SPEAKER INTERVIEW

INDUSTRY PARTNER

Bayer Crop Science: Advancing health and nutrition is what we do best and care most about at Bayer. Strengthening our position in agriculture accelerates the pursuit of our purpose: Science for a better life. Together, we're shaping agriculture to benefit farmers, consumers and our planet. Bringing together biology, chemistry and digital tools, we're accelerating innovation. Across more than 35 research sites and more than 175 breeding sites, we invest more in research and development than any other company in the industry.
For more information, visit www.cropscience.bayer.com

Benoit Hartmann
Head of Biologics
Bayer

Please tell us how and to what capacity you are involved with microbial-derived products for agriculture.

At Bayer, we have a multidisciplinary research and development team focusing solely on biological solutions. We also count on strengthening our portfolio by forming collaborations with innovative partners. Bayer SeedGrowth™ continues to play a vital part in this development and we strongly believe that by continuously investing in biologicals, we can improve seed treatment and effectively promote sustainable agriculture.

Why should the agricultural industry be excited about the plant-soil microbiome?

For researchers, soil remains a fascinating reservoir, packed with tiny microbes with a big impact on sustainable agriculture. The plant rhizosphere and the multidimensional interaction between microbes, soil and plants is extremely complex and has developed over millions of years. Therefore, it is a challenge to transfer positive results from a laboratory or greenhouse environment to the field under varying climatic and soil conditions and to ensure that growers get the trusted performance they expect. Yet every year, the men and women studying the numerous interactions between the biological product, the plant, and the environment are finding ways to meet that challenge – and getting better at it every season to the benefit of growers.

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In your opinion, what is the biggest bottleneck holding biostimulant, biopesticide & biofungicide products back from success?

Overall the industry has seen a tremendous growth in market demand and acceptance in the last few years across those three categories. At the same time the rapidly evolving technology landscape and heterogeneous regulatory environment created some uncertainties with growers. Companies like Bayer with strong R&D capabilities, global outreach and innovative, thoroughly tested and field-proven products can help to alleviate those concerns and offer differentiating solutions to agriculture and society. We continue to see high growth potential for biologicals, especially if regulators globally are able to achieve more consistency and harmonized standards.

What one development or breakthrough would you like to see that would facilitate the successful development, commercialization and delivery of agbiological products into the hands of distributors and growers in need?

In short: predicting and addressing the sheer variability of different environments (e.g. soils, weather, abiotic and biotic stresses), of the plant response mechanisms based on variety and genetic traits and ultimately the biological product used.

We do not want to develop biologicals as niche products that only show effects in a specific geographic region under narrowly limited conditions. In an ideal world, candidates demonstrate benefits on a wide range of crops and different regions and agricultural practices.

If I could add a second breakthrough area for continued development, it's providing growers with improved shelf-life on-the-seed and compatibility with other seed treatment components such as synthetic fungicides or insecticides, micronutrients or additional microbes such as inoculants.

What do you think the future holds for the agbiological industry going into 2019 and beyond?

The biological seed treatment industry, specifically, will grow significantly in importance amid an ever more challenging regulatory environment for both synthetic and biotechnology solutions, and the growing emphasis on sustainability for our industry and society overall. Precision farming and advanced digital offerings based on solid data science insights also will enable more targeted farming practices and biological seed treatments offer great promise as an important building block in those tailored solutions.

For biologicals overall, we know that consumers are increasingly interested in how their food is grown and want to know that farming practices are environmentally sustainable. Biological products – particularly seed treatments – already play a role in helping farmers reduce their CO_2 emissions and can help their crops use fertilizer more efficiently. We believe that these biological tools can complement conventional synthetic products so farmers can have more bountiful harvests and do so in an environmentally sustainable way.

Going into the *3rd Microbiome Movement* – AgBioTech Summit, what does Bayer Crop Sciences hope to achieve as part of this dedicated agbiological community?

First and foremost, we will be there to learn from the world-class experts both presenting and, quite frankly, those experts asking questions from the floor. We feel like we can provide value to the community by explaining some of the research and development success we've had – and how others can overcome challenges we faced.

Adrian Duehl, one Bayer's top research entomologists, is leading a session on designing field trials alongside Novozymes' Roger Bowman. I'm biased, but I think there are lots of valuable learnings in that session. Also, we are always interested in collaborating. Our research and development engine is aided by our "open innovation" model. In my talk, I'll give some example of collaborations we feel benefit our partners, the industry and ultimately growers.

A huge thank you to Bayer for taking the time to speak to us. We look forward to welcoming you to the *3rd Microbiome Movement* – AgBioTech Summit this February.

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