

Plant Biologicals Network



**Annual
Report
2021**

Preface

Consolidation of the plant biologicals cluster in Southern Scandinavia

After a few first years of planting seeds, 2021 was the year we could finally gather the crops. We are now at a point where we can see a clear cluster of research institutions, companies and organizations taking root in Southern Scandinavia. With this in place, PBN has the potential to take plant biologicals to the next step. To get there, requires more testing and documentation, more supportive legislation, better incentives for farmers, as well as improved consumer perception. To address the state of PBN, we hired IRIS Group to conduct a cluster analysis detailing our potentials and challenges. You can read an excerpt of what they found out in the next chapter.

We have formed stronger community ties within the network, which made it possible for us to make a joint contribution to the Innovation Foundation roadmaps for mission-driven green research and innovation partnerships process in spring 2021.



A group of PBN members applied for Innomission partnerships that we hope could be a big step towards getting more biologicals on the market.

Last year was when we succeeded in putting plant biologicals on the political map, with workshops involving farmers, politicians and other stakeholders, and by taking part in the public debate about the ongoing pesticide negotiations.

We have high hopes for the future of the promising plant biologicals cluster. As a network, we will continue to speak up and let our shared voice be heard on topics that are important to our members.

Svend Christensen

Chair of Plant Biologicals Network

Mette Walter

Vice-chair of Plant Biologicals Network

Activities in 2021

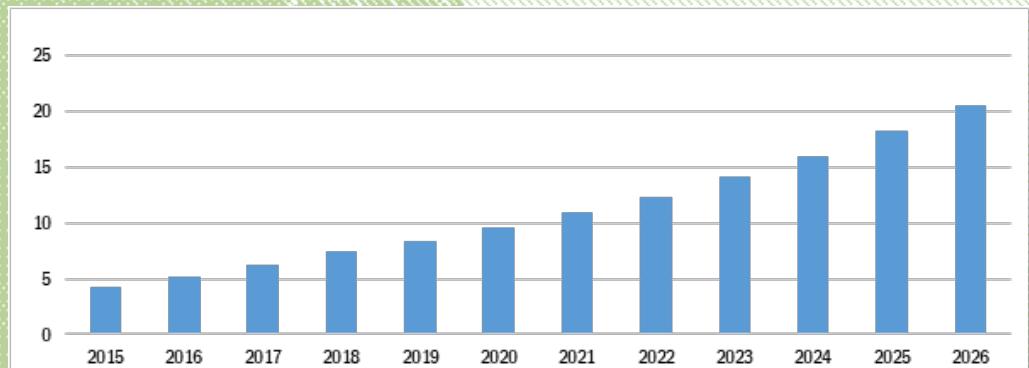
Cluster analysis

In the spring of 2021, IRIS Group made an analysis of the size, scientific strongholds and dynamics of the plant biologicals cluster in Southern Scandinavia as well as its potentials and barriers to growth.

The plant biologicals cluster of Southern Scandinavia is relatively young. At its core are a number of large, well-established biotech companies that are leading the research in commercial plant biologicals. The four universities in the cluster have a high level of collaboration, and researchers from across the universities and departments are often working together on research projects. University-corporate collaboration is prevalent in the cluster too.



Global plant biologicals market size (2015-2026) in USD Billion



Source: Fortune Business Insight

The analysis underscored the growth potential for biologicals. The global market for plant biologicals is expected to grow from 7.42 billion USD in 2018 to 20.59 billion USD by the end of 2026 (a compound annual growth rate of 13.68%). All corporate stakeholders interviewed expressed high expectations to the global market potential of biologicals. The analysis, however, pointed to a number of challenges that need to be overcome to fulfill this growth potential, identifying possible ways to move forward.

The full cluster analysis is available on the PBN website [here](#).

Innovation Foundation Roadmap and Innomission partnerships

In the spring of 2021, the network contributed to the Innovation Foundation's roadmaps for mission-driven green research and innovation partnerships. A large number of organizations and people from industry and research came together to draft a roadmap within area 3 concerning climate- and environment-friendly agriculture and food production. This resulted in the AgriFoodTure roadmap for sustainable transformation of the Danish Agri-food system. The Plant Biologicals Network steering group contributed with knowledge and expertise to the track in this roadmap about plant-based food production.

In fall 2021, a consortium within PBN applied for the Innomission partnerships. Focusing on climate and environmentally-friendly plant biologicals, the aim is to better quantify the effect of plant biologicals with research-based experimental designs and protocols. This will enable statistical documentation of crop productivity and climate efficacy of biologicals under different environmental conditions. If funded, the project will launch in 2022.



Events

Strategy meeting for the network members - June

On 18 June, the network members met online to qualify the strategic focus areas identified by the steering group. We discussed how the network can increase its internationalization; how to support biotech start-ups and increase knowledge sharing between industry and academia; what measures can be taken to influence the regulatory process; and how the network can help build a scientific base to evaluate the efficacy and safety of biologicals.

