

## Summary Farm Animal Breeding and Society

The issues surrounding developments in farm animal breeding (cattle, sheep, pigs, poultry and fish) are ones in which the public has a real stake: new reproduction and selection technologies like transgenesis and cloning, but also undesirable side effects of high production in farm animals. Furthermore, food production has moved from being supply side driven to consumer driven. Farm animal reproduction and selection, on the outermost begin of the food production chain, has to deal with this new situation in which awareness about the demand of the consumer, and the license to produce of society play a considerable role, at least in Europe. There is a growing need for rational debate among producers, consumers and policy makers and for decision-making based on technological, economical and societal information. The project “the future developments in farm animal reproduction and selection and its ethical, legal and consumer’s implications”, financed by the EU 4th Framework Programme for RTD, has worked out a picture of challenges and future scenarios in farm animal breeding and the possible societal merits and constraints.

### Breeding and reproduction

The first step in the breeding of farm animals involves the definition of a breeding goal: what kind of cattle, pigs, poultry or fish is desired? The following steps in the process are the selection of those animals that describe best this goal as future parents and the reproduction of the animals. Breeding companies and cooperations do this work for the farmers. Further globalisation of breeding, increase of the size of farms, improved computing facilities, (bio)technological developments, sustainable production and biodiversity will influence the structure and content of breeding. Three future scenarios – conventional, alternative and low cost – are represented. Each with consequences for production costs, uniformity of breeding goals and balanced breeding, and with possibilities for or likeliness that certain (bio)technologies will be applied. For example, heat induction may be an ideal instrument to guide reproduction in low input areas, but does it reflect the ideas of the customers of organic agriculture products?

### Ethics

Society – both consumers and producers – has an ethical responsibility towards breeding and reproduction. What is it that people are concerned about? On the one hand there are concerns towards animals, humans, the environment or biotechnology itself: unintended negative side effects of breeding and (bio)technologies can be in conflict with animal welfare and animal integrity. Humans are concerned about the possible effects of new developments on their own health and welfare, on genetic diversity and the environment. Furthermore, they question biotechnology itself. On the other hand the positive applications represent an obligation not to dismiss these options. Methods to weigh the concerns and the possibilities are outlined to help working towards acceptable solutions.

### Law

Developments in farm animal breeding and biotechnology have legal consequences. The impact of the new patent law on production methods, marker assisted selection, the patentability of animals and

of animal genes has been analysed. The potential problems associated with patents are outlined: the risk of competition between patent holder and breeder, the research exemption, effects of broad claims or patents on biotechnological processes, the impact of the farmer's privilege and the traceability of genetically modified animals. Furthermore, animal welfare legislations will influence breeding (developments) more and more. Case-by-case assessment seems to be a workable option.

### **Consumer**

Breeding farm animals seems far away from the consumer. However, consumers have clear opinions about the genetic modification (GM) of animals. Animal welfare is a concern, but so is the price and quality of the product. Benefits should be evident to consumers before novelties get accepted. GM of animals, at least for food production, is expected to raise a lot of opposition. However, even if animal breeders will not GM or clone their animals, they may expect to meet negative publicity of GM/cloned animals for medical purposes: the general public will not make the distinction. Awareness about consumers is important, even if their behaviour is not very predictable at large. Contacts with animal welfare organisations are important. The concerns of society deserve serious consideration.

### **Workshop**

The framework of possibilities and concerns was represented and discussed before an audience of industry, scientists and representatives from society at 3 June 1999 in Utrecht, The Netherlands. The workshop was opened by Sally Keeble UK MP, who put the role of farm animals in society in perspective. The vice-chairman of the Farm Animal Welfare Council added economical considerations on welfare to the picture. A lively discussion on all these presentations and project results took place. The scene has been set. Breeding industry learns about the concerns and wishes in society, and brings its questions and possibilities to the public. Developments continue. The dialogue, necessary to build understanding and to finetune the activities of both consumers and breeders, should continue. More detailed information about the exact wishes of society, the cultural differences within society and between North/South Europe, the possibilities of breeding industry and research to address society demand, the legal, economical and global framework and the involvement of animal welfare representatives will help the realisation of a further, informed dialogue.

### **Conclusions**

Clearly, the project is finished but not the discussion which was raised in this project. This discussion on societal aspects of farm animal breeding and reproduction must be continued. Not only because it is not yet finished, but especially because the opinion in society and the (potential) possibilities in farm animal breeding and reproduction are changing continuously. Industry in Europe, here presented by FAIP, is aware of that need and will take the lead.

The results of this project are a perfect start for a further dialogue. All relevant information is gathered for both students, scientists and industrial managers as well as for politicians and societal groups like consumer, animal welfare and farmers organisations, to make farm animal breeding and reproduction transparent.

