

THE CHANGING TREND OF BIOSTIMULANTS IN INDIAN AGRICULTURE

From Digitization to better use of crop tools and technology, the agricultural sector continues to undergo change. An important element of today's agricultural needs is Biostimulants.

Biostimulants are unique, environmentally friendly and substantially increase crop yields by enhancing the nutrient uptake, physiological processes, metabolic pathways, positive stress responses and improve soil health. In 2020, the Global biostimulants market was valued at USD 2,638 million, and is projected to reach USD 5,040 million by 2026, with a CAGR of 11.71% during the period of 2021-2026.



MARKET TREND

Foliar (liquid) segment of Biostimulants is growing at a faster pace than Soil (granule) segment
 A mixture of Acid based + Extract based (Plant / Animal / Microbial) + Vitamins is what construes the new trend in Biostimulants
 Microbial based granular biostimulants are on high rise, followed by Silica based formulations
 There is an increased acceptance of high quality and registered products amongst the farmers
 Major crops gaining focus are Paddy, Vegetables, fruits and Sugarcane
 Many US based firms and Sumitomo, Japan are focusing on the Indian market by collaborating with Indian companies
 Nutrozen – Crystal / Excel Ag Corp, USA
 CropMax – DuPont / Cytozyme Laboratories, USA

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Among the various geographies, Europe is considered the fastest growing and even the largest market segment for biostimulants. A few global companies including Biostadt India Limited cover a majority of the market share in the manufacturing and distribution of Biostimulants. Acquisitions, partnerships, and investments are the most adopted strategies in the market.

Currently, the Indian biostimulants market is estimated at approx. USD 43 million. In the next few years and in terms of value, Biostimulants and Biofertilizers are expected to capture the largest segment of the Indian Agri-input industry after chemical fertilizers. This means that biostimu-

Indian Market Growth Drivers for Biostimulants

Consumers	Heightened awareness among consumers towards food safety and quality Organic Food Industry growing at a healthy rate Increasing consumer purchasing power Demand for environmentally safe quality food produce especially within fruits and vegetables
Farmers	New generation of farmers becoming more conscious towards sustainable agriculture Making efforts to restore degraded soil and negate the harmful effects of chemical inputs Stringent norms for export of food pertaining to crop residue
Climate	Climate change is increasingly leading to increased abiotic and biotic stress on the plants, causing upto 30% reduction in plant growth and yield.
Companies	Bringing new improved products with increasing performance, customized solution offerings specific for crops, soil Increasing the awareness, expanding the geographic coverage of product availability. Entering into Agreement & Partnerships with other manufacturers across different countries.

lants will soon hold a larger market size than pesticides and seeds in India.

The Biostimulants regulations in India:

India is now one among the few countries around the world, to define separate regulations for biostimulants. Regulations for biostimulants have been recently announced as a new category of products under the "Fertilizer Control Amendment (FCA) Order 2021" on February 23, 2021, which clearly defines regulations for the registration of biostimulants.

As per the new order, Biostimulants are considered as compounds, substances and products including microorganisms whose function when applied to plants/seeds/ rhizosphere is to regulate and enhance a crops physiological process independent of the products nutrient content to improve input use efficiency, growth, yield, quality and/or stress tolerance. Biostimulants may include products of plants /animals or microbial origin. The primary function of the products should be other than that for pesticidal use, nutrient source and plant growth regulators. (Source : Mordor Intelligence)

As per the regulations, Biostimulants notified in the order include 8 different categories -

- Botanical extracts, including seaweed extracts
- Bio-chemicals
- Protein hydrolysates and amino acids
- Vitamins
- Cell free Microbial products
- Antioxidants
- Anti-transpirants
- Humic & fulvic acid and their derivations



As per the new regulations for Indian biostimulants, all the manufacturers and/or importers of biostimulants are now required to apply to the Controller (Form G) along with the supporting data relating to: a) Chemistry, b) Bio-efficacy trials, c) Toxicity and d) Heavy metal analysis report for specifying it as a biostimulant.

Labelling, sampling specifications with analysis from Good Laboratory Practice (GLP) and methodology for testing have also been described in detail. These regulations will have the desired impact in controlling the quality of biostimulants.

The way forward for Biostimulants

In the absence of regulations and registration guidelines, the biostimulant market has been flooded with substandard / spurious products with exaggerated claims. These products adversely affect the genuine industry players and dent farmer's confidence in efficacy of biostimulants.

The new regulatory and monitoring framework will not only boost the confidence of the biostimulant market players but is expected to also increase the investments in R&D thereby leading to development and marketing of new and better quality products which will benefit farmers with their access to superior quality products. Overall, the inclusion of biostimulants under the FCO is a step in the right direction which will be beneficial for the industry.

To double the farmers income, diversification towards high value horticultural crops and raising the food grain production is a major strategy of government. Additionally, increasing horticultural and floricultural output to offer a higher productivity value creates a higher need and acceptance of biostimulants playing a major role in supporting the quality of higher yield produce.

Recently we are witnessing a few Indian and MNC companies that have started investing in the Biostimulant segment with some additional big players coming in soon. This could soon lead to a boom in the Biostimulant segment in the foreseeable near future.