Short webinar report - 9th February 2021

HEALTHY AND HAPPY ANIMALS FOR SUSTAINABLE SOCIETIES

Welcoming – Ana Granados Chapatte, EFFAB & FABRE-TB

The second session of the webinar series #BreedersTalkGreen, titled ***Healthy and Happy Animals for Sustainable Societies*** was opened by Ana Granados Chapatte, EFFAB's Director. Ana started out by thanking over 300 participants that had joined the live webinar. The EFFAB and FABRE-TB team were also presented alongside the speakers. Ana also highlighted and mentioned EFFAB and FABRE-TP commitments on responsible breeding and research and Code EFABAR - Code of good practices for responsible breeding, responsiblebreeding.eu.

Christian Juliusson, DG SANTE (EC) "Legislation needs to be science based"

Christian Juliusson, Legislative Officer at DG SANTE for Animal Welfare and Antimicrobial Resistance highlighted the current activities of the Commission regarding objectives of the Farm to Fork strategy related to Animal Health and Welfare. Christian is in charge of the fitness check of the current legislation and highlighted the need of all legislation to be science based. Christian ended his presentation by concluding that legislation must be future proofed as well.

Anne-Marie Neeteson, Aviagen Group "Balanced breeding is key for better Animal Welfare"

Anne-Marie focused on Aviagen's commitment of improving broilers' welfare with balanced breeding, and how it is best "sensor" in the market by observing birds with care. Anne-Marie also highlighted Aviagen's 5 commitments, that they work with to make an environmental difference. The commitment includes: 1- Bird welfare, 2- Sustainability, 3- Safe and secure supply of healthy birds, 4- Providing a choice of conventional and slower growing breeds, 5- Balanced breeding - Improving Health, Welfare, Production, Global Footprint simultaneously. All in line with Code EFABAR.

Stefanie Nuphaus, Topigs Norsvin "Pig farming and welfare is a puzzle, we have to put all the pieces in the right place, starting with Genetics"

Our youngest speaker, Stefanie, presented how the behavior of pigs is important in pig farming and the opportunities of breeding to improve pigs welfare by including new traits related to pig behaviour. Stefanie explained that by genetic modelling Topigs Norsvin discovered that there might be a direct and indirect effect of these. Topigs Norsvin assume that, some animals are very social and they behave very good in a group. There might be some animals that tend to be a "victim" while some animals tend to be a "performer". There can be animals with skin lesions that can be a victim, but at the same time they can be a performer. With genetic modelling, it was figured out that there might be direct and indirect effect for these animals to be a victim or a performer. This is an important part because these animals or cells are the future generation of cells that they sell to their clients. These group cells must stay in a group in the specific station. Genetics is an important piece in the big puzzle of pigs' farming and welfare. Stefanie also highlighted the collaboration between the private and public sector, Topigs Norsvin and University of Wageningen are working together in the IMAGEN project. The goal of this project is to develop a track

and tracing system based on individual pig level with an Artificial Intelligence tool that can measure social behaviour of pigs.

Trina Galloway, AquaGen "Antibiotics usage is not a problem in salmon farming"

Trina introduced the Norwegian salmon sector and gave some specific examples of Aquaculture breeding and R&D work that can make the sector more sustainable. AquaGen develops, produces and delivers genetics to the global aquaculture sector. AquaGen has breeding programmes for Atlantic Salmon, Rainbow Trout, Pacific Salmon and Lumpfish. Growth in sea has been the most important trait in the programme since the early 1970s. Trina explained how the genetic potential of today's salmon enables the farmers to produce more fish with less resources. The development in the sector has a major positive effect on the environmental and economical sustainability of salmon production. Selective breeding is a strong tool against salmonid bacterial, viral or parasitic diseases.

Lars Peter Sorensen, Viking Genetics "High milk production requires healthy animals"

Lars explained in his presentation how the Nordic countries have integrated the data collected on herd health and antibiotics use into the breeding programs for many years, allowing them to do selective breeding for improved animal health. The improvement of animal health through selective breeding has had a clear positive effect on the reduction of antibiotics use in the cattle sector, in combination with better management at the farm level. The effects of improved udder health leads to fewer treatments meaning : 1- less use of antibiotics, 2- better food safety and milk quality, 3-improved longevity, 4-improved animal welfare, 5- fewer replacement heifers and 6- improved economy. Looking at the actual effect of breeding and management there is a major improvement between 2008 and 2018; in 2018 there has been 4,270 kg less antibiotics used, 17.2 mill. kg less milk is discarded because of AB treatments and 54.9 mill. kg less permanent milk loss achieved compared to 2008.

Dirk-Jan de Koning, Swedish University of Agricultural Sciences "Using genomics can improve health in laying hens"

Dirk-Jan's presentation focused on how to use genomics and breeding to improve bone health in laying hens. In his presentation Dirk-Jan described ongoing research efforts he plays a part in. Dirk-Jan highlighted how genetic improvement of bone health at farm level will require data collection and evaluation at a farm level and across all systems. Avian Osteoporosis in laying hens is an important welfare issue. Dirk-Jan touched on how it is possible to find genome regions that affect bone strength (GWAS) using either phenotyping or using markers for improved bone strength. Once you got the QTL it is very useful data since you can publish important information and also discover what QTL means in the commercial layers that we can use or buy at the farms. On average birds did have stronger bones in the floor system which Dirk-Jan argues you can correlate with their movement.

Following the presentations, a panel discussion with all speakers and a Q&A session with the audience started with some observations from Miguel Angel Higuera, Chair of the Animal Health & Welfare Working Party in COPA-COGECA and moderated by Cagla Yuksel Kaya Kuyululu, Senior Project Manager at EFFAB. Miguel highlighted: *"For farmers the breeding and selection of animals is crucial for the develop of the livestock sectors. Taking into account the close relation between animal health and animal welfare, it is important to develop more robust animals, prevent diseases and tackle the antimicrobial resistance".*

During the Q&A session, Cagla asked all speakers specific questions related to the topics that had been presented. One of the questions was related to legislation on animal health and welfare and how it would apply when it comes to the use of gene editing technology. Another question was about the investigation of further welfare improvement in aquaculture species. The final question was about any observed beneficial impact from other health improvement on fewer incidents of metabolic diseases, health or fertility disorders. The audience also shared questions in the chat box and interacted with each other on different and relevant subjects. Other questions to the panel included on how welfare can be defined independently from health, if maternal behaviour is also considered a part of the full picture of social behaviour and if the effect of bone strength on broiler and egg production is interacting with heat stress.

To conclude, Roland Aumüller, Treasurer of EFFAB presented the main conclusions and takeaways from the webinar. Roland thanked the excellent speakers saying that he was happy to experience a webinar that covered the whole livestock and aquacultural production. The webinar showed the ongoing efforts of breeding companies and organisations regarding improvement of sustainability, animal welfare and disease resistance.

Roland expressed the need for funding of science for the improvement in animal breeding. He highlighted that EFFAB, as an umbrella organisation of the farm animal breeding sector, plays a vital role in representation of the sector at the EU and international level.

He concluded his speech by saying that *"A membership of EFFAB is mandatory for any breeding organisation and by being a member of EFFAB, it becomes mandatory to sign Code EFABAR, the sustainable commitment to responsible breeding. It's a code of good practices in support of responsible farm animal breeding".*

EFFAB and FABRE-TP would like to thank all participants and speakers for actively joining the session and for all their inputs. We are looking forward to continuing our webinar series "Breeders talk Green".
In case you have any questions, ideas or input please contact us via email: effab@effab.info.