

## **Report of the meeting to encounter the Italian stakeholders for the Farm Animal Breeding and Reproduction Technology Platform**

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The meeting to encounter the Italian stakeholders for the Farm Animal Breeding and Reproduction Technology Platform was held in Verona on February 18<sup>th</sup>, 2008. The venue was the site of the Italian Breeders Association of Brown Swiss Cattle.

Representatives of the major animal industries and breeders organizations, Animal Science Research Institutes in Italy were invited to attend the meeting. There were 45 people attending.

The meeting began by presenting, shortly, to explain the role and the functioning of the technology platforms in the EU policy then it was fully presented the FABRE TP. The presentation was directed to explain the reason of the creation of the platform and then the activities of the platform so far. Finally it has been described the first draft of the Strategic Research Agenda. The people attending the meeting were then stimulated to express their views on the FABRE technology platform in general and more specifically the comments, advises and criticisms about the first draft of the Strategic Research Agenda.

After collecting the comments, the list was sent back to those who attended the meeting for possible corrections and additions. The final list is then detailed:

1. It was underlined the importance of improving the reproductive technologies related to Buffaloes. Breeding buffalo is increasing the economic importance in the national livestock system and specific reproductive problems are still a constraint in many situation
2. For the improvement of milk quality is also considered to be crucial the methodology of somatic cells count. The current system is quite old and not possible to render automatic. But herd management and improvement of economic conditions of dairy cattle farms are effected by the level of somatic cells count. To improve genetically the resistance to udder disease, therefore reducing the somatic cells in the milk, is necessary an easy and reliable system to count the cells. A new technology for somatic cells count is therefore necessary
3. In Italy food products are devoted to quality. For the typical Italian livestock system there is necessity to genetically improve quality of food products of animal origin. More research should be dedicated to this branch of genetic
4. Due to the particular productions of swine breeding, there is the necessity to research improved methods of genetic improvement for heavy pigs production
5. Typical Italian food products of animal origin can also have a very large market (Prosciutto di Parma, Parmigiano Reggiano, Grana Padano, etc.) and therefore have huge economic importance. The audience believes that research should be dedicated to improve the quality and the quantity of such production types
6. Local products are also very important for the economic sustainability of livestock systems especially, but not only, in marginal areas. The audience request more support to research on genetic improvement having the goal of increasing the efficiency of livestock systems for local products of animal origin
7. Selection studies should also be performed to evaluate the different environment and feeding systems in relation to local and typical products

8. Considering the increasing importance of animal welfare in livestock systems, more research to genetically improve the animals to diminish stress and other negative aspects for welfare during animal production
9. Genetic improvement in sheep productions, both milk and meat, are mainly based on registration of performance levels. More research should be done to render economic feasible the performance recording of small ruminants. The systems currently used are those planned for dairy and beef cattle, obviously the incidence of the cost of performance recording for unit of production is much larger in small ruminants. For this reason new methods must be studied and proposed
10. Dairy sheep breeding is very important in the Mediterranean livestock system and therefore in south and central Italy. All milk produced by sheep is processed to produce cheese. More research on milk quality must be achieved. The objective is to improve the quality of cheese by managing the milk quality parameters of dairy sheep
11. Cattle longevity is important for the economic efficiency of dairy farms. Unfortunately nowadays the longevity is an important constraint in the Italian dairy sector. Research is necessary to improve this character by acting on the specific factors that has an effect on animal longevity
12. The role of animal farming in marginal areas is becoming more important for the social and environmental changes that are happening in all Europe. We need to breed animals and perform research for obtaining animals that are fitting well and have good production level both on quantity and on quality by pasturing in marginal areas
13. The milk produced in Italy is largely utilized to produce cheese. Milk quality and milk safety are therefore important aspects in Italy. Research on breeding should be dedicated to improve milk quality
14. Breeding robust animals is essential for the economic efficiency of animal farms. Resistance to disease is therefore a trait to select. Studies to indicate the factors of resistance to diseases is therefore an important objective
15. In poultry breeding the role of male reproductive system is considered to be important. Therefore is recommended to perform research on sperm physiology and, more generally, on the entire male reproductive system
16. Crioconservation techniques must be improved for the importance they have in biodiversity management
17. Sperm sexing is another important aspect for improving the animal farming. The current techniques are often not sufficient for the requested objectives, they are, in fact, too costly and not enough efficient
18. Milk processing is, as already mentioned many times, very important in the Italian livestock economy. Improving such techniques by selecting proper traits to improve the milk processing efficiency is considered by the audience to be very important
19. Due to the global climate change, the animals bred in Italy might be exposed to higher temperature than now. More research is necessary to tackle this issue.
20. Research on nutrigenomic is necessary for an efficient development of Italian animal breeding
21. For the typical livestock breeding of the country and for the organization of selection procedures, it will be necessary to develop systems to test the reproductive performances of bulls while they are alive, i.e. for natural inseminations.
22. Large part of the beef production is produced by crossbreeding dairy cows with beef sires. Performance data of this production is almost completely lost for selecting beef sires. More research should be done to find proper and efficient way to collect and utilize such data
23. Italy livestock system has a large and economically efficient production level of niche products, especially when compared to other countries. Research activities are necessary

