

NATIONAL CONFERENCE on Beneficial Microbes & Sustainable Crop Production

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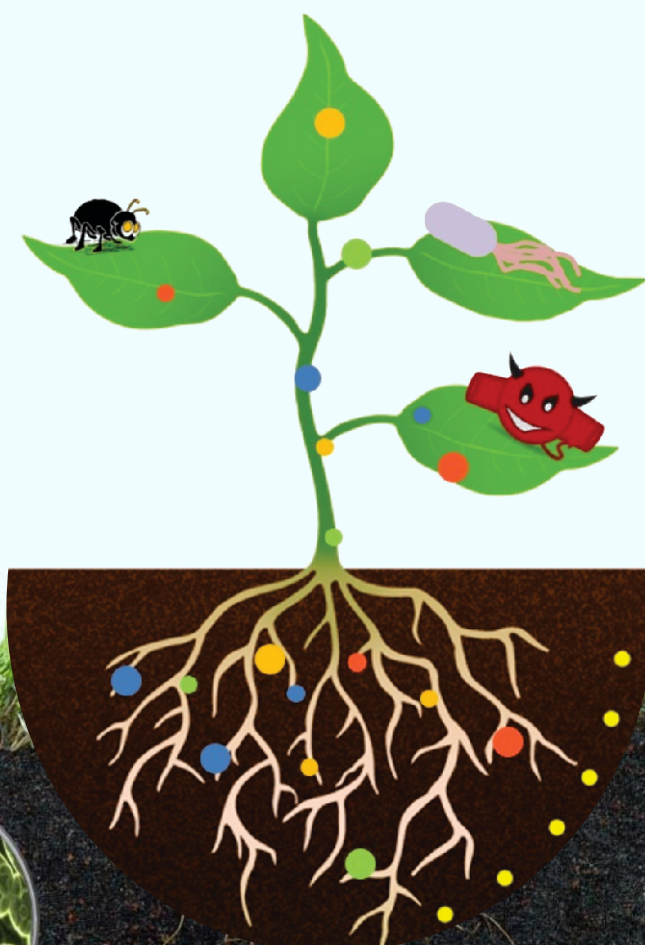
**American
Society for Microbiologists**

**19th-20th
Feb. 2020**

Organized by:



Department of Agronomy,
The University of Agriculture,
Peshawar-Pakistan



Beneficial Microbes & Sustainable Crop Production

Our current practices, including the indiscriminate use of chemicals, increased use of non-renewable sources of energy and uncontrolled generation of waste products in every possible industrial process, has posed a large threat to the sustainable agriculture, crop production and the environment. The world now has a greater responsibility to adopt sustainable measures, cleaner production and green technologies so that the ecology of the Earth may be conserved for future generations. To collaboratively make an effort in this direction, 193 countries agreed to the **17 Sustainable Development Goals** (SDGs), which is a UN's sponsored effort for a sustainable economic development of the world. The SDGs aim at developing the solutions which can enable economic and societal development, but not at the expense of environmental damage. Rather, these efforts emphasize on the environmental protection by preventing and controlling the unlawful exploitation of natural resources.

Microorganisms have colossally diversified. They play important roles in the environment, as well as being crucial in series of green processes and cleaner technologies, ranging from biogeochemical cycles to various industrial productions. If microorganisms are used judiciously, they can contribute significantly to the sustainable development. Beneficial Microbes (BMOs) are known to play a number of vital roles in soil fertility; crop productivity and profitability. Biofertilizers (BMOs) are the products containing living cells of different types of beneficial microbes (bacteria, fungi, protozoa, algae and viruses). Some of the commonly used beneficial microbes in agriculture include *Rhizobia*, *Mycorrhizae*, *Azospirillum*, *Bacillus*, *Pseudomonas*, *Trichoderma*, *Streptomyces* species etc. Beneficial microbes are essential for decomposing organic matter in the soil and increase essential macro-nutrients (nitrogen, phosphorus, potassium, sulfur, calcium and magnesium) and micro-nutrients (boron, copper, chlorine, iron, manganese, molybdenum and zinc) availability to crop plants. Beneficial microbes also play significant role in solid wastes and sewage management. Beneficial microbes increase plants tolerance to different environmental stresses (drought, heat, cold, salinity etc.) and increase plant resistance to insects and diseases attacks. Beneficial microbes not only improve crop growth and productivity by increasing photosynthesis and producing hormones and enzymes, but also improve crop quality by controlling different insects and various plant diseases. Beneficial microbes reduce the use of chemical fertilizers and thereby reduce environmental pollution caused by chemical fertilizers. Beneficial microbes reduce cost of production and so increase grower's income and profitability. Beneficial microbes are therefore very important for increasing crop productivity, profitability and sustainability.

