Brief report of the training programme on 'Capacity building on mass production of biocontrol agents' organized by AICRP on Biological Control of Crop Pests, AAU, Anand in collaboration with Centre for Agriculture and Bioscience International (CABI), South Asia & Better Cotton Initiative (BCI), India

AICRP on Biological Control of Crop Pests, Anand Agricultural University, Anand organized a training programme on 'Capacity building on mass production of biocontrol agents' in collaboration with Centre for Agriculture and Bioscience International (CABI), South Asia & Better Cotton Initiative (BCI), India during 10-15 October 2022 under the guidance of Hon'ble Vice Chancellor, Dr. K. B. Kathiria. The prime objective of the training programme was to impart practical skills and hands-on-training on mass production of biocontrol agents to the technical staff/master trainers of the organization BCI-India. Thirty trainees from different states of India participated in the programme. CABI is an international, inter-governmental, not-for-profit organization that improves people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment. Pertaining to crop health, by sharing science-based knowledge about crop health, CABI helps smallholder farmers to grow more and lose less, increase their incomes and improve their livelihoods. Better Cotton Initiative (BCI) - India is the world's leading sustainability initiative for cotton. Its mission is to help cotton communities survive and thrive, while protecting and restoring the environment.

The programme was started with the inaugural function with the gracious presence of various distinguished dignitaries of AAU, Anand, CABI, South Asia and BCI, India. Dr. M. K. Jhala, Director of Research and Dean PG studies, AAU, Anand during his presidential remarks briefed the gathering on crucial role of organizations *viz*., CABI, South Asia and BCI India in sustainable farming. He opined that the Biological Control Research Laboratory as strength of AAU, Anand and facilities of this department are recognizable at national level. Dr. H. B. Patel, Director of Extension Education insisted the trainees to focus on environmental friendly approaches in agriculture and to reduce the key input cost by endorsing bio-control agents. Dr. Y. M. Shukla, Principal and Dean, B.A. College of Agriculture informed the importance of residue free food in current scenario of organic farming/natural farming. Dr. Malavika Chaudhary, Asia Regional Coordinator, CABI, South Asia gave her remarks on CABI and collaborative training programme. Ms. Saleena Pookunju, Capacity Building Manager, BCI, India gave her remarks on BCI, India and emphasized the main objective of training programme in assisting cotton growers to attain better standards.

The sessions on insect pests of cotton and their biocontrol agents, importance of *Trichogramma* and its production at farm scale, natural enemies predators and parasitoids in cotton ecosystem, predatory potential of *Chrysoperla* & Reduviid bug against key cotton pests are presented. During the session, the participants were encouraged to involve in activities such as identification of specimens, discussion and quiz. The sessions placed a strong emphasis on the usefulness of biocontrol agents in field situations. The hands-on-practical sessions on rearing of rice moth, *Corcyra cephalonica*, Tricho-card preparation, culturing of *Chrysoperla* and Reduviid bugs were conducted. Followed by hands-on-practical exposure, field release of Tricho-cards and predatory insects in 'Entomophage Park' of AICRP Biocontrol laboratory

was carried out. Concerning to microbial bio-pesticides part, various sessions on *Trichoderma* and its role in plant disease management, *Beauveria bassiana* in bio-intensive pest management, on-farm production and utilization of microbial bio-agents, quality control of on-farm produced bio-agents were elaborated in depth. The hands-on-practical sessions were focused on requirements for low cost on-farm production of *Trichoderma* species, *Beauveria bassiana,* preparation of cereal based medium and inoculation in low cost inoculation chamber. Harvesting and utilization of prepared bio-pesticides was demonstrated in field situations. Participants prepared the kit comprising the different materials essential for the low cost farm-scale production individually and later distributed to them.

Participants were taken to Giri farms, Narsanda, Taluka Nadiad, Dist. Kheda to have real experience of organic input preparation. Ms. Umeshbhai Giri Goswami interacted with the participants and shared his experience pertaining to on-farm production of *Trichoderma* species and *Metarhizium anisopliae* and other organic inputs. On final day of training programme, participants were escorted to Agriland Biotech Limited, Vadodara to provide a view of production of bioagents at industrial scale. The six days training programme was very helpful to the trainees who gain information and skills about the mass production and use of biocontrol agents through the competent expertise and cutting-edge laboratory of AICRP on Biological Control. Dr. K. C. Patel, Unit officer, ICAR Unit-9 as the convener had overall responsibility of programme. The training programme was organized and managed by Dr. N.B. Patel, Principal Research Scientist and co-ordinated by Dr. Raghunandan B.L. Assistant Research Scientist, AICRP on Biological Control of Crop Pests, AAU, Anand.






Inaugural session






Hands-on-practical on egg parasitoid *Trichogramma*






Hands-on-practical on predatory insects *Chrysoperla* and Reduviid bug

Hands-on-practical on microbial bio-pesticide *Trichoderma*






Hands-on-practical on microbial bio-pesticide *Beauveria bassiana*

Organic farm and Industry visit

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