

# **Agricultural Microbials Market by Type, Function (Soil Amendment and Crop Protection), Crop Type (Cereals & Grains, Oilseeds & Pulses, Fruits & Vegetables), Mode of Application, Formulation, and Region - Global Forecast to 2027**

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## **Abstracts**

The global agricultural microbials market is estimated to be valued at USD 6.4 billion in 2022. It is projected to reach USD 12.6 billion by 2027, recording a CAGR of 14.6% during the forecast period. The agricultural microbials market is projected to grow at an exponential rate due to factors such as the rise in demand for sustainable agricultural practices, favorable government regulations, an increase in demand for high-value crops, and a rise in the number of investments from key players in this market. Crop protection is the chief function that is targeted by larger companies in the agricultural microbials market. Microbials can be applied in several ways, of which foliar spray is the most widely accepted application mode across the globe. However, precision targeting and application advantages associated with seed treatment have been gaining importance in recent times for microbials across the globe. Controlled release are research institutions and key players exploring another technology to enhance integrated pest management and the sustainability of their products.

The use of biopesticides has increased consumer confidence in purchasing fruits & vegetables cultivated in a sustainable environment. The increasing pressure on farmers for the minimal use of chemical pesticides in the cultivation of fruits & vegetables has led to increased demand and encouraged the exploration of biological alternatives. Organizations such as the WHO and governments of different countries are focusing on decreasing levels of malnutrition, increasing sustainable farming practices, and attaining self-sufficiency in terms of food. This will drive the growth of the agricultural microbials market.

“The North America region is estimated to record a CAGR of 15.0% during the forecast period.”

In 2021, North America accounted for the largest market share, followed by Europe and the Asia Pacific, owing to the reduced dependence on chemical pesticides for crop protection in countries such as the US, Canada, Germany, and France. The agricultural microbials market in North America is growing at a CAGR of 15.0% during the forecast period, due to the rising demand in large economies, such as US, Canada, and Mexico countries. These are some of the regions that are experiencing high growth in organic farming, farm conversions from conventional to organic, and the development of newer biological solutions through research. The increasing growth of high-value crops and rising awareness among farmers about the environmental benefits of microbial solutions are expected to provide more scope for market expansion. Moreover, the ongoing R&D activities on newer microbial strains also render a scope for market growth. Government policies adopted by Asia Pacific countries toward sustainable agricultural practices and the support provided for the consumption of microbial products are the major factors driving the growth of this market.

Key players in the agricultural microbials market are BASF SE (Germany), Bayer CropScience (Germany), Sumitomo Chemicals Company Ltd. (Japan), Monsanto Company (US), Corteva (US), Syngenta AG (Switzerland), Certis USA LLC (US), Chr. Hansen Holding A/S (Denmark), Isagro S.p.A. (Italy), UPL Ltd. (India), and Novozymes A/S (Denmark).

The industrial organization and technology of agricultural microbial manufacturing industry are changing rapidly in North America. The US is the fastest-growing agricultural microbials country in North America due to an increase in cultivation. One of the major players of agricultural microbials in North America is FMC Corporation (US). Use of biological products in agriculture is becoming more popular in the region as they increase yield and enhance the quality of crops while lowering the need for chemical fertilizers, pesticides, and herbicides. The climatic variations in some parts of the US, such as California and other western states, have led to the increased use of biologicals by farmers.

“In 2021, the bacteria segment accounted for the largest share of 71.9% of the agricultural microbials market and is projected to grow at a CAGR of 14.3% by 2027.”

The application of bacteria in agriculture has increased, in terms of biofertilizers and

biopesticides, as these sustainably provide higher and healthy yields. Bacterial strains are easily available in the surrounding environment and can be isolated and reproduced. The application of bacterial strains in agriculture is expected to increase with the entry of agrochemical players and a rise in the number of product launches.

Bacillus species are the most dominant in the agricultural solutions market. Their ability to secrete large quantities (20–25 g/L) of extracellular enzymes has placed them among the most important industrial enzyme producers. New varieties of biological agricultural products are being developed at the desired temperature, pH activity, and stability properties, as this type of bacteria can ferment in the acid, neutral and alkaline pH ranges, and in the presence of thermophiles.

The strain of this bacterium is useful for inhibiting the growth of fungi, *Fusarium oxysporum* (25–34%). Also, they can cause root elongation for better uptake of nutrients and oxidize sulfate and solubilize phosphate in the soil. The most used microbial pesticides are strains and subspecies of *Bacillus* spp., such as *Bacillus thuringiensis* (Bt) and *Bacillus subtilis*. The control of fungal diseases and pests using pesticides with *Bacillus* as an active ingredient is an opportunity for furthering the development of the agricultural microbials market.

“The soil amendment segment is projected to grow at a CAGR of 12.0% during the forecast period. The development of effective strains of microorganisms, which efficiently cater to the nutrient deficiencies of the soil and improve crop health, are witnessing increased usage as compared to biostimulants in the market.”

Soil amendments are products that are used to improve the structural and biochemical functions of the soil. Presently, a lot of factors are threatening the development of soil conditions in farmlands all over the world, which witness harsh climatic conditions, erosion, degradation, increased toxicity, water runoffs, mining activities, and toxin precipitation and saturation. 25% of the soils in farmlands around the world have already been declared severely deteriorated. Countries are focusing on producing enough food products to at least be able to feed their own populations. For this, they need to increase agricultural output. In this situation, organically managed soils are increasingly imported to heal the damaged soils. Thus, governments are focusing on using organics and biologicals for soil management in farms pre- and post-harvest.

The development of effective strains of microorganisms, such as *Bacillus* spp. and *Rhizobium*, which efficiently cater to the nutrient deficiencies of the soil and improve crop health, are witnessing increased usage as compared to biostimulants in the

market. Farmers are under pressure to increase the outputs in a sustainable manner, and thus, they are looking for more direct alternatives, which are offered by biofertilizers. They also help in increasing the nutrition in food products and attain the goal of eradicating malnutrition, which is an important issue all over the globe.

#### Break-up of Primaries:

By Value Chain: Demand side - 41%, Supply side – 59%

By Designation: Managers – 24%, CXOs – 31%, and Executives- 45.0%

By Region: Europe - 29%, Asia Pacific – 32%, North America - 24%, RoW – 15%

#### Leading players profiled in this report:

BASF SE (Germany)

Bayer CropScience (Germany)

FMC Corporation (US)

Syngenta AG (Switzerland)

UPL Ltd. (India)

Corteva Agriscience (US)

Novozymes A/S (Denmark)

Marrone Bio Innovations (US)

Chr. Hansen Holding A/S (Denmark)

Isagro S.p.A. (Italy)

Valent BioSciences (US)

Certis Biologicals (US)

BioWorks, Inc. (US)

Koppert Biological Systems (Netherlands)

Lallemand Inc. (Canada)

AgriLife Biosolutions Ltd. (India)

Wilbur-Ellis Holdings, Inc. (US)

Pivot Bio (US)

Vegalab S.A. (US)

IPL Biologicals (India)

Verdesian Lifesciences (US)

Biotalys (Belgium)

BioLogic Insecticide, Inc. (US)

Provivi (US)

Fytofend S.A. (Belgium)

#### Research Coverage:

The report segments the agriculture microbials market on the basis of type, function, mode of application, formulation, crop type, 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 agricultural microbials market, high-growth regions, countries, government initiatives, drivers, restraints, opportunities, and challenges.

#### Reasons to buy this report:

*Agricultural Microbials Market by Type, Function (Soil Amendment and Crop Protection), Crop Type (Cereals & Gr...*

To get a comprehensive overview of the agricultural microbials market

To gain wide-ranging information about the top players in this industry, their product portfolios, and key strategies adopted by them

To gain insights about the major countries/regions in which the agricultural microbials market is flourishing

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## About

The report, "Agricultural Microbials Market by Type (bacteria, fungi, virus, and protozoa), Crop Type (Cereals & grains, oilseeds, & pulses, fruit & vegetable) & Region - Global Trends & Forecast to 2019", defines and segments the global market with analyses and projections of the size of the market.

The agricultural microbials market is estimated to worth \$2,182.78 million in 2014, and is projected to reach \$4,556.37 million by 2019, at a CAGR of 15.3%.

The market is segmented and the value is projected on the basis of regions such as North America, Europe, Asia-Pacific, Latin America, and Rest of the World (RoW). Key countries the U.S., Spain, Italy, India, and China are covered and their market is projected for the next 5 years. The market size is projected on the basis of type, crop type, and region. The market for agricultural microbials has a significant impact on crop production. Agricultural microbials are broadly categorized into bacteria, fungi, and others (virus and protozoa) on the basis of microorganism types.

Leading players of the agricultural microbials market include

BASF SE

Bayer CropScience AG

Monsanto

Sumitomo Chemical Co., Ltd.

Syngenta AG

Dow Chemicals

This report focuses on the agricultural microbials market. This research categorizes agricultural microbials on the basis of types, crop type, and region.

On the basis of region, the agricultural microbials market has been segmented as follows:

North America

Europe

Asia-Pacific

Latin America

Rest of the World (RoW)

On the basis of type, the agricultural microbials market has been segmented as follows:

Bacterial

Fungal

Others (virus and protozoa)

On the basis crop type, the agricultural microbials market has been segmented as follows:

- Cereals & grains
- Oilseeds & Pulses
- Fruits & vegetables
- Other crop types (turf, forage, plantation, and ornamental crops)

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