

# **Agricultural Inoculants Market Assessment, By Form [Liquid, Powder, Others], By Mode of Application [Seed Inoculation, Soil Inoculation], By Microorganism [Bacteria, Fungi, Algae, Others], By Crop Type [Cash Crop (Cereals & grains, Oilseeds & pulses), Fruits & vegetables, Turf & ornamentals], By Region, Opportunities and Forecast, 2016-2030F**

<https://marketpublishers.com/r/AC0AD6218368EN.html>

Date: February 2025

Pages: 225

Price: US\$ 4,500.00 (Single User License)

ID: AC0AD6218368EN

## **Abstracts**

The global agricultural inoculants market size was valued at USD 1211.6 million in 2022, which is expected to grow to USD 2635.2 million in 2030, with a CAGR of 10.2% during the forecast period between 2023 and 2030. The expanding global population will drive up food demand and the need for increased crop yields. Agricultural inoculants have emerged as a crucial solution to meet this demand, aiding in enhanced agricultural productivity.

The increasing emphasis on sustainable agricultural practices also significantly boosts the demand for these inoculants. They are favored for their eco-friendly approach, promoting soil fertility and reducing dependence on chemical fertilizers and pesticides.

Furthermore, as climate change begins to impact crop production and awareness about the importance of soil health continues to grow, the demand for inoculants surges. Government support, adopting organic farming practices, and advancements in biotechnology contribute to the growing demand for agricultural inoculants, positioning them as vital components in the drive toward sustainable and resilient agriculture.

**Strong Demand from Agriculture Sector to Drive the Market**

The ability of agricultural inoculants to improve crop yield helps meet the rising global food demand. Moreover, the rising focus on sustainability due to rapidly occurring soil degradation caused by chemical fertilizers is fueling the demand for agricultural inoculants worldwide due to their pivotal role in meeting the need for eco-conscious and resilient farming systems.

For instance, as per the United States Department of Agriculture's projections for 2022, there is an anticipated increase of 10% in the number of food-insecure people reaching approximately 1.3 billion individuals compared to the 2021 estimate. It became imperative to enhance crop productivity to address this pressing issue globally. Agricultural inoculants significantly boost crop yields and protect crop health, intensifying global demand for these products.

### Growing popularity of Organic Farming across the Globe

The increasing global demand for sustainable agriculture is one of the major driving forces behind the growing popularity of agricultural inoculants, as they provide a sustainable means of improving soil fertility and reducing reliance on chemical fertilizers and pesticides, aligning with the strong emphasis on environmentally friendly farming practices.

For instance, according to a survey conducted by the Research Institute of Organic Agriculture (FiBL), in 2022, the size of organic farmlands globally reached 74.9 million hectares, a 4.1% increase compared to 2020. This rising popularity of organic farming around the globe will contribute to robust growth in the demand for agricultural inoculants.

### Limited Shelf to Hinder Market Growth

The limited shelf life and slow efficacy of agricultural inoculants pose significant barriers to adoption, particularly in developing nations. These bio-based products, which enhance crop yields and reduce chemical dependency, often produce the desired result at a slow pace compared to chemical fertilizers, hampering the growth of this market. Maintaining viability due to the short shelf life becomes challenging in areas lacking proper storage facilities and distribution networks. Therefore, traders in developing countries are unwilling to buy and stock agricultural inoculants. Also, the lack of awareness among consumers about agricultural inoculants further contributes to the challenges faced by the global agricultural inoculants market.

## Impact of COVID-19

The COVID-19 pandemic disrupted global supply chains, causing shortages of raw materials and transportation challenges. Consequently, the production and distribution of agricultural inoculants were affected resulting in delays and potential deficiencies in certain regions. Simultaneously, lockdowns and movement restrictions brought by the pandemic in countries led to labor shortages in farms and production facilities. For instance, Canadian crop producers witnessed a 79% reduction in labor during the pandemic. It impacted the application of inoculants, further hindering their adoption in the regions. Moreover, the pandemic-induced uncertainty and prompted farmers to defer investments in agricultural inputs, including inoculants. Economic instability and financial constraints further influenced their decision-making regarding purchases in this sector, weakening the market of agricultural inoculants.

## Impact of Russia-Ukraine War

The impact of Russia – Ukraine war on the global agricultural inoculants market is minimal. The conflict disrupted the transportation routes affecting raw material supply chains and distribution networks, causing production and distribution delays, and shortages of agricultural inoculants. Concurrently, geopolitical instability brought by market uncertainty, impacting investment decisions by farmers and agricultural firms, influenced the adoption of agricultural inoculants. Additionally, trade disruptions stemming from the conflict extended to agricultural product exports and imports, including agricultural inoculants.

## Key Players Landscape and Outlook

Major manufacturers of agricultural inoculants are strategically partnering with other companies operating in the agricultural products sector to expand their market presence on a global scale. For instance, during September 2022, Syngenta SeedCare and Bioceres Crop Solutions joined forces to introduce groundbreaking biological seed treatments, including inoculants, to the market. Under this collaboration, Syngenta SeedCare assumed the role of the exclusive global distributor for Bioceres' biological solutions, apart from Argentina.

The global agricultural inoculants market has a positive outlook. With a growing global population, the need for increased food production is fundamental, and sustainable farming practices are gaining momentum. Agricultural inoculants are well-positioned to meet these demands by boosting crop yields, reducing environmental impact, and

enhancing soil quality. Continuous advancements in biotechnology and increasing awareness of the benefits of these products are expected to drive the market growth and innovation.

## Contents

### **1. RESEARCH METHODOLOGY**

### **2. PROJECT SCOPE & DEFINITIONS**

### **3. IMPACT OF COVID-19 ON AGRICULTURAL INOCULATORS MARKET**

### **4. IMPACT OF RUSSIA-UKRAINE WAR**

### **5. EXECUTIVE SUMMARY**

### **6. VOICE OF CUSTOMER**

#### 6.1. Market Awareness and Product Information

#### 6.2. Brand Awareness and Loyalty

#### 6.3. Factors Considered in Purchase Decision

##### 6.3.1. Brand Name

##### 6.3.2. Quality

##### 6.3.3. Quantity

##### 6.3.4. Price

##### 6.3.5. Product Specification

##### 6.3.6. Application Specification

##### 6.3.7. Shelf Life

##### 6.3.8. Availability of Product

#### 6.4. Frequency of Purchase

#### 6.5. Medium of Purchase

### **7. AGRICULTURAL INOCULANTS MARKET OUTLOOK, 2016-2030F**

#### 7.1. Market Size & Forecast

##### 7.1.1. By Value

##### 7.1.2. By Volume

#### 7.2. By Form

##### 7.2.1. Liquid

##### 7.2.2. Powder

##### 7.2.3. Others

#### 7.3. By Mode of Application

##### 7.3.1. Seed Inoculation

- 7.3.2. Soil Inoculation
- 7.4. By Microorganism
  - 7.4.1. Bacteria
  - 7.4.2. Fungi
  - 7.4.3. Algae
  - 7.4.4. Others
- 7.5. By Crop Type
  - 7.5.1. Cash Crop
    - 7.5.1.1. Cereals & grains
      - 7.5.1.1.1. Wheat
      - 7.5.1.1.2. Rice
      - 7.5.1.1.3. Corn
      - 7.5.1.1.4. Others
    - 7.5.1.2. Oilseeds & pulses
      - 7.5.1.2.1. Cotton seed
      - 7.5.1.2.2. Soya bean
      - 7.5.1.2.3. Sunflower
      - 7.5.1.2.4. Others
  - 7.5.2. Fruits & vegetables
  - 7.5.3. Turf & ornamentals
- 7.6. By Region
  - 7.6.1. North America
  - 7.6.2. Europe
  - 7.6.3. South America
  - 7.6.4. Asia-Pacific
  - 7.6.5. Middle East and Africa

## **8. AGRICULTURAL INOCULANTS MARKET OUTLOOK, BY REGION, 2016-2030F**

- 8.1. North America\*
  - 8.1.1. By Form
    - 8.1.1.1. Liquid
    - 8.1.1.2. Powder
    - 8.1.1.3. Others
  - 8.1.2. By Mode of Application
    - 8.1.2.1. Seed Inoculation
    - 8.1.2.2. Soil Inoculation
  - 8.1.3. By Microorganism
    - 8.1.3.1. Bacteria

- 8.1.3.2. Fungi
- 8.1.3.3. Algae
- 8.1.3.4. Others
- 8.1.4. By Crop Type
  - 8.1.4.1. Cash Crop
    - 8.1.4.1.1. Cereals & grains
      - 8.1.4.1.1.1. Wheat
      - 8.1.4.1.1.2. Rice
      - 8.1.4.1.1.3. Corn
      - 8.1.4.1.1.4. Others
    - 8.1.4.1.2. Oilseeds & pulses
      - 8.1.4.1.2.1. Cotton seed
      - 8.1.4.1.2.2. Soya bean
      