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**The growth of social sciences in equine research:
Essential to create new understandings of the horse
industry's growth and evolution**

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EAAP EQUINE SYMPOSIUM: KNOW-HOW AND FUTURE CHALLENGES FOR DEVELOPING THE HORSE SECTOR IN EUROPE: THE ACTIVITY OF THE EAAP HORSE COMMISSION

0281 Recent aspects in stallion sperm preservation for artificial insemination. M. Magistrini*, *INRA, Nouzilly, France.*

Equine industry needs more and more to improve long-term sperm storage (chilled or frozen) to optimize artificial insemination (AI) and fertility rates and consequently genetic exchanges. In most domestic animal species, sperm extenders are composed of animal products such as milk and/or egg yolk (EY). However, these products are potential sources of bacterial contaminations and have a variable composition. In equine species, milk and egg yolk have been used for years in the composition of extenders. In our laboratory, we have decided to focus our research on the composition of extenders and our objective was to adapt extenders free of milk and or egg yolk for both chilled and frozen sperm. For chilled transported sperm, milk or milk based extenders have been used to dilute and store stallion sperm for AI. However, all milk components are not optimal for sperm protection. So milk fractions were tested and finally we developed an extender named INRA96, containing the purified fraction of native milk caseins, for long-term sperm storage at 4°C or 15°C. INRA96 is a ready to use extender and it can maintain fertility potential for up to 24–72 h. INRA96 has proved itself and many of breeders use it nowadays in many countries. Since the first insemination with frozen semen, the low or fluctuating fertility results have limited the use of this technology. Our objective was to develop a new freezing extender, easy to use and able to improve the success of artificial insemination with equine frozen semen. We first demonstrated that INRA96 extender, used previously for chilled transported sperm, supplemented with EY and glycerol significantly improved significantly the fertility rates of equine frozen sperm. More sterilized EY-plasma afforded the same protection as EY. These results lead to the commercialization of an extender available ready to use and called INRA Freeze. Our next objective was to identify the cryoprotective molecule(s) in egg yolk plasma. EY and more precisely LDL, composed mainly of phospholipids, have long been considered as cryoprotective agents. In our analytical approach to develop a new freezing extender, we have tested the effect of EY-phospholipids instead of EY or EY-plasma. Our results demonstrate that EY-phospholipids as cryoprotective agents are a promising approach that we have to finalize.

Key Words: Equine, INRA 96, sperm storage

0282 The growth of social sciences in equine research: Essential to create new understandings of the horse industry's growth and evolution. C. Vial¹ and R. Evans^{*2}, ¹*INRA Montpellier, Montpellier, France,* ²*Norwegian University College of Agriculture and Rural Development, Jaeren, Norway.*

The equine sector is currently growing and evolving worldwide. In Europe, it is estimated that there could be at least 6 million horses in the 27 member countries, grazing 6 million hectares of permanent grassland. 400,000 full time jobs equivalent would be provided by the sector and the numbers of horses and riders are growing in the approximate range of 7% a year. Today, little is known about the horse industry but there is a growing consensus that it has changed from a primarily agricultural and industrial sector activity to one firmly rooted in sports, leisure and consumption. It is impossible to understand these transformations without understanding the society within which they are embedded. Horse welfare, population size, behaviors and potentials depend on those of the societies in which their owners and riders live. Further, contemporary society is changing as it never has before. There is no single 'society.' Different peoples and different places all constitute unique economies, unique social values and mores, and unique formations of the horse industry. To understand the future of the horse sector we must understand these varied social and economic formations. In this context, and given the importance of and the challenges faced by the horse industry, the number of socio-economic studies devoted to this sector has recently multiplied all over the world. The social sciences undertake research, analysis and the development of new understandings of changes in the economy, in cultural values, and in social organization of contemporary society. Working together with traditional equine sciences, we are creating new interdisciplinary knowledge that helps us understand how we got to where we are now and where the equine sector might go in the future. That's why a working group in socio-economy has been created within the EAAP Horse Commission. Today, it includes 67 members from 20 countries. The goal of this group is to share ideas, research and experiences, but also to think about new topics of interest for research and development and to build common projects. This presentation addresses the social and economic issues faced by equine and social scientists who are exploring the contemporary shape of the equine sector, and whose research and analysis can help begin a discussion that enables us to understand what it might become in the future.

Key Words: equine, future of horse sector