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"For the promotion of biopesticides and enhancement of trade opportunities!"

ABCOP 2025

Biopesticides, with their low or negligible chemical residues, enable farmers to meet MRL requirements, access global markets, and contribute to food security.
Let's keep the discussions vibrant in 2025 as well!

Will be held on:
29 January 2025
2 PM - 3 PM (Bangkok time)

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Presentation 1: Potential of biopesticides to replace chemical pesticides gradually: A myth or a reality?

Speaker: S.N. Sushil, Director, ICAR-National Bureau of Agricultural Insect Resources, Bengaluru, India

Abstract: The global push toward sustainable agriculture, environmental conservation, and human health has driven significant advancements in biopesticide research and adoption. Biopesticides are derived from natural sources like plants, bacteria, fungi, viruses, nematodes and other living organisms and generally have a lower environmental footprint. They decompose quickly, minimizing soil and water contamination. Many biopesticides target specific pests without harming beneficial organisms like pollinators, parasitoids, predators etc. and ecosystems. Also, biopesticides often employ unique modes of action, making them effective tools for managing pest resistance to chemical pesticides. Several biopesticides have proved to be highly effective in managing native as well as invasive pests in different countries. The escalating health concerns have prompted a shift towards biopesticides as a sustainable alternative. Hence, biopesticide market is growing rapidly and the global biopesticides market, valued at USD 6.2 billion in 2023, is projected to grow at a CAGR of 11%, reaching USD 17.34 billion by 2030, with the Asia-Pacific region leading growth. However, over the period 1990 and 2022, overall pesticides intensities have increased at different rates like use per cropland area increased by 94%, use per value of agricultural production by 5%, and use per person by 35 percent (FAO 2022). The potential for biopesticides to gradually replace chemical pesticides is increasingly viewed as a reality, though it comes with challenges. Biopesticides often require precise application timing and conditions to achieve desired results. Also, can be less effective than chemical pesticides under certain environmental conditions. Biopesticides tend to have shorter shelf lives compared to chemical pesticides, thereby complicating storage and distribution. The inherent challenges need to be addressed through continued investment in research and development. Therefore, the gradual replacement of chemical pesticides by biopesticides is not a myth but a process that will take time.