Whole genome association research will be very important in coming years. The application of genomics and its genetic and economic revenues need more of the research rather than genomics itself. Aspects on breeding programme developments including the role of genomics are essential. High level quantitative genetics needs to be integrated with genomics tools in order to be able to get some benefit in animal breeding programmes from the genomics work. There is an apparent need of continuous reassessment of the balance between research in genomics and quantitative genetics throughout whole period of the research agenda.

Species and production systems

In the coming years there will be large changes in farm structure and production systems in Europe and elsewhere due to changing agricultural policies, increased needs for

livestock products and competition of land resources for food, feed and bio-fuels. It is important that the European research activities are well prepared to meet this new situation. Also we recognize that EU may contribute substantially to accommodate for these changes with research activities, and by exporting know-how or technologies in the field of animal breeding and reproduction to emerging economies and less developed countries.

Dairy and beef production will continuously be important parts of European livestock production. The role of sheep has been minimal in Sweden but is increasing. Quality aspects of milk, meat and eggs as well as production systems including animal welfare are important for consumer acceptance. Horses constitute an important and increasing part of the Swedish agriculture and also play an important social role. A holistic view on all aspects of animals must be taken as providers of food, open landscape and socially, and their impact on environment will need further research and be an integrated part of scientific approaches. In this context also genetic diversity and the conservation of animal genetic resources are important issues and therefore breeding programmes need an increasing attention. Connected topics are the importance of crossbreeding programmes in various species and the use of sexed semen.

Environmental issues

Environmental issues and green house gases should be put into the document more prominently. The item of interactions with the environment has always been important in animal breeding, but not that much discussed. Increased productivity leads in general to less production of green house gases for a given total production. The environmental problems together with the increasing demand of food emphasize the need for improvements in production and reproduction. In developing countries there are large numbers of livestock. If we wish to reduce greenhouse gases, it will be of utmost importance that productivity increases in that part of the world and that efforts are made to meet the demand for animal feed while taking into account the environmental output. What can be the role of Europe in that respect? Knowledge transfer? Research focusing on animals in 3rd world countries?

Reproduction and diseases

A good reproduction is a pre-requisite for sustainable animal production. Continuous refinements of basic reproductive techniques as artificial insemination are important as they have a tremendous economical leverage in the emerging economies. Reproductive losses in different species constitute a major reason for culling of animals, and are thus economically very important. Increasing production levels may also cause a decline in reproduction. The Holstein dairy cattle breed is internationally suffering from reproductive losses as leading countries exporting breeding stock to Europe did not consider fertility in their breeding programmes. This contrasts to the Nordic countries, and e.g. the SRB breed, where fertility, health and production are continuously considered in breeding and health recording schemes.

Prevention of diseases is important as they reduce production and quality of products while limiting genetic progress. Research on breeding for resistance to diseases and on

epidemiological issues is therefore important, not only in Europe but even more in the developing world. When diseases break out, genetic materials can not be disseminated any more, and in some cases animals need to be killed. That can be very detrimental for local breeds of which only few numbers are left.

The anticipated climate change may further emphasize research in this area, as a warmer climate is favoring the northbound spread of some infectious livestock diseases. Also the issue of "heat stress" – adverse to reproduction - may become more important even in some parts of Europe. Crossbreeding may be important in both Europe and globally as a means to solve some of the health and fertility problems in cattle for instance, but research must emphasize the sustainability of such programmes and that conservation of favorable genes rather than genotypes are considered.

Miscellaneous

Next to the research items of interest for animal breeding and reproduction, it is very important that exercises take place to clarify the role of animals for agricultural economics, food production, the landscape and for social reasons. We can not emphasize enough how important it is that politicians are informed about this, and what research is needed to maintain, improve and not loose out on these roles.

A call was made for the involvement of more young people in the country discussions and the working groups, and to undertake efforts to decrease the distance of young people to the FABRE TP work.