

INTERNATIONAL SYMPOSIUM ON ANIMAL GENOMICS FOR ANIMAL HEALTH

Paris, France, 23-25 October 2007, OIE Headquarters

Jointly organised by ARS-USDA (Agricultural Research Service- United States Department of Agriculture), INRA (Institut National de la Recherche Agronomique, France), BBRSC (Biotechnology and Biological Sciences Research Council, United Kingdom) and IABS (International Association for Biologicals), with the support of the European Commission (EADGENE). The World Organisation for Animal Health (OIE) hosted this symposium within its headquarters in Paris, from October 23 to 25, 2007.

“Animal genomics provides new opportunities for solving problems in animal health. Our goal is for this symposium to have concrete outcomes, such as the identification of key challenges that the animal health community will face as it tries to integrate genomic tools in animal health research. It is our conviction that products derived from this research will lead to effective disease control programs that will benefit animal health, producers, public health, and allied organizations that have a stake in animal agriculture systems” Dr. Cyril G. Gay, USDA-ARS.

The specific objectives of this international symposium were to provide solutions and recommendations to address four overarching issues: 1) quantitative population genetic studies to identify markers of health traits; 2) functional genomics of host-pathogen interactions; 3) translating genomic information to tools for controlling diseases; and 4) integrating stakeholder support to advance animal genomics in animal health.

Two hundreds and sixty five scientists from 35 countries participated in this first international symposium to bring together experts from fields of animal genomics and animal health with the aim of paving the way for the future. It provided the opportunity for world leaders to come together and plan new directions to fundamentally change the way we approach animal health research.

This symposium provided exceptional prospects for integrating core competencies in science, computer engineering, and veterinary medicine, by connecting those who are currently engaged in cutting edge genomics research with animal health scientists that are disease experts and understand the real world challenges facing animal health.

“Recent advances in biotechnology and genomics present unique opportunities to address global animal health challenges through exceptional scientific collaborations that can generate truly innovative strategies” Dr. Marie-Hélène Pinard-van der Laan, INRA

One of the highlights of the meeting concerned the interactions between the genomes of the pathogens and their hosts, in order to improve the ability to control and eliminate diseases through the discovery of highly effective diagnostics, vaccines, and

biotherapeutics, and the promise of being able to select livestock with desirable health traits.

“Vaccination, when available, is undoubtedly the most cost-effective means of preventing and controlling, and even eradicating infectious diseases of man and animals, as exemplified by the foreseen eradication of rinderpest” Dr. Bernard Vallat, OIE.

Dr. Vallat in his closing statements identified that vaccination will help to reach many of the objectives of the United Nations “Millennium Development Goals report – 2005,” especially in the light of the livestock revolution. It is expected an increase of 50% in the world demand for meat in the next 15 years. One billion people will shift from poverty to the middle class, becoming meat consumers. One approach could lie in the selection of animals that respond well to vaccination. There is also a growing trend to orient livestock selection not only toward production, but also toward animal health objectives by selecting animals resistant to certain diseases.

“There are also many applications for animal genomics in animal welfare. Whenever a disease is prevented, it has a direct positive impact on animal welfare; animal health being a key component of animal welfare” said Dr. Vallat.

The symposium also highlighted that it is becoming urgent to maintain the biodiversity of domestic animals. The World Organisation for Animal Health fully supports the initiative of its sister Organisation, the Food and Agriculture Organisation of the United Nations to promote and preserve the diversity of domestic breeds in both developed and developing countries.

The proceedings of this meeting will be published in the collection **“Developments in Biologicals” of the International Association for Biologicals (IABS)**. The proceedings will include key recommendations for moving forward and serve as a roadmap for future research initiatives.

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