

# Biopesticides: Global Markets to 2022

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## Abstracts

### Summary

A rapidly expanding global population, coupled with limited agricultural land, is driving farmers and industry to develop sustainable and productive methods of for feeding an estimated 9 billion people by 2050.

Improvements in technology, agricultural techniques and pest control have allowed farmers to expand crop production on the limited arable land available. However, this expansion of productivity has come at a price: in soil erosion, pesticide-tolerant weeds and insects, and concerns about the safety of foods used for both human and animal consumption.

The total arable and permanent cropland for the world is estimated at more than REDACTED hectares (ha), with the largest arable holdings in the U.S. with REDACTED ha. As much as REDACTED of this total, however, is used for animal grazing rather than the production of cash, field or specialty crops. The total global amount of land that is farmed organically is REDACTED ha (latest data from 2015 by the Research Institute of Organic Agriculture, or FiBL). This land is managed organically by REDACTED producers. To ensure productive crops, most farmers have turned to the use of synthetic pesticides to control crop-destroying pests. During the past 20 years, however, more farmers are recognizing the need for other avenues for pest control that are not as damaging to the environment and the land. These farmers are turning to biopesticides to prevent pest damage in a more ecologically friendly manner that includes more targeted applications, lower residues and fewer applications. Many growers, particularly those raising corn, cotton and soybeans, are using genetically modified (GM) seeds with pest deterrents genetically incorporated into the seed, i.e., plant incorporated protectants (PIPs).

The global synthetic pesticide market in 2015 was valued at nearly REDACTED, a decline of about REDACTED from 2014 in terms of constant U.S. dollars. The market further declined slightly in 2016. The global synthetic pesticide market is a mix of strong performing segments (i.e., herbicides, fungicides), and less-than-optimally performing segments (i.e., insecticides). Major manufacturers do not expect the insecticide market to rebound, and any increases in insecticide sales are projected to occur in developing regions, most notably Brazil and other Latin American countries, Eastern European countries and Asian countries rather than developed areas such as Europe and North America.

The global pesticide market is projected to expand through 2022 for both synthetic pesticides and biopesticides. During the same time period, however, synthetic insecticide use is projected to continue to decline, particularly with the increased use of GM seeds and pest resistance to common glyphosate products.

Biopesticides represent a strong growth area in the global pesticide market. Biopesticide sales represented an estimated REDACTED of the total market in 2016. Biopesticide market growth in the Americas is expected to occur primarily in Latin American countries, particularly Brazil and Argentina, while growth in the EMRA area is expected in the Eastern European region rather than the EU. With the banning of many synthetic pesticides, the EU region, coupled with the Eastern European region and Russia, is expected to expand through 2022. China and India are the driving forces in the growth of biopesticides in the Asian region, and Australia is a major driver in the Oceania region, with mainly rangeland usage.

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Products

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ViVUS Max

Heligen

Magnet

Optimol

AJAY BIO-TECH LTD.

Products

AMVAC CHEMICAL CORP.

Products

ANDERMATT BIOCONTROL AG

Baculovirus Products

Beneficial Insects

Entomopathogenic Nematodes

ARBICO ORGANICS

BAYER CROPSCIENCE AG

Products

Serenade

Rhapsody

Sonata

Requiem

BioAct

BAYER CROPSCIENCE LTD.

Products

BASF

Products

BEDOUKIAN RESEARCH INC.

BIOLOGIC CO.

Products

BIOGARD

Products

BIOSAFE SYSTEMS

Products

BIOTEPP

Products

BIOWORKS INC.



Products

BONIDE PRODUCTS

Products

CERTIS USA LLC

Products

Biofungicides

Herbicide

Insecticidal Soap

Nematicide

DOW AGROSCIENCES LLC

Products

DSM FOOD SPECIALTIES

EMBRAPA MILHO E SORGO

GROWTH PRODUCTS LTD.

Products

HEBEI VEYONG BIOCHEMICAL CO. LTD.

HERCON ENVIRONMENTAL

Products

ISAGRO S.P.A

Products

KOPPERT BIOLOGICAL SYSTEMS

Products

Fungal Products

KUMIAI CHEMICAL INDUSTRY CO. LTD.

MARRONE BIO INNOVATIONS

Products

MONSANTO BIOAG

NOVOZYMES A/S

Products

OMNILYTICS INC.

Products

ORGANIC MATERIALS REVIEW INSTITUTE (OMRI)

PHYLLON BIOPRODUCTS

Products

REAL IPM

Products

RINCON-VITTOVA INSECTARIES

RUSSELL IPM

SOIL TECHNOLOGIES CORP.

Products

STOCKTON GROUP

Products

SUMMIT CHEMICAL CO.

SUTERRA

Products

T. STANES & CO.

Products

TROY BIOSCIENCES INC.

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