- to maintaining and improving the efficiency of such animal industries, moreover because they are important especially for marginal rural areas
- 24. The Italian audience also believes that is very important to support research for being able to select for two separate goals: milk for drinking and milk for cheese production. This is due to the large importance that cheese production has for the Italian milk industry
  - 25. Genetic improving is also important for improving feed efficiency. This would have an impact in feeding costs thus increasing the economic efficiency of livestock industry at large and also for reducing the environmental impact of breeding
  - 26. Since genetic selection is totally depended for the collection and management of performance recording, large emphasis should be given to doing research to improve the performance recording on large scale for selection purposes
  - 27. Aquaculture is also another important aspect of the animal industry. More emphasis should be given to Mediterranean aquaculture species, like sea bass and sea bream
  - 28. The swine industry also looks for some important goal, for instance it was requested to homogenise the production through proper genetic improvement and selection schemes
  - 29. It is considered very important to do research to obtain animal products useful for human health like those related to lipid metabolism
  - 30. Considering modern livestock systems and also possible future climatic changes, research should work to obtain stress and disease resistance in animals, to increase fitness and sustainability of producing animals
  - 31. For the current Italian breeding system, research should be devoted to improve local productions and related typical products of animal origin
  - 32. Studying evolution of local breeds could also bring to better define models to maintain and manage local breeds that are extremely important above all for the breeding in marginal areas
  - 33. It was also discussed and approved the request to study traits useful for dairy industry like calcium content and polyinsaturated fat acids (i.e. omega 3)
  - 34. Conformation traits are also very interesting, like udder and fitness traits, that are very important for longevity
  - 35. Temper traits in horse breeding should also be studied
  - 36. Data collection and management is a very important technological tool for any type of genetic improvement. Research to increase the efficiency of data collection and management is urgently requested
  - 37. Genetic improvement to reduce the environmental impact of animal breeding is certainly needed
  - 38. Emphasis should be given to studies aimed to improve the reproductive efficiency through molecular and cellular techniques
  - 39. It was considered very important doing research to improve reproductive technologies, like embryo transfer, semen sexing, cloning and transgenesis
  - 40. Possible selection to increase fertility should be investigated
  - 41. Data mining and bioinformatics are new techniques that needs attention when developing the strategic research agenda for animal breeding in Europe
  - 42. It must be supported the genome sequence of “minor species” like buffalo, goat and sheep for the great local importance they have
  - 43. The audience also considered to be very important to utilize in an efficient way the answers that will arrive from genomic tools together with those obtained by the traditional genetic selection
  - 44. Major role than in the past must be dedicated to dissemination of results from research activities and to relative application

45. Again the audience would like to emphasize that the EU research support should be also dedicated to rare breeds and to their productions that very often are typical local products permitting the level of economic efficiency for remaining sustainable
46. Breeding objectives must be more and more dedicated to breed animal in equilibrium with the environment, therefore research must be sustained to select animals not increasing the level of pollution in the environment (green house gases, animals adjusted to environmental friendly livestock systems, etc.)
47. Genetic defects studying must be considered to avoid decrease of genetic diversity, very important especially in small and rare breeds
48. More efforts and investments should be done to discover new methods of performance recordings of small ruminants so to diminish the costs. This factor, together with the difficulties to utilize artificial insemination, has a large impact for the low level of genetic improvement in small ruminants
49. The Technology Platform develops a strategic research agenda that is lacking actions in favour of traditional farming systems. In the probable future European animal farming there will be an important role for the marginal areas. Research support is necessary to make the traditional animal farming very efficient and competitive. The SRA should better consider that for the many conditions the breeding objectives should be less than optimum about productive level. The main breeding objective should be to look for animals fitting well and having high efficient production in the systems in which is bred.