Workshop with Danish farmers - September & November

PBN was one of the co-organizers, along with the think tank Frej, on three workshops with farmers, agricultural advisors, companies and politicians in Hillerød, Brøndby and Fredericia on 27 September. The result was a number of suggested solutions to reduce the use of pesticides while keeping a high yield. One of the solutions was to pave the way for increased use of biostimulants and biocontrol.

We then presented these suggestions to politicians in the Danish parliament and Danish members of the European Parliament at a follow-up event on Christiansborg on 9 November, where farmers, politicians, companies and researchers discussed the solutions.

Plant Biologicals Network Symposium - November

Luckily, we were able to have our annual symposium on 11-12 November in Copenhagen as a physical event with around 180 participants. The program included invited speakers, flash presentations and poster sessions. The presentations covered topics such as biocontrol technology, the regulatory landscape for biostimulants and biological control products, development of new, biological products, plant breeding and biologicals, using insect pheromones for plant protection, and helping growers get the best out of biopesticides.





Communication initiatives

Op-ed in Altinget

PBN Chair Svend Christensen and Vice-Chair Mette Walter had an op-ed published in Altinget on 18 November 2021 about the legal barriers in Denmark and in the EU for using biologicals. You can read the piece [here](#).

PBN on LinkedIn

Follow us on [linkedin](#) where we post news, events and member profiles. We also invite our members to tag us in anything related to plant biologicals.

Join the network

The Plant Biologicals Network is open for new members. Members can be companies, industry organizations, educational institutions, research and technology institutions, public authorities, interest groups, farmers and farming companies. If you're in the plant biologicals sector, don't hesitate to reach out.

As a member, you will gain access to all PBN events and be able to influence the network's activities.

The annual membership fee is based on the amount of employees working with plant production in the organization. You can find an overview of the current membership fees [here](#).

Please contact us via pbn@plantbiologicals.dk if you would like to learn more about the network or become a member.
www.plantbiologicals.dk



Organization

The Plant Biologicals Network is a member association with a steering group of 12 members. The annual general assembly for all members is the highest authority of the collaboration. The network secretariat is located at the Department of Plant and Environmental Sciences at University of Copenhagen. See the network bylaws on our website www.plantbiologicals.dk

Core members

Aarhus University
Chr. Hansen
Bayer
Seges Innovation
Novozymes
Swedish University of Agricultural Sciences
Danish Technological Institute
FMC
University of Copenhagen

Ordinary members

UCL University College
Lund University
BioScience Solutions
Agrolab
Chart Biotech
Syngenta Nordic
Manna Regulatory
Ingleby Farms
Azelis
EWH Bioproduction
Danske Kartofler
Borregaard BioPlant
BJ Agro
Dansk Golf Union
Danish Crop Protection Asc.

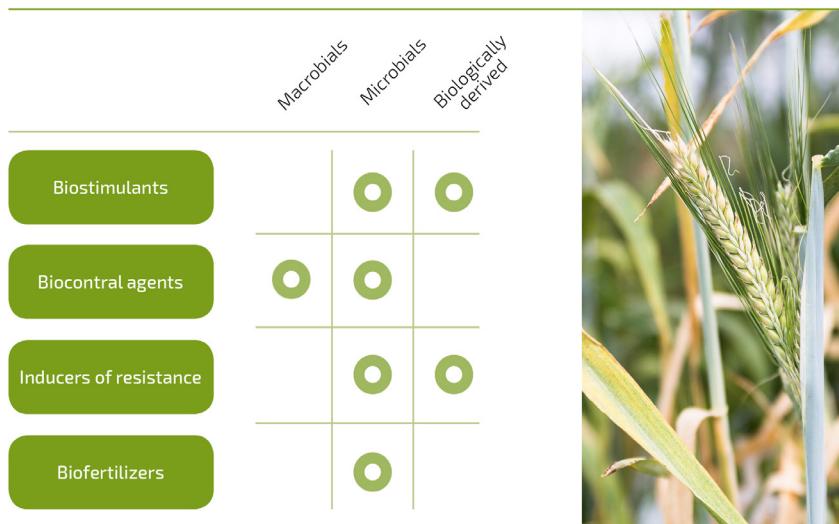
How do we define plant Biologicals?

In the Plant Biologicals Network we define plant biologicals as naturally derived products that can serve as biostimulants, biocontrol agents, resistance inducers or biofertilizers. They derive from naturally occurring microorganisms, plant extracts or other organic matter. They include:

macrobiotics (predators and parasitoids: e.g. mites, spiders, bugs, lady beetles and wasps),

microbiotics (bacteria, fungi, oomycetes and viruses) and

biologically derived products (plant extracts, lipopeptides and proteins).





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Contact:

Web: plantbiologicals.dk

Email: pbn@plantbiologicals.dk