

Agricultural Biology Market Set to Double by 2034, Driven by Sustainable Farming Practices

Agricultural Biology Market is on track for strong growth, projected to expand from USD 12.8 billion in 2024 to USD 26.1 billion by 2034

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/EINPresswire.com/ -- The global

[Agricultural Biology Market](#) is on track for strong growth, projected to expand

from USD 12.8 billion in 2024 to USD 26.1 billion by 2034. This reflects a robust compound annual growth rate (CAGR), fueled by rising demand for eco-friendly farming solutions and major advances in biotechnology.



Reports and Data

Biopesticides and biofertilizers remain the largest and fastest-growing segments in this market. Their adoption is being driven by increasing awareness of environmental sustainability and regulatory support that encourages the use of alternatives to chemical fertilizers and pesticides. According to the American Chemical Society, global demand for biopesticides alone rose by 18% year-on-year in 2024, reflecting the shift toward natural crop protection methods.

Applications of agricultural biology are broadening, with a strong focus on crop protection, soil health improvement, and boosting crop yields. These trends are directly linked to global food security challenges, climate change, and the growing demand for sustainable agriculture practices. Technological breakthroughs such as CRISPR gene editing and microbial inoculants are gaining significant traction, helping improve crop resilience while reducing environmental impact.

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Regional Outlook

North America currently leads the market, accounting for the largest share thanks to advanced farming technologies and supportive regulatory policies. Meanwhile, Asia Pacific is emerging as

the fastest-growing region, expanding at a pace of 9% CAGR in terms of production volume. This growth is supported by government subsidies, rising awareness among farmers, and large-scale modernization of agriculture across countries like India and China.

Market Volume and Pricing Trends

The market's production volume is expected to rise from 1.5 million tons in 2024 to 3.2 million tons by 2034, reflecting growing adoption worldwide. While market value has been increasing at about 6% annually, volume growth has been slightly lower, at around 3%, indicating a shift toward higher-value, technology-driven products.

Pricing trends have been shaped by raw material availability, energy costs, and supply-demand dynamics. Average prices increased 5% year-on-year, while biofertilizers in particular saw an 8% price jump in early 2025 due to feedstock shortages. Regional price differences remain, with higher costs in North America driven by logistics and regulation, while Asia Pacific benefits from lower production costs and subsidies. Companies adopting AI-driven dynamic pricing strategies have already reported a 1.8% improvement in profit margins.

Key Market Drivers

The growth of the Agricultural Biology Market is being powered by a mix of regulatory support, consumer demand, and innovation. Initiatives such as the European Union's Green Deal, which aims to cut chemical pesticide use by half by 2030, are accelerating the adoption of biological alternatives. According to the European Commission, biopesticide adoption in Europe has already risen by 25% following these reforms.

Agricultural Biology Market Segmentation By Product Type

Biopesticides

Biofertilizers

Biostimulants

Biocontrol Agents

By Application

Crop Protection

Soil Health Enhancement

Yield Improvement

By End User

Farmers

Agricultural Cooperatives

Research Institutions

By Technology

CRISPR Gene Editing

Microbial Inoculants

Fermentation Technology

By Distribution Channel

Direct Sales

Distributors

Online Platforms

At the same time, technology is reshaping the market. The U.S. Department of Agriculture reports a 30% year-on-year increase in the use of CRISPR technology in farming. This innovation is helping farmers improve yields while lowering their environmental footprint. Consumer preference for eco-friendly products is also a major factor, with the International Fertilizer Association noting a 20% annual increase in demand for biofertilizers.

Market Challenges

Despite this momentum, the market faces hurdles. Strict regulatory approval processes, particularly in Europe, add compliance costs that can be a barrier to smaller players. The complexity and high cost of research and development also limit new entrants. Furthermore, limited awareness among farmers is slowing adoption, with a survey by the International Food Policy Research Institute showing that 40% of farmers remain unfamiliar with the benefits of biological alternatives.

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Industry Players and OutlookTop 10 Companies

Bayer AG

Syngenta

BASF SE

Corteva Agriscience

UPL Limited

FMC Corporation

Marrone Bio Innovations

Valent BioSciences

Koppert Biological Systems

Certis USA

The Agricultural Biology Market is poised for strong long-term growth as agriculture transitions toward sustainable and high-tech solutions. With rising global demand, supportive regulations, and innovative technologies, the sector is expected to play a central role in shaping the future of farming and ensuring food security worldwide.

John W

Reports and Data

+1 2127101370

[email us here](#)

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