Sustainable crop production deals with keeping the soil alive with organic matter, integrated pest management and reduction in usage of pesticides, protecting biodiversity, ensuring food safety and food quality, improving nutrient quality, and fertilizing the soil with organic and biofertilizers (BMOs). Applications of organic manures such as crop residues, animal manures, chicken manures, green manures, composts, farm yard manure, biochar, ash etc. increases the beneficial microbes in the soil and improves soil health and increase crop productivity on sustainable basis.

The national Conference on “**Beneficial Microbes & Sustainable Crop Production**” will serve as an effective platform to discuss the role of beneficial microbes in sustainable crop production in changing climate in Pakistan. The outcomes of this highly interactive conference will contribute to the local capacity building on the awareness of beneficial microbes and its role in sustainable crop production. Sustainable crop production requires adaptation to changing climates in order to ensure the food security in Pakistan. This conference will be jointly organized by the Department of Agronomy, the University of Agriculture Peshawar (UAP) and the American Society for Microbiologists (ASM).



Objectives

The objective of the conference is to highlight different strategies for sustainable crop production in the face of climate change. The conference will provide an opportunity to academia, researchers, faculty members, agricultural extension workers, students, progressive farmers, policy makers and other stakeholders to share knowledge and experiences pertaining to the role of beneficial microbes in sustainable crop production. The local experts in the field of beneficial microbes will be invited to highlight both technical and social aspects of BMOs in relation to sustainable crop production, soil and water management, and adaptive measures to cope with the adverse effects of climate change.

Conference themes

The conference will focus on but not limited to the following major themes:

- **The role of BMOs & Crop Productivity**
- **The role of BMOs & Crop Quality**
- **The role of BMOs & Climate Change**
- **The role of BMOs & Soil Health**
- **The role of BMOs & Soil Biodiversity**
- **The role of BMOs & Soil Organic Carbon**
- **The role of BMOs & SDGs**

Why to attend the Conference?

About 250-300 participants including faculties, researchers, students, policy makers and other stakeholders will have an opportunity to meet and share knowledge and research findings regarding the role of beneficial microbes in sustainable crop production. This will be a great opportunity for generating and collecting new ideas for research on beneficial microbes in agriculture. The conference will provide a forum for institutions, researchers, faculties, young scientists and others to promote linkages and discuss future opportunities for joint research and knowledge exchange.

Who should attend the conference?

The conference for participation of students, faculty members, researchers, policy makers, progressive farmers, seed and pesticides companies, and other stakeholders like GO/NGO from all over the country are invited to attend the conference. Young scholars and scientists are encouraged to participate and present their research work.

Program

Venue : **The University of Agriculture Peshawar** – Pakistan.

Dates : **February 19-20, 2020**

Timing : **09.00 to 16.00** hours

Call for Abstracts

Abstracts may be submitted as MS Word document to **conference secretary** at amanullah@aup.edu.pk till **January 30, 2020**, while full papers of the selected abstracts are required to be submitted till **February 10, 2020**.

Registration Form

The registration form can be collected from the department of Agronomy office or downloaded from the UAP websites: www.aup.edu.pk or may also be requested from the **conference secretary** through email (amanullah@aup.edu.pk). Interested participants may send the filled in registration form via email to conference secretary on or before **January 30, 2020**.



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