



CAPACITY BUILDING ON ENTOMOPATHOGENIC FUNGI IN BANGLADESH AND NEPAL

A major aspiration of the government of Bangladesh is to promote safe food, a sentiment reflected in the Agriculture Policy 2018. Integrated Pest Management (IPM) is an approach to promoting safe food, and the use of different entomopathogenic organisms – widely known as biopesticides – to address insects and diseases is IPM's secret weapon.

Though marketing of biopesticides, including pheromone lures, started in 2000 in Bangladesh with very limited scale, they gained momentum in 2009. At present, there are 50 registered biopesticides marketed by 10 private companies in Bangladesh. However, almost all private



Capacity building starts from collection of samples

companies in the country market biopesticides imported from other countries. Thus, there is always a concern surrounding the shelf life of microbials. In addition, isolation of these microbials, or the separation of a strain from a natural, mixed population of living microbes, in other countries may not be adaptive to the local context, considering the difference in agro-climatic conditions between the country of origin and country of use. Due to a high tax, the price of biopesticides can also be expensive, which restricts wide use by farmers, especially smallholders.

To support the wider use of biopesticides in Bangladesh, the Feed the Future Bangladesh Integrated Pest Management Activity, funded by the USAID Mission in Bangladesh, organized a nine-day capacity building training workshop on isolation, multiplication, and formulation of entomopathogenic fungus (*Beauveria* and *Metarhizium*) for both private and public sectors from June 11-19, 2023, at Bangladesh Agricultural Research Institute (BARI) with technical support from the Tamil Nadu Agricultural University, India. Implementation of *Beauveria* and *Metarhizium* has the potential to control destructive pest and disease infestations – such as aphids and whiteflies – supporting increased food security and improved farmer incomes, while simultaneously reducing reliance on chemical



Ms. Srijana Dhakal grows entomopathogenic fungi

pesticides. The participants involved in the training were taught how to collect samples to isolate entomopathogenic fungus for its multiplication and formulation. This hands-on training gave a solid foundation for private and public institutions to begin local production of entomopathogenic fungus, which could contribute to widespread commercialization of IPM products. A total of 19 participants joined the training, including 14 males and five females, and two participants from Nepal. The participants, including chief executives of private companies, expressed their interest in pursuing development of IPM products following the training. The Feed the Future Bangladesh Integrated Pest Management Activity has not only contributed to local and institutional capacity building of both public and private sectors, but has also encouraged the two sectors to collaborate on biopesticide development, including fostering a network between Bangladesh, India and Nepal.

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16TH INTERNATIONAL LUPIN CONFERENCE

For the second time in its history the „International Lupin conference“ (ILP) took place from June 19st till the 23rd 2023 in Germany as a hybrid-conference. The lupin community is a closely networking group and represents a platform for high quality research and an open exchange for different research groups. The Conference takes place biennially since 1980 at changing venues worldwide. Participants are scientists, representatives of breeding companies as well as Producer of feed and food, and the public service at the federal and state levels.



For four days, more than 100 experts discussed current challenges in lupin research from cultivation to breeding up to the various utilization of lupin protein at Rostock. The conference included invited speakers, contributed papers and posters. On Wednesday an excursion day including field tours and presentations of a lupin processing company, a technical physical research on seed pre-treatment and the German association for the promotion of Oil and Protein Plants were conducted in the precincts of Rostock. On Friday three different workshops offered the possibility of networking in the field of Genomics and Genome editing, Sustainable

Sweetness and Utilization of lupin.

Overall, just under 50 speakers presented their research topics in different sessions. A total of 60 posters were presented at the conference or as digital poster. Seven different sessions comprised topic from worldwide farming, phenotypic and genotypic variability, lupin 'omics', genetic improvement, biotic and abiotic stress, lupin ingredients and biochemistry up to the topic of various utilization of lupin protein for feed, food and non-food.

Due to the importance of anthracnose several talks were focused on resistance strategies against the fungus. One of the two general lectures was held by Julius Kühn-Institut and presented the successful way of developing resistant lines in *L. angustifolius* by using marker assisted breeding selection. Two further talks focused at anthracnose resistance in the yellow lupin, *L. luteus*. A group from Chile detected QTLs for anthracnose resistance, while a JKI group reported of a major resistance gene located on LG 18 of yellow lupin. In white lupin several QTLs for anthracnose tolerance are detected by genome wide association mapping and revealed informative SNPs for further breeding strategies.

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**2024 INTERNATIONAL WEED SCIENCE
CONGRESS: SECOND CIRCULAR**



Call for abstracts: our website will be accepting soon online submission of abstracts.

Abstract topics

- Integrated weed management
- Weed resistance
- Chemical weed management
- Non-chemical weed management
- Socio-economics of weed management (+ extension)
- Invasive weeds
- Parasitic weeds
- Weed ecology, diversity & ecosystem services
- Weed genomics + weed adaptation
- Weed biology
- New technology for weed management 1: digital
- Weeds & climate change
- New technology for weed management 2: biotechnology
- Plant-soil microbiome & weed management
- Ecological weed management
- Other

All submitted abstracts will be reviewed for acceptance based on their scientific merit.

Young Scientists travel award:

Funds are available to assist young scientists with participation expenses. Details will be posted on the website.

The ***Local Organizing Committee (LOC)*** is chaired by Profs. Rubin and Eizenberg, members from academia, extension services and chemical companies.

The ***Scientific Program Committee (SPC)*** chaired by Prof. Paul Neve, from Copenhagen Univ., and members from Volcani Center, Penn. State Univ., Int'l Rice Res. Inst. and the Czech Univ. of Life Sci.

The LOC and SPC are putting together a stimulating and exciting scientific program and social events!

Please refer to the website for details regarding abstract submission, registration, accommodation, tours and more: <https://www.iwsc2024.com/>

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The IAPPS Newsletter is published by the International Association for the Plant Protection Sciences and distributed in *Crop Protection* to members and other subscribers. *Crop Protection*, published by Elsevier, is the Official Journal of IAPPS.

IAPPS Mission: to provide a global forum for the purpose of identifying, evaluating, integrating, and promoting plant protection concepts, technologies, and policies that are economically, environmentally, and socially acceptable.

It seeks to provide a global umbrella for the plant protection sciences to facilitate and promote the application of the Integrated Pest Management (IPM) approach to the world's crop and forest ecosystems.

Membership Information: IAPPS has four classes of membership (individual, affiliate, associate, and corporate) which are described in the IAPPS Web Site www.plantprotection.org.

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