

# **Biopesticides Market by Type (Bioinsecticides, Biofungicides, Bionematicides), Crop Type (Cereals & Grains, Oilseeds & Pulses), Formulation (Liquid and Dry), Source (Microbials, Biochemicals) Mode of Application, Region - Global Forecast to 2028**

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## **Abstracts**

The biopesticides market is projected to grow from USD 6.7 billion in 2023 to USD 13.9 billion by 2028 growing at a CAGR of 15.9% during the forecast period. The surging consumer demand for organic and pesticide-free food has significantly propelled the biopesticides market. Farmers engaged in organic crop production heavily rely on biopesticides to meet consumer expectations and maintain compliance with stringent organic certification standards. Moreover, the increasing global demand for sustainable agricultural practices has emerged as a pivotal driver. Biopesticides serve as an eco-friendly alternative to synthetic pesticides, perfectly aligning with the overarching goal of sustainable farming by mitigating environmental impact.

“Biofungicides is the second largest segment among types of biopesticides in 2022. “

The increasing consumer demand for food products free from pesticide residues has contributed to the rising popularity of biofungicides. Biofungicides are favored as they leave minimal to no residue on crops. Copper-based biofungicides, like Bordeaux mixture, have been widely employed in organic farming for many years to effectively control fungal diseases without leaving harmful residues. Furthermore, the growing adoption of sustainable farming practices has further propelled the demand for biofungicides. These eco-friendly solutions align with integrated pest management (IPM) strategies and organic farming principles. For instance, biofungicides derived from *Trichoderma* species, such as *Trichoderma harzianum*, offer dual benefits by effectively combating diseases like *Fusarium* and *Rhizoctonia* while promoting plant growth and

enhancing soil health.

“The application of biopesticides in fruits & vegetables is accounting for the largest share in the crop type segment.”

The demand for pesticide-free and residue-free fruits and vegetables is rising among consumers. Biopesticides, derived from natural sources, provide a safer alternative to chemical pesticides while leaving minimal residues on crops. This meets the growing preference for healthier and more sustainable food choices. Fruits and vegetables rely on beneficial insects for pollination and pest control, and biopesticides pose minimal risks to these organisms, ensuring their survival and maintaining ecological balance. Additionally, many biopesticides have shorter pre-harvest intervals, allowing farmers to manage pests closer to harvest time without exceeding residue limits, providing flexibility in pest and disease management.

“Asia Pacific is projected to witness substantial growth during the forecast period in the biopesticides market.”

The Asia Pacific region is characterized by its diverse range of crops and high pest pressure, creating a strong demand for effective pest control solutions. Biopesticides have emerged as targeted alternatives for managing specific pests and diseases while minimizing environmental impact. For example, in rice cultivation, biopesticides based on *Bacillus thuringiensis* have proven successful in controlling the rice stem borer, a major pest in the region. Moreover, the Asia Pacific region has experienced notable growth in organic farming, where biopesticides play a vital role in pest management strategies. Organic farmers rely on biopesticides to meet the increasing consumer demand for organic produce, driving the adoption and market growth of these eco-friendly solutions in the region.

The Break-up of Primaries:

By Value Chain: Demand Side – 41.0%, Supply-side – 59.0%

By Designation: CXOs – 31.0%, Managers level – 24.0%, Executives – 45.0%

By Region: North America – 24.0%, Europe – 29%, APAC – 32.0%, RoW - 15.0%

Leading players profiled in this report:

BASF SE (Germany)

Bayer AG (Germany)

Syngenta AG (Switzerland)

UPL (India)

FMC Corporation (US)

Pro Farm Group Inc. (US)

Novozymes (Denmark)

Isagro S.p.A (Italy)

Nufarm (Australia)

Certis USA L.L.C. (US)

Koppert (Netherlands)

Biobest Group NV (Belgium)

SOM Phytopharma India Ltd (India)

Valent BioSciences LLC (US)

Stockton bio-ag technologies (Israel)

Andermatt Group AG. (Switzerland)

IPL Biologicals (India)

Vegalab S.A (US)

BioWorks, Inc. (US)

## BIONEMA (Wales)

### Research Coverage:

The report segments the biopesticides market based on formulation, type, crop type, source, mode of application, and region. In terms of insights, this report has focused on various levels of analyses—the competitive landscape, end-use analysis, and company profiles, which together comprise and discuss views on the emerging & high-growth segments of the biopesticides market, high-growth regions, countries, government initiatives, drivers, restraints, opportunities, and challenges. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions, services; key strategies; Contracts, partnerships, and agreements. new product launches, mergers and acquisitions, and recent developments associated with the biopesticides market. Competitive analysis of upcoming startups in the biopesticides market ecosystem is covered in this report.

### Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall biopesticides market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities. The report provides insights on the following pointers:

Analysis of key drivers (high costs associated with the development of new synthetic crop protection products, chemical pesticides ban, and awareness programs by government agencies, and increase in acceptance of organic food), restraints (technological limitations for the use of biological products) opportunities (advancements in microbial research undertaken by key players across regions, pest developing resistance to crop protection chemicals, and growth opportunities in developing regions such as Asia pacific and South America), and challenges (preference for chemicals pesticides among farmers in developing countries).

**Product Development/Innovation:** Detailed insights on, research & development

activities, and new product launches in the biopesticides market

**Market Development:** Comprehensive information about lucrative markets – the report analyses the biopesticides market across varied regions.

**Market Diversification:** Exhaustive information about new products, untapped geographies, recent developments, and investments in the biopesticides market

**Competitive Assessment:** In-depth assessment of market shares, growth strategies, and product offerings of leading players like BASF SE (Germany), Bayer AG (Germany), Syngenta AG (Switzerland), UPL (India), FMC Corporation (US), Pro Farm Group Inc. (US), Novozymes (Denmark), Isagro S.p.A (Italy), Nufarm (Australia), Certis USA L.L.C. (US), Koppert (Netherlands), Biobest Group NV (Belgium), SOM Phytopharma India Ltd (India), Valent BioSciences LLC (US), Stockton bio-ag technologies (Israel), Andermatt Group AG. (Switzerland), IPL Biologicals (India), Vegalab S.A (US), BioWorks, Inc. (US), BIONEMA (Wales) among others in the biopesticides market.

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\* Business Overview, Product/Solutions/Services offered, Recent Developments, and MnM View might not be captured in case of unlisted companies.

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## About

The report “Biopesticides Market by Active Ingredient (Microbials & Biorationals), by Type (Bioinsecticides, Biofungicides, Bionematicides & Bioherbicides), by Application, by Formulation, by Crop Type & by Geography - Global Trends & Forecast to 2019”, defines and segments the global biopesticides market with analysis and forecasting of the global revenues for biopesticides.

The global Biopesticides Market is expected to grow at a CAGR of 16.0%, and is projected to generate a value of \$4,369.88 Million by 2019.

Biopesticides are widely used for controlling insects and disease-causing pathogens. Bioinsecticides, Biofungicides and Bionematicides are rapidly growing market segments and are expected to boost the demand for Biopesticides in near future. Increasing demand for residue-free crop protection products, which have lesser or no negative impact on environment and better safety features are key drivers of the Biopesticides Market.

Biopesticides are more efficient when compared to chemical pesticides. Biopesticides are generally formulated to specifically affect the target pest and other closely related organisms, in contrast to the broad spectrum of the chemical pesticides that may affect many other organisms as different as birds, insects, and mammals through food chain. Biopesticides are often effective in very small quantities and decompose quickly, thereby preferable as per environmental concerns. When used as a component of the Integrated Pest Management (IPM) programs, Biopesticides can greatly decrease the use of conventional pesticides, while not affecting the crop yields.

Growth in the organic food market and easy registration than chemicals pesticides are driving factors for the global Biopesticides Market, since organic industry is dependent upon the chemical-free crop protection products to safeguard crops. Factors such as toxicity of crop protection products, environment friendliness, innovative production practices, new product offerings, increased availability, and advent of new pests are increasing the market for biopesticides, globally.

The global market for Biopesticides was valued at \$1,796.56 Million in 2013 and is expected to reach \$4,369.88 Million by 2019, growing at a CAGR of 16.0% from 2014 to 2019. North America dominated the global Biopesticides Market. Europe is expected to be the fastest growing market in the near future owing to the stringent regulation for

pesticides and increasing demand from organic products.

The market is dominated by players such as:

AgraQuest, Inc. (U.S.)

Marrone Bio Innovations Inc. (U.S.)

Certis USA LLC (U.S.)

Koppert Biological Systems (The Netherlands)

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