



## **PBN annual symposium**

### **Session topics**

#### **Overall theme for the PBN Symposium 2019:**

The agricultural sector faces a number of challenges in the years to come. Climate change will bring changing or fluctuating growth conditions and introduce new plant diseases and pests. Therefore, research in plant resilience and health, pest and disease control are vital and new agricultural technologies needed.

In the Plant Biologicals Network we believe, that plant biologicals can be part of the solution. New plant biological methods and products are developed and tested to ensure efficacy and refine their application rates and methods. At the 2019 Plant Biologicals Network Symposium we will look at different areas, where biologicals might help to solve the global challenges that agriculture is currently facing.

#### **Session 1: Increased plant resilience to climate change**

Climate changes will affect the food production system worldwide, and crops will face increasing stresses from the surrounding environment e.g. in the form of floods, drought, higher soil salinity and growth at elevated temperatures. Some crop species may not be able to adapt quickly enough to the changes, and methods for increasing plant resilience to a changing environment are needed. This session will give examples on how biologicals can help plants to overcome abiotic stress.

*Key words: Climate change, resilience, biofertilizers, biostimulants, micro-organisms, seed treatment.*

#### **Session 2: How to ensure efficacy of plant biologicals**

Food security for a growing global population will require use of new agricultural technologies to produce more food with less resources. Introducing new biological products into agriculture will call for enhanced understanding by farmers of how to use the products as well as demonstrated dependability of the products. In this session we will look at experiences with testing biologicals for efficacy and consistency.

*Key words: efficacy, consistency, microbes, biofertilizers, inoculants, biocontrol, (mode of action).*

### Session 3: Biological products for pest and disease control

A rise in the number and intensity of transboundary plant pests and diseases will affect agriculture in the years to come. New biological products can be part of solving this challenge. Biologicals are generally biodegradable, they leave few or no harmful residue, and they are less likely to harm non-target species. It must, however, be taken into consideration, that all biological products are not necessarily harmless simply by being of natural origin. Here we will examine the potential for using biologicals for pest and disease control.

*Key words: integrated pest management, biopesticides, plant pests, plant diseases, biological control, macrobials.*

### Session 4: Tomorrow's sustainable agriculture with microbes

Microbes support plant health in a number of ways, some of which have been known for a long time and some have just recently been discovered. Optimizing the microbial communities of plants offers an entirely new approach to enhancing the productivity of the plant, and microbes can even play a role in reducing the emissions of greenhouse gasses from agriculture. This session will look at how microbes can play a role in a more sustainable agriculture production with healthy plants with a good growth, development, nutrient uptake and productivity.

*Key words: microbes, bacteria, microbiome, plant health and productivity.*

### Session 5: Integrating biology-based and conventional crop protection

Environmental impact of agricultural chemicals as well as resistance in pathogens and pests towards pesticides are increasing challenges in food production. Fortunately, today more and better biological active ingredients and products are available that can compete with, as well as complement conventional chemical agents. Demand is driven by our increased knowledge of plant biological mode of action and refined application rates and methods. Here we will dive further into how biologicals can be used in integrated strategies with conventional crop protection methods.

*Key words: biopesticides, mode of action, conventional crop protection, integrated pest and pathogen management.*

## Partners in Plant Biologicals Network

