



WBFSH

WORLD BREEDING FEDERATION
FOR SPORT HORSES



2021 ANNUAL REPORT to the General Assembly

WBFSH DEPARTMENT OF Scientific Collaboration

By Karina Christiansen

INTRODUCTION

In 2021, the WBFSH modernised and strengthened its organisation by creating two new departments of Scientific Collaboration and Marketing, Promotion and Communication. Furthermore, the former responsibility of the Department Development with processing of applications for membership/associate went to the WBFSH Secretariat. The Department Development is now responsible for initiatives to aid industry development and provide member services.

Department of Scientific Collaboration

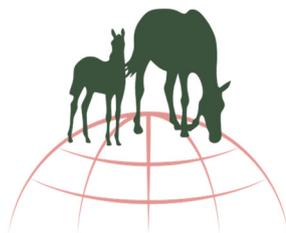
The breeding itself is getting more and more international and everybody wants more information. All the studbooks are working hard to be able to provide their members with more accurate information and new technologies, like genomic selection, provide great opportunities. In the future, on the commercial perspective, the studbooks will still be competitors. However, the studbooks also need to cooperate to be able to provide the breeders with the tools and information they want. To reflect the increasing importance of science and research in sport horse breeding the new Department of Scientific Collaboration was created. The aim of the Department of Scientific Collaboration is to strengthen the knowledge exchange among studbook members and the scientific community. More specific the main tasks are to coordinate projects of scientific research and to make the latest scientific developments and information be available to the members.

Scientific Advisory Committee - SAC (the former CIGA)

In 2017, the WBFSH set up a committee for Collaborative Implementation of Genomic Applications in Sport Horses – in short CIGA. This has become a hub for exchange of information in scientific research related to breeding. Since then, the scope of the committee has grown and evolved, resulting in the decision to rename the committee to SAC - Scientific Advisory Committee. The committee consists of representatives from various WBFSH studbooks, as well as scientific advisors. Its primary aim is to foster and support information sharing and collaboration among member studbooks in the areas of linear profiling, breeding evaluations, and genomic application in sport horse breeding.

The Scientific Advisory Committee has already arranged more workshops in connection to the General Assembly on SNP chip technology, genomic selection and international breeding values. Furthermore, they have set up an information platform on the WBFSH web site.

If a WBFSH member studbook needs support to implement linear profiling, breeding evaluation or genomic selection, SAC can connect them with an expert that can give some advice.



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European Association for Animal Production – EAAP

As a part of the WBFSh annual plan the Department of Scientific Collaboration has a close contact to EAAP. EAAP is an international non-governmental organization, which aims to improve the knowledge and the dissemination of research results of domestic animals farming. EAAP consists of more commissions, one of them being the Horse Commission. The Horse Commission plan the different scientific sessions presented at the annual EAAP meeting, often many of them related to horse breeding.

Every year, at the WBFSh General Assembly the EAAP Horse Commission representative, Kathrin Stock presents a summary of equine related research, presented at the latest EAAP annual meeting.

Furthermore, the Horse Commission – again with Kathrin Stock as the driving force - have for many years organized annual International Workshops for linear profiling in Warmblood horses. These workshops have been open to all WBFSh members and have been very popular and informative. The latest workshop was due to Covid-19 organized as video conference on 25 March 2020.

There is a website, where information from earlier workshops on linear profiling is available (visit www.equinephenotypes.org). There is also access to an overview of all linear trait descriptions used in the different studbooks - a very helpful tool for studbooks that want to start up linear profiling.

Seminars, workshops and webinars

Over the years, it has become a tradition to organize seminars and workshops in connection to the annual General Assembly. Every year we are delighted to welcome speakers from the equestrian world, as well as academic researchers to inform us about the latest scientific development in important breeding related topics, such as genetic research and equine health and welfare.

The aim with these seminars and workshops is to provide information about the latest new research, and coordinate and stimulate cooperation among members.

Due to Covid-19 restrictions, the General Assembly has been held in a virtual format in 2020 and 2021 and no seminars have been organised. In the future we plan to introduce webinars, which also have the advantage to attract a bigger audience.

International Breeding Values – IBV

At the General Assembly 2019 in France, the Scientific Advisory Committee has organized a seminar about International Breeding Values, where experts from the cattle industry informed about the value of having international breeding values, which will also be fundamental for development of genomic selection for performance. At that seminar, it was decided to start a similar project in the WBFSh.

The WBFSh members share the goal of producing sport horses for at least one of the Olympic discipline (show jumping, dressage and /or eventing). By bringing all information together from different countries and FEI it will give a more complete and reliable picture of the stallion's inheritance than information from just a single country. Just looking at the number of offspring a stallion has on international level, do not give us any information about how large the proportion of the stallion's offspring that has reach international level. Nor does it take into account the quality of



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the mares the stallion has served. By using international genetic evaluation, including both national and international competition data, both problems can be solved.

In 2020, a questionnaire was sent to all studbooks with an already existing national evaluation system. The idea was to get an overview about parallels and differences between the studbooks. Based on feedback from seven out of nine requested studbooks the Scientific Advisory Committee worked out a report on existing genetic evaluation of sport horses. Based on that report it was recommended to test if the so called “MACE-system” (multi-trait across country evaluation), which is used in the cattle industry, also can be used for horses. A major advantage with this system is that it based on exchange on national breeding values, so no raw data should be exchanged. In this way, each studbook can keep their national evaluation system, specially designed to their selection system. By an adjusted MACE-system, there will not be one unique list of the best stallions. Instead, each studbook will receive an individual list with the stallions that can give breeding progress to their studbook. Because of the different mare populations, these lists of stallions will also be different.

The challenge is that the MACE-system is built on the principle that an animal has performance in only one country (or studbook). Data structure in riding sport including horses with performance records in more than one country. The first phase of the IBV-project is therefore to investigate whether and how MACE could be adopted for sport horses. To check how many horses that have competition results in more than one country raw data is needed.

In the developing phase it has been decided first to focus on jumping because the competition results (hight) are easier to compare between countries than dressage results (different programmes and levels across countries). To keep it as simple as possible it has furthermore been decided that only Germany (all studbooks), KWPN, SF and BWP will deliver raw national competition data on jumping for the developing phase. If the data can be linked in the right way and the MACE model can be adapted to the realities of equestrian sport, the IBV project can grow. After that, more studbooks can join and the development of an adjusted MACE model for dressage and eventing can be started. The biggest challenges at the moment are, on the one hand, to secure the funding for the development phase (240,000 euros) in order to start the project. On the other hand, it is necessary to ensure the data supply and quality of the international and national sport data by FEI and National Federations and to make appropriate contractual agreements.

Information about research in your country

The Department of Science will be happy to be informed about research going on in your country/studbook. Please send a small summary of the research, which can be published on the web site. More information in form of scientific papers will also be welcome.