Book of Abstracts of the 70th Annual Meeting of the European Federation of Animal Science





Book of abstracts No. 25 (2019) Ghent, Belgium, 26-30 August 2019

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The European Federation of Animal Science wishes to express its appreciation to the Ministero delle Politiche Agricole Alimentari e Forestali (Italy) and the Associazione Italiana Allevatori (Italy) for their valuable support of its activities.

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EAN: 9789086863396 e-EAN: 9789086868902 ISBN: 978-90-8686-339-6 e-ISBN: 978-90-8686-890-2 DOI: 10.3920/978-90-8686-890-2

ISSN 1382-6077

First published, 2019

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Session 09

National organizations and management tools for genetic improvement of dairy cattle in Europe

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Since the early 2000s, the development of genomics provides extensive knowledge of the DNA of living organisms. This innovation has transformed the way in which living organisms are evaluated, selected (genomic selection of plants and animals) and marketed. Coupled with political and regulatory changes, this technology contributes to modify the national institutional arrangements in the field of animal genetic improvement as well as actors' practices. The current liberalization process questions both the collective dimension of genetic progress and the property rights of genetic resources. In a comparative perspective involving France, Ireland and The Netherlands, the objective of this overview is to present the plurality of institutional arrangements regarding genomic selection of the Holstein cattle breed. First, it highlights three institutional regimes that reveal different arrangements particularly between public and private organizations. Then, this diversity of arrangements is completed by an analysis of contractual tools. Contracts refer here to formal agreements between breeding companies and farmers through models of strategies aiming at the production and exchanges of genetic resources such as animals, embryos and semen. These models emphasize various forms of property of genetic resources between companies and breeders and also show that the actors' roles in genetic selection activities are redefined. Indeed, the phenomenon of contracting represents one of the major evolutions in the relationship between our societies and nature. These results provide a better understanding of the development of a liberal logic (in The Netherlands) in duality with the reinforcement (in Ireland) or weakening (in France) of a cooperative logic for the production of improved animal genetics.

Session 09

Theatre 6

Farm's social and economic factors and the adoption of agricultural best management practices

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Exploring the relationship between farm's social and economic factors and the adoption of agricultural best management practices is useful to tackling the environmental challenges faced by the animal production. This study used the data of 47,211 dairy farms from the 2010 French Agricultural Census to study the statistical correlations between these factors and the adoption of nine agricultural best management practices. First, we tested the internal factors related to the characteristics of the farmer, farm's structure, and governance. Second, we tested the external factors related with commercial and regulatory followed by spatial features. The results show that the internal factors like farm size and the contracting any agri-environmental insurance are negatively correlated with the adoption of most of the practices. Communication and information technologies are both positively or negatively correlated with the practices. In terms of governance, farms with individual and corporative legal status have statistically significant adoption behaviour. The share of familial annual working unit is negatively correlated with most of the practices. On the contrary, the diversification has an important positive correlation. Education, age, knowing the succession and the share of land under property have not significant correlation with most of the practices. In terms of external factors, the statistical analysis highlights the significant positive correlation of positioning on alternative markets, short circuits, organic products, or quality markets and the adoption of almost all practices. As the literature commonly suggests, the results show that environmental regulations also drive the adoption. The spatial environment of the farm and, more specifically, the environmental behaviour of neighbouring farms is highly correlated with the adoption. Finally, polices to promote locally farmer's experience exchange and to supporting diversification, high quality products and short circuits can further the adoption of agricultural best management practices reducing the environmental impacts of dairy farms.