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Agriculture Microbial Market Forecasts to 2034 – Global Analysis By Type (Bacteria, Fungi, Viruses and Protozoa), By Crop Type (Cereals & Grains, Fruits & Vegetables and Other Crop Types), Function, Formulation, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Agriculture Microbial Market is accounted for $11.28 billion in 2026 and is expected to reach $38.81 billion by 2034 growing at a CAGR of 16.7% during the forecast period. Agricultural microbes refer to beneficial microorganisms, such as bacteria, fungi and algae, applied in agriculture to enhance soil fertility, plant health and overall crop yield. These microbes contribute to sustainable farming practices by promoting nutrient cycling, suppressing pathogens and improving plant resilience. Utilizing agricultural microbes is a key strategy for environmentally friendly and efficient agricultural production.

According to the Environmental Working Group, 2020, American consumers spent a total of USD 20.4 billion on organic fruits and vegetables, fresh and frozen combined, in 2020, making organic produce now 15% of all fruits and vegetables sold in the U.S.

Market Dynamics:

Driver:

Rising demand for organic farming

The rising demand for organic farming serves as a key driver in the agriculture microbial market. Consumers' increasing preference for organic produce, driven by health and environmental concerns, has stimulated farmers to adopt sustainable and chemical-free

agricultural practices. Agricultural microbes play a vital role in organic farming by promoting soil health, enhancing nutrient availability, and managing pests naturally. The growing awareness of the benefits of organic farming is propelling the demand for microbial solutions, driving market growth in response to consumer preferences.

Restraint:

High research and development costs

Developing and commercializing effective microbial solutions requires substantial investments in research, testing, and regulatory compliance. These costs, coupled with the uncertainty of successful product development, can hinder the entry of new players and limit the affordability of microbial technologies for farmers.

Opportunity:

Government initiatives and support programs

The increasing awareness of sustainable farming practices has led governments to encourage the adoption of agricultural microbes through subsidies, research funding, and educational campaigns. Such initiatives not only promote eco-friendly farming but also incentivize farmers to integrate microbial solutions for improved soil health and crop yield. Government support plays a pivotal role in creating a conducive environment for the widespread adoption of microbial technologies in agriculture, fostering a sustainable and resilient agricultural sector.

Threat:

Lack of farmer awareness and adoption

The lack of farmer awareness and adoption poses a significant threat to the agriculture microbial market. Despite the proven benefits of microbial solutions in enhancing soil health, crop productivity, and sustainability, many farmers may lack awareness of these technologies. Limited knowledge about the advantages and proper application of agricultural microbes, coupled with traditional farming practices, hinders widespread adoption.

Covid-19 Impact:

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The COVID-19 pandemic initially impacted the Agriculture Microbial market due to disruptions in the supply chain and logistical challenges. However, as the agriculture sector adapted to the new normal, there has been a renewed focus on sustainable and resilient farming practices, boosting the demand for microbial solutions. The pandemic has highlighted the importance of food security and sustainable agriculture, driving increased awareness and adoption of agriculture microbial products for enhanced crop yield and resilience.

The crop protection segment is expected to be the largest during the forecast period

The crop protection segment is anticipated to be the largest in the agriculture microbial market during the forecast period due to growing concerns about chemical pesticide usage. Farmers are increasingly adopting microbial-based crop protection solutions as eco-friendly alternatives. These solutions offer effective pest and disease management, promoting sustainable agriculture. Additionally, stringent regulations on chemical pesticide use and the rising demand for organic produce further drive the prominence of microbial-based crop protection methods, fueling the segment's growth.

The fruits & vegetables segment is expected to have the highest CAGR during the forecast period

The fruits and vegetables segment is projected to witness the highest growth in the agriculture microbial market during the forecast period. This growth is attributed to the increasing consumer demand for safe and residue-free produce. Farmers are adopting microbial solutions for fruits and vegetables to enhance crop quality and yield while reducing reliance on chemical inputs. Moreover, microbial-based products contribute to sustainable farming practices, aligning with the rising preference for organic and healthier food options.

Region with largest share:

North America is poised to dominate the agriculture microbial market due to a strong emphasis on sustainable agriculture, advancements in microbial technology, and a growing awareness of environmental conservation. The region's well-established agricultural infrastructure, coupled with supportive government policies and investments in research and development, positions it as a key player in adopting microbial solutions. Furthermore, increasing demand for organic products and a focus on reducing chemical inputs further contribute to the significant market growth in North America.

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Region with highest CAGR:

The Asia Pacific region foresees rapid growth in the agriculture microbial market due to increasing awareness of sustainable farming practices, rising demand for high-quality crops, and a shift towards eco-friendly agriculture. Government initiatives promoting organic farming, coupled with a focus on reducing chemical inputs, are driving the adoption of agricultural microbes. The region's diverse agro-climatic conditions further encourage the use of microbial solutions to enhance soil health, crop productivity, and overall agricultural sustainability.

Key players in the market

Some of the key players in agriculture microbial market include BASF SE, Bayer CropScience, BIO-CAT Microbials, BioConsortia, BioWorks Inc., Certis USA, Chr. Hansen Holding A/S, Corteva Agriscience, Isagro S.p.A., Koppert Biological Systems, Lallemand Inc., Marrone Bio Innovations, Inc., Mosaic Company, Mycorrhizal Applications, Novozymes A/S, Rizobacter, Sumitomo Chemical Co., Ltd., Syngenta AG, Valent BioSciences Corporation and Verdesian Life Sciences.

Key Developments:

In September 2022, Corteva Agriscience agreed to acquire Symborg Inc., and this move will strengthen Symborg's global presence with a strong distribution network.

In April 2022, Bayer CropScience signed an agreement with Ginkgo Bioworks wherein Ginkgo Bioworks would acquire Bayer's West Sacramento Biologics Research & Development site and internal discovery and lead optimization platform. This agreement is likely to accelerate the expansion of Bayer's diversified portfolio of high-quality microbial-based solutions for growers worldwide.

In March 2022, The Mosaic Company and BioConsortia, Inc. signed a new agreement to develop and distribute nitrogen-fixing microbial products for rice, corn, wheat, fruit and vegetables in India, China, Vietnam, and Thailand.

Types Covered:

Bacteria

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Fungi

Viruses

Protozoa

Crop Types Covered:

Cereals & Grains

Fruits & Vegetables

Oilseeds & Pulses

Other Crop Types

Functions Covered:

Crop Protection

Crop Enhancement

Soil Health Improvement

Other Functions

Formulations Covered:

Liquid

Dry

Applications Covered:

Composting

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- Livestock Feed Additives
- Bioremediation
- Other Applications

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India

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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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 3032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

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- 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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