

Proceedings of the National Meeting on New/Safer Molecules and Biocontrol Technologies for Integrated Pest Management in Crops, 23 February 2015, Bengaluru

A one-day 'National Meeting on New/Safer Molecules and Biocontrol Technologies for Integrated Pest Management in Crops' was organized by Society for Biocontrol Advancement (SBA) in association with ICAR – National Bureau of Agricultural Insect Resources (ICAR–NBAIR), Bengaluru on 23 February, 2015 at the Karnataka Veterinary Council auditorium, Hebbal. The meeting was attended by scientists and students drawn from 10 states across the country. Dr P. Sreerama Kumar welcomed the delegates and set the ball rolling.

In his opening remarks, Dr. Abraham Verghese, President, SBA and Director, ICAR–NBAIR welcomed the delegates and informed that the meeting was unique as it attempted to blend toxicology and bioagents in IPM. The ideas churned out could be used to devise strategies for effective management of pests. He also opined that technologies developed at ICAR–NBAIR could be used in conjunction with chemical pesticides to bring a robust pest management technique.

There were two technical sessions. The first session was on new and safer molecules in IPM and this session was chaired by Dr T.M.Manjunath, Former Director (R&D) Monsanto, Bengaluru. He lauded the efforts taken by the organizers to sensitize the need for bringing together chemical-pesticide manufacturers and biocontrol entrepreneurs to achieve desirable results that benefit the farming community.

Mr G. Pampapathy from DuPont informed newer pesticide molecule Cyazypyr is an anthranilic diamide and has cross-spectrum activity as compared to broad-spectrum activity. The compound has novel mode of action by selectively activating insect ryanodine receptors. It causes mortality 4–7 days after application, its bioaction causes immediate cessation of feeding, reduced; honey dew secretion in aphids, mobility of winged insects and reduced fecundity that are essential features in pest/vector management. He indicated that the compound has low to moderate effect on natural enemies and pollinators. Dr Manjunath appreciated the entry of this new molecule in pest management, but stressed to work out the cost benefit ratio and IRM strategy that are to be involved on use of newer molecules.

Mr Sunil Naganur presented an update of products from Bayer Crop Science. As a product development initiative the company had over 23 new active ingredients with novel mode of action. He stressed upon the need for combining use of biologicals with chemical pesticides as an effective IPM strategy. The effect of flubendiamide on ryanodine receptors and their compatibility with natural enemies, birds and humans were discussed. The impact of neonicotinoids and their safety to honey bees were highlighted.

Dr K. Kumar for PAJANCOA, Karaikal, emphasised that Carbosulfan 6G was effective against the rice stem borer and it was less toxic to natural enemies in the rice ecosystem.

The second session on biocontrol technologies for IPM was chaired by Dr S. Sithanantham, Director Sun Agro Biotech, Chennai. Presentations in the session include mass

production technologies and safe use of bioagents with chemical pesticides so as to have a robust IPM programme.

Bioecology of the coccinellid predator *Coelophora bisellata* recorded from several parts of Mizoram was discussed by Dr T. Boopathi, Scientist, ICAR NEH. Considering the feeding potential of larval and adult stages, it fits in as a potential predator if mass multiplied and supplied to farmers. During the deliberations it was suggested that the impact on host and climate change on the predator development is to be considered prior to commercialization.

Mr Anil Nakka of Sabala Agro Products spelt out that “ORGANO” farming concept emphasizes more on crop health, ecology and fairness in crop husbandry. He informed that technologies developed by public-funded research institutes like ICAR–NBAIR were meeting the quality and standards prescribed by enforcement agencies. Hence, this brings in confidence in the private firms to invest in such technologies which would reach the farming community to produce a green and clean marketable produce. The bioformulations obtained from ICAR–NBAIR were efficient and stress-tolerant and this has helped Sabala Agro Products to deliver products that gained farmers confidence. Prevalence of spurious products in the market degrades confidence of farmers on the effect of biocontrol technologies. He opined that this hurdle could be overcome by educating manufacturers and farmers on biocontrol technologies and to initiate certification courses on augmentative biocontrol and set up quality control lab for the bioagents across the country.

Entrepreneurs like Mr M. Balachander of Ponalab Biogrowth in addition to catering the requirements of Indian farmers have also extended their service to neighboring SAARC countries. He said the cumbersome process of biopesticide registration and voluminous data generation discourages small-scale entrepreneurs to take up biopesticide production. Easing the norms for registering biopesticides will benefit small entrepreneurs, he opined.

Mr U. Bhat representing Koppert Biological Systems talked about IPM in partnership with nature for cleaner and healthier food. The biocontrol market is huge in India but the bottleneck to greater participation by companies in popularizing the technologies is the procedures involved in regulatory mechanisms.

More than 30 researchers presented their work in the poster session. Prizes were given away to 12 presenters during the wrap-up session.

The wrap-up and way forward session was chaired by Dr Abraham Verghese, Director, ICAR–NBAIR and moderated by Dr Sreerama Kumar. Dr Verghese lauded the interest shown by industry and academia in trying to blend chemical insecticides and bioagents for in plant protection. The efforts of this attempt will be fruitful if the concept of IPM turns to ‘green’ IPM. He wanted that all the barriers between chemicals and biocontrol agents must be liquidated to achieve this. He suggested integrating *Trichogramma* with safer molecules and gradually phase out chemicals like carbosulfan. Dr Verghese lamented that the time required for commencing a biocontrol programme is very long because of various hurdles. For example, the average time required for importation of a bioagent would be up to 6 months, and the usual time required to get a biopesticide registered is almost 2 years. He suggested that drastic changes are a must in

both policy and regulations governing biocontrol programmes to safeguard the interests of farmers. Scientists should be involved in framing policies on such issues. He informed that ICAR-NBAIR is in touch with the National Biodiversity Authority to address the policy issues of exchange of insect specimens or parts thereof for identification and description of new species. Another issue that needed attention was the strict adherence to the IOBC standards with regard to chemicals and their safety to natural enemies.

The national meeting was followed by the General Body Meeting of SBA. The activities of the society for the year 2014–15 were presented by the secretary SBA. Thirty-four life members of the society were conferred Fellow of Society for Biocontrol Advancement. Dr B.S. Bhumannavar Team Award was given to Dr Jalali and his team for the achievements in the area of biological control. The new executive council took charge from the outgoing board.

Mention of a product or view by participants, does not imply endorsement by ICAR-NBAIR.



Inauguration of the 'National Meeting on New/Safer Molecules and Biocontrol Technologies for Integrated Pest Management in Crops' and address by the President of SBA, Dr. Abraham Verghese, Director, NBAIR, Bengaluru.



Release of NBAIR newsletter by the expert group (L-R) Dr. Abraham Verghese, Dr. T. M. Manjunath, Dr B.S. Bhumannavar and Dr. S. Sithanantham



Presentation of fellowship awards by the SBA president



Dr B.S. Bhumannavar Team Award was given to Dr S. K. Jalali and his team for the achievements in the area of biological control.



New Office Bearers of SBA



Delegates of the National Meet