

Agricultural Biologicals Market Forecasts to 2032 – Global Analysis By Product Type (Biopesticides, Biostimulants, Biofertilizers, and Other Product Types), Source (Microbials, Biochemicals, and Macro-organisms), Crop Type, Mode of Application, and By Geography

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Abstracts

According to Statistics MRC, the Global Agricultural Biologicals Market is accounted for \$17.5 billion in 2025 and is expected to reach \$47.0 billion by 2032 growing at a CAGR of 15.1% during the forecast period. Agricultural Biologicals market covers bio-based crop inputs such as biopesticides, biofertilizers, microbial inoculants, and biostimulants that enhance plant health and yield with lower environmental impact. Growth is driven by regulatory restrictions on some chemical pesticides, farmer interest in sustainable alternatives, and R&D that improves efficacy and formulation stability. Partnerships between biotech firms and agri-companies speed commercialization, while digital application tools and precision equipment optimize dosing. Increasing acceptance and demonstrable ROI on crop performance underpin broader adoption across row crops and specialty agriculture

Market Dynamics:

Driver:

Sustainable Agriculture Practices

The global shift towards sustainable agriculture is a primary catalyst for the agricultural biologicals market. Mounting consumer demand for organic food and growing regulatory

pressure to reduce synthetic chemical residues are compelling growers to adopt biological solutions. These products, derived from natural materials, align perfectly with integrated pest management (IPM) and organic farming protocols. Furthermore, they help improve soil health and biodiversity, offering a long-term strategy for resilient farming. This paradigm shift from purely chemical inputs to a more balanced, ecological approach fundamentally drives market expansion.

Restraint:

Regulatory Challenges

A significant barrier to the rapid growth of the agricultural biologicals market is the complex and often fragmented global regulatory landscape. The approval process for new biological products can be lengthy, costly, and inconsistent across different countries, creating uncertainty for manufacturers. Additionally, the novel mode of action of many biologicals does not always fit neatly into existing frameworks designed for conventional chemicals. This regulatory ambiguity can delay product launches and increase compliance costs for companies, thereby restraining the pace of market development and adoption.

Opportunity:

Technological Advancements

Advanced fermentation technologies and sophisticated formulation techniques are enhancing the shelf-life, stability, and field efficacy of biological products. Moreover, the integration of data analytics and precision agriculture tools allows for the targeted application of biologicals, maximizing their effectiveness. Innovations in microbial discovery and strain improvement are also leading to more potent and reliable solutions. These technological strides are crucial for overcoming previous performance limitations and building greater trust among growers.

Threat:

Adverse weather conditions affecting biological efficacy

Extreme weather events, including prolonged droughts, unseasonal heavy rainfall, or severe heatwaves, can adversely impact the viability and activity of microbial strains and biochemicals. This variability can lead to inconsistent results in the field, potentially

eroding farmer confidence. As climate change increases weather volatility, ensuring product resilience and managing grower expectations regarding application windows and environmental suitability becomes a critical challenge for the industry.

Covid-19 Impact:

The pandemic initially disrupted the agricultural biologicals market through supply chain bottlenecks, labor shortages, and logistical hurdles, which delayed product deliveries and field trials. However, the crisis also underscored the critical importance of resilient and sustainable food systems. This awareness accelerated the long-term shift towards bio-based agricultural inputs as stakeholders sought to de-risk from broader supply chain dependencies. Consequently, after an initial slowdown, the market experienced a resurgence in interest and investment, solidifying the strategic importance of biologicals in modern agriculture.

The biopesticides segment is expected to be the largest during the forecast period

The biopesticides segment is expected to account for the largest market share during the forecast period driven by stringent regulatory policies phasing out key synthetic pesticides and rising consumer resistance to chemical residues in food. Biopesticides offer a targeted mode of action, reducing harm to beneficial insects and minimizing environmental impact. Their compatibility with conventional farming systems for residue management makes them an attractive first step into biologicals for many growers. This combination of regulatory push and growing market pull firmly positions biopesticides as the dominant segment in the agricultural biologicals landscape.

The microbials segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the microbials segment is predicted to witness the highest growth rate fueled by relentless research and development that continues to unlock the vast potential of microorganisms. Microbial products, including bacteria, fungi, and viruses, are highly versatile, functioning as biopesticides, biostimulants, and biofertilizers. Their ability to colonize plant roots and promote growth through multiple mechanisms makes them exceptionally powerful. As formulation technologies improve to enhance their shelf-life and efficacy, farmer adoption is accelerating, positioning microbials as the most dynamic and rapidly expanding segment.

Region with largest share:

During the forecast period, the Europe region is expected to hold the largest market share. This leadership is largely attributed to the European Union's ambitious Farm to Fork strategy, which explicitly mandates a 50% reduction in chemical pesticide use. Supportive regulatory frameworks and substantial government subsidies for sustainable practices create a highly conducive environment for biologicals. Additionally, a sophisticated consumer base with strong preferences for organic and sustainably produced food drives demand from the retail level, making Europe the most mature and dominant market for agricultural biological products.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. This rapid growth is propelled by the pressing need to enhance food security for its large population while addressing severe issues of soil degradation and environmental pollution from chemical overuse. Governments in countries like China and India are actively promoting biologicals as a sustainable solution. Moreover, the presence of a vast agricultural landholding and growing awareness among farmers about yield optimization are creating an exceptionally fertile ground for market expansion and penetration.

Key players in the market

Some of the key players in Agricultural Biologicals Market include BASF SE, Bayer AG, Corteva, Inc., Syngenta Group, UPL Limited, FMC Corporation, Novozymes A/S, Valent BioSciences LLC, Marrone Bio Innovations, Inc., Koppert Biological Systems B.V., Lallemand Inc., Certis Biologicals, Gowan Company, L.L.C., Rovensa Next, De Sangosse, Andermatt Biocontrol AG, SEIPASA S.A., Bioworks, Inc., Vegalab SA, and International Panaacea Limited.

Key Developments:

In July 2025, Bayer signed a development and distribution agreement with French pheromones expert company M2i Group for the exclusive distribution of pheromone gels for the Asia-Pacific as well as the Latin America region and the United States building on its successful collaboration and related product launches in Europe and Africa.

In October 2024, BASF expands its BioSolutions offering by incorporating seaweed

biostimulants from Acadian Plant Health™, a renowned marine plant harvesting, cultivation, and Extraction Company based in Dartmouth, Canada. “Now more than ever, farmers must pursue productivity and sustainability. We connect the best products, technologies, and services, to positively transform agriculture, impact food systems and, ultimately, society. By pooling our expertise and resources, we can make a meaningful change,” said Marko Grozdanovic, Senior Vice President Global Marketing at BASF Agricultural Solutions.

In July 2023, UPL Ltd. (‘UPL’) a global provider of sustainable agricultural solutions, has announced a new agreement with the University of Arkansas System Division of Agriculture (UADA) for exclusive access to UADA’s filed patents covering the novel use of Fenclorim as a seed treatment with micro-encapsulated herbicides to protect crops against weeds.

Product Types Covered:

Biopesticides

Biostimulants

Biofertilizers

Other Product Types

Sources Covered:

Microbials

Biochemicals

Macro-organisms

Crop Types Covered:

Cereals & Grains

Oilseeds & Pulses

Fruits & Vegetables

Turf & Ornamentals

Other Crops

Mode of Applications Covered:

Foliar Spray

Soil Treatment

Seed Treatment

Post-Harvest

Other Mode of Applications

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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