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Promoting Biopesticides and Bioinputs for Enhanced Trade Opportunities

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Speaker:

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Session Topic:

From Chemical
Dependency to Bio-
based Solutions: Farmer
Perception and Extension
Challenges in
Bangladesh



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Presentation: From Chemical Dependency to Bio-based Solutions; Farmer Perception and Extension Challenges in Bangladesh

Speaker: Prof. Abu Noman Faruq Ahmmed, Former Chairman, Department of Plant Pathology, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh & General Secretary, Bangladesh National Bioprotection Society (BNBS)

Summary: Professor Abu Noman Faruq Ahmmed highlighted Bangladesh's continuing dependence on chemical pesticides and the urgent need to accelerate the transition towards bio-based crop-protection solutions. Although pesticide subsidies ended decades ago, use remains high, reaching 41,514 MT in 2025. Bangladesh has a large, dealer-driven pesticide market, while registered biopesticides account for only a very small share of products.

He explained that high pest and disease pressure, especially in open-field vegetable production, drives frequent pesticide application. This has resulted in food-safety concerns, pesticide residues exceeding maximum residue limits, health risks for applicators who often lack protective equipment, and challenges for export market access.

The presentation noted that Bangladesh has more than 100 registered biopesticides, including microbial products, botanicals, pheromone lures, *Trichoderma* spp-based biofungicides, sticky traps, fruit bagging and IPM practices. Pheromone lures and *Trichoderma* have shown particularly strong adoption because farmers can observe visible results and use them to address fruit fly and soil-borne disease challenges.

However, adoption remains constrained by farmers' preference for the rapid and visible effects of chemical pesticides; limited availability, storage and quality assurance of biological products; and inadequate knowledge of correct timing and application. Dealers and retailers play a major role in farmer decision-making, with about 78% of farmers relying on them for pesticide advice. Chemical_to_Bio-based_Solutions.

He emphasized that government policies already encourage IPM and biopesticide use. Measures include requiring biopesticide corners in pesticide shops, facilitating year-round registration applications for biopesticides, and encouraging companies to include biopesticides in their product portfolios. However, stronger implementation, retailer training, local production capacity, laboratory facilities and coordinated extension support are needed.

He concluded that Bangladesh should reduce import duties and taxes on biopesticides, establish a separate and faster registration pathway, strengthen quality-control and laboratory systems, promote local manufacturing, integrate biopesticides into recommendations and GAP systems, and improve training for retailers, farmers, extension staff, women and youth. These actions can help make bio-based solutions more accessible and effective, supporting safer food, healthier farming communities, environmental protection and improved market access.