

Innate Immunity of Crop, Livestock and Fish: The Dawn of Agricultural Immunology

19-23 September 2016 @*Snellius*

This workshop provided a focused, peer-oriented opportunity for researchers studying immune systems in livestock, marine organisms, and plants to share their knowledge and investigate possible future collaborations. Interactions during the workshop clarified the similarities and differences between the innate immune systems among these diverse organisms and gave novel insights into the basis of innate and adaptive immunity to pathogens. Furthermore, the workshop explored the feasibility of establishment of safety food production system through possible reduction of antibiotics and pesticides and activation of innate immune system.

The participants identified common themes in future investigations on pathogen virulence and host immune systems in the diverse organisms. Important future topics of shared interest are: Tipping balance in host-microbe interactions, beneficial microbiota, trained immunity, and tangible clues to develop drug-independent safe food production systems.

An outcome of this workshop is the start of an Agricultural Immunity Network with collaborations between researchers belonging different science communities, with the goal to exchange ideas, organize workshops focused on specific topics, and the writing of the review articles to be published in a special issue of the journal *Frontiers in Nutritional Immunology*.

Since nearly half of participants came from Japan and most others in the Netherlands, the keynote speaker spent the first short part of the talk on the historical relationship between the Netherlands and Japan, placing it in a perspective of the theme and relating it to the final goal of this workshop. Two guest scientist speakers from plant and animal food industries provided their perspective on the topic of the workshop. The rest of the workshop mainly consisted of talks by the participants with plenty of time for group, moderated and free discussions.

We feel that we had a good mix of researchers studying the diverse organisms in two countries. The Lorentz Center workshops are ideal in size to discuss the collaboration between researchers and idea of inspired next workshop and establish friendly relationship among the participants of two countries.

We thank the participants for the pleasant and active atmosphere to explore a new trend in "Agricultural Immunology" and to plant the seeds to develop drug-independent safe food production systems. We also appreciate the Lorentz Center staff for the excellent support and highly recommend organizing a Lorentz Center workshop.

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