



Interview with Hans Spoolder

EU COORDINATOR OF HEALTHYLIVESTOCK

What makes the HealthyLivestock project special to you?

HealthyLivestock is special to me for two reasons. Firstly, it brings together Chinese and European experts and allows them to work together in a large research project. Secondly, it links my area of research (the study of animal welfare) to solutions for reducing the global problem of antimicrobial resistance. Both provide unique opportunities which make our project very different from others I have been involved in before.

What distinguishes HealthyLivestock from other research projects on the use of antimicrobials. How do you think HealthyLivestock is going to make a difference?

I will not pretend to know all other international projects that address antimicrobials, and I'm sure they are all based on very good science. We also have excellent academic partners in our project, with a huge amount of expertise and knowledge in the different areas of our project. But what may distinguish HealthyLivestock could be the fact that we have some major industry players involved: Zoetis, GlobalGAP, the Chuying Agro-Pastoral Group, Dabeinong and New Hope. If you combine this with the networking opportunities offered by CAPIAC and FVE, then the possibilities of dissemination and implementation of our results are enormous!

What does the EU – China collaboration mean to you?

To me the collaboration between European and Chinese partners will be a great adventure. There are obvious differences in culture, and the way of working in large projects like ours. This is true within Europe, and between the EU and China. These differences make scientific collaboration extra interesting and have been an important reason for me to be involved in European projects in the past fifteen years. Now, the Chinese component makes this even better! So far, I can say that organising and leading HealthyLivestock together with the teams at IQSTAP and CAPIAC has been great. We have good discussions in our core team, leading to logical decisions and proposals to the consortium. And there is also plenty of humour in the team... it is important to have a good laugh every now and then!

What do you, as coordinator of this important project, see as the most important challenges for the success of the project?

For the success of the project I think it is extremely important that we do good publishable science, that includes innovative ideas and sound conclusions regarding the outcomes. This will further our knowledge and help to resolve some of the issues related to biosecurity, animal resilience, early detection and precision medication that are the backbone to our project. But secondly (and equally important) there will be the challenge of disseminating these findings to the European and Chinese producers, in such a way that they will adopt our outcomes. This will ensure that our outcomes do not disappear in drawers or on (digital) library shelves but are put into daily practice. I think we have a great team that is very well placed to face both challenges, but of course we still have to make it happen. I'm very much looking forward to addressing them with the HealthyLivestock team in the coming four years!



Interview with Professor Yang Shuming

CHINESE COORDINATOR OF HEALTHYLIVESTOCK

HealthyLivestock is the most important international cooperative project between EU and China in agriculture. What major contributions will this project bring forth?

First off, antimicrobial reduction is a major trend in animal husbandry development in China. The priority has been to strengthen the management of veterinary antimicrobial drugs, comprehensively address the issues of veterinary drug residues, effectively fight back animal-origin antimicrobial resistance, and ensure the safety of animal husbandry industry and animal-origin food safety. Based on the "National Action Plan for the Prevention of Antimicrobial Resistance (2016-2020)", in 2017, the Ministry of Agriculture and Rural Affairs launched a four-year "National Action Plan to Stop Animal-origin Antimicrobial Resistance" to reduce the use of veterinary antibiotics, implement an "exit" plan and the gradual withdrawal of growth-promoting antimicrobials. In addition, in 2018, the veterinary antimicrobial use reduction action was launched by the Ministry of Agriculture and Rural Affairs as well. Through pilot projects in three years, the first group of veterinary antimicrobial use reduction models will be identified and promoted to gradually realize "zero increase" in veterinary antimicrobial use nationwide. In 2019, the Veterinary Bureau of the Ministry of Agriculture and Rural Affairs issued the "Withdrawal Plan of Drug Feed Additives (Draft for Comment)", which specifies the timetable for the reduction and restraint of antimicrobial use in livestock industry. The aim is to ensure that the usage of all drug feed additives is stopped by 2020. This shows the determination of China in reducing antimicrobial resistance, as well as its importance. These policies have been unanimously agreed by industry managers as it is imperative to reduce antimicrobial resistance, making the collection and exploration of relevant technologies vitally important. Our project meets the major requirements of the industry, and its outcomes can be quickly and efficiently applied industry wide. The research outcomes will contribute to the smooth implementation of antimicrobial reduction initiatives and will have a huge impact.

How to better ensure the implementation and promotion of the project outcomes?

Firstly, the design of the project takes full account of its subsequent implementation. The process involves the research and validation of the technologies and the evaluation of the economic viability as well as social acceptance. The results will also be applied and established in 20 farms where the outcomes will be evaluated. The aim is to identify the most effective and feasible solutions for industry managers and producers. What's more, relevant training will be carried out and dissemination tools such as project websites, reports, APP and media outlets will be fully involved to promote the outcomes.

The reduction of antimicrobial resistance is a global issue. What are the key challenges in realizing the project aims? How can we better cope with them?

Effectively achieving the project aim of antimicrobial resistance reduction is not simply about overcoming a single difficult challenge. It is about effective management of the whole process. It is necessary to overcome the challenges in key parts. The project starts with the biosecurity of intensive farms in which we will develop rapid analysis approaches and equipment for biosecurity markers of pathogen transmission, so we can develop biosecurity systems for wide promotion. Secondly, we will identify welfare-friendly technologies that reduce animal stress and meet the biological, environmental, behavioural and psychological demands of animals. Thirdly, we will research early detection technologies of individual animals so as to apply precision medication and effectively control drug dosage and the transmission of drug resistant pathogens among the herds. Fourthly, we will research precision medication based on the analysis of antimicrobial resistance and R&D on new TCM

formulas for major bacterial and viral diseases of pigs and broilers as well as comprehensive disease prevention technologies that combine Western and Chinese medicines. The aim of reducing antimicrobial resistance can be achieved through effective management of all these key points.

The project implementation requires close cooperation between China and Europe. In what aspects do you think China and Europe can learn from each other respectively?

Our EU partners progressed earlier in animal welfare and the outcomes of this were widely adopted. Through animal welfare-friendly systems, the use of antimicrobials has already been successfully reduced and a virtuous cycle of quality development remains in place. The relevant precision farming technologies and facilities are more advanced. Many technologies have already been promoted and applied in farms. In addition, the EU banned all growth-promoting antimicrobial usage as early as in 2006 and the experience and measures adopted to reduce antimicrobial usage are an excellent basis for the Chinese partners.

In China, due to the different levels of farming, there are a variety of farming experiences regarding different scales, different species and systems, which can be a reference for the EU partners in their work. In addition, some advanced technologies in China, such as TCM medicines and rapid detection biological technologies can be applied and validated by the EU partners to improve the maturity of the technologies and the scope of the application.

Media in China:

环球网 health.huanqiu.com

https://m.huanqiu.com/r/MV8wXzEzNDAxMzkwXzUwOF8xNTQwNDY1NjIw?pc_url=http%3A%2F%2Fhealth.huanqiu.com%2Ftopnews%2F2018-10%2F13401390.html

健康时报网 [Health News Report Net](http://www.jksb.com.cn/index.php?m=wap&a=show&catid=213&id=130091)

<http://www.jksb.com.cn/index.php?m=wap&a=show&catid=213&id=130091>

The Scientific Advisory Board

The HealthyLivestock project will be supported by a Scientific Advisory Board (SAB), consisting of five independent advisors. The AB provides an external scientific point of view on how to execute the project and provide the best outcomes to the Chinese and European societies. It will advise the General Assembly of the project on where and how the most promising results should be exploited or presented. The advisors have different theoretical and practical back grounds, and are based in different parts of the world.

Dr Jeremy MERCHANT-FORDE	Animal Welfare	United States Department of Agriculture	USA
Prof Ted WHITTEM	Animal Health	Melbourne Vet School	Australia
Prof YIN Yulong	Animal Husbandry	Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha	China
Prof Jörg HARTUNG	Animal Welfare	Univ Vet Medicine, Hannover	Germany
Prof Simon MORE	Animal Health	UCD Dublin	Ireland