5. Animal Protein-Based Biostimulants

The Union Ministry of Agriculture and Farmers' Welfare has withdrawn approval for the sale of 11 animal protein-based biostimulants, citing religious and dietary sensitivities.

Background of the Notification

Recent Government Action - On September 30, 2025, the Ministry of Agriculture and Farmers Welfare issued a notification omitting 11 animal-derived biostimulants from Schedule VI of the Fertiliser (Inorganic, Organic or Mixed) (Control) Order (FCO), 1985. These biostimulants had been previously approved for use on crops like paddy, tomato, chilli, cucumber, cotton, soybean, grapes, green gram, and hot pepper.

Sources of Animal-Derived Biostimulants - Bovine hide, tanned skin, chicken feathers, pig tissue, cod bones and scales, sardine. Initially cleared for use following ICAR (Indian Council of Agricultural Research) approval earlier in 2025.

Affected Products - Primarily protein hydrolysate formulations, widely used to improve growth, yield, and stress resistance in key crops.

Understanding Biostimulants

Definition (FCO, 1985) - Substances or microorganisms that stimulate plant physiological processes to improve nutrient uptake, growth, yield, quality, and stress tolerance. Do not provide nutrients directly (unlike fertilizers) or control pests (unlike pesticides).

Application - Commonly sold in liquid form and sprayed directly on crops. Increasing adoption in organic and climate-resilient farming systems.

India's Biostimulants Market - Valued at US$ 355.53 million in 2024; projected to reach US$ 1,135.96 million by 2032 (Fortune Business Insights).

Comparison with Fertilizers and Pesticides

Feature	Biostimulants	Fertilizers	Pesticides
Function	Stimulate natural plant processes	Supply nutrients	Control pests, weeds, or diseases
Mode of Action	Act on plant physiology or soil microbiome without adding nutrients	Directly increase soil or plant nutrient content	Chemical/biological pest control
Purpose	Improve growth, yield, quality, stress tolerance	Promote nutrition	Protect crops
Examples	Seaweed extracts, amino acids, humic substances	Urea, DAP, MOP	Insecticides, fungicides, herbicides

Types of Biostimulants

Humic and Fulvic Acids - Improve soil structure and nutrient absorption.

Seaweed Extracts - Promote root growth and stress resistance.

Protein Hydrolysates & Amino Acids - Enhance enzyme activity and metabolism.

Microbial Biostimulants - Contain beneficial bacteria or fungi (e.g., Rhizobacteria, Mycorrhizae).

Chitosan & Biopolymers - Improve plant immunity and resistance to pathogens.

Inorganic Compounds - Trace elements aiding growth regulation.

Advantages of Biostimulants

Enhance Nutrient Efficiency - Improve uptake and fertilizer efficiency.

Increase Yield and Quality - Promote flowering, fruiting, and produce quality.

Boost Stress Tolerance - Help crops withstand drought, salinity, and temperature extremes.

Eco-Friendly - Reduce chemical usage and environmental pollution.

Support Sustainable Agriculture - Align with organic farming and climate-resilient agriculture goals.

Concerns Related to Biostimulants

Unregulated Market - Many products sold without quality control prior to 2021.

False Claims - Some manufacturers overstated efficacy without scientific validation.

Lack of Standardization - Composition varied widely, making results unpredictable.
Testing Challenges - Difficult to scientifically quantify benefits, particularly in field conditions.
Safety Issues - Risk of contamination or residual animal proteins if not produced to standard.

Regulatory Framework in India

2011 - Punjab & Haryana High Court highlighted need for scrutiny of bioproducts claiming fertiliser or pesticide properties.
2017 - NITI Aayog and Agriculture Ministry began drafting a national regulatory framework.
Pre-2021 - Biostimulants sold freely without any specific regulation.
Post-2021 Regulation - Brought under FCO, 1985, requiring registration and proof of safety and efficacy. Transitional provisions allowed sales until June 16, 2025 if approvals were pending.
Central Biostimulant Committee (April 2021) - Five-year term, chaired by the Agriculture Commissioner, with seven members. Tasked with reviewing safety, efficacy, and regulatory compliance.

Significance and Implications of the 2025 Notification

Ethical and Cultural Sensitivity - Reflects government responsiveness to religious and dietary beliefs. Particularly relevant for Hindu and Jain communities, who object to animal-derived inputs.
Regulatory Strengthening - Ensures quality, safety, and traceability in the agricultural input market. Part of broader efforts to standardize bio-inputs and prevent unregulated products.
Impact on Agribusiness - Affects companies manufacturing or importing animal protein-based formulations. Requires fresh research data for future clearance and safety evaluation.
Environmental Significance - Reduces unregulated bio-inputs, ensuring safer soil health and crop safety.
Encourages the use of plant-based or microbial alternatives, promoting eco-friendly agriculture.
Research and Compliance - Necessitates scientific validation of pre-harvest intervals, residual safety, and efficacy. Encourages innovation in plant-derived and microbial biostimulants.

Broader Policy Implications

Aligns with Sustainable Development Goals (SDG 2 & 12) -
SDG 2 - Zero Hunger – through improved crop productivity.
SDG 12 - Responsible Consumption and Production – through safe and sustainable agricultural inputs.
Supports Atmanirbhar Bharat in Agriculture - Encourages development of indigenous plant-based biostimulants. Reduces dependence on imported animal-derived bio-inputs.
Promotes Ethical and Safe Farming Practices - Enhances consumer confidence and addresses food safety concerns. Supports organic and climate-resilient agriculture policies.
Source - https - //indianexpress.com/article/india/govt-pulls-nod-for-11-biostimulants-over-religious-dietary-concerns-10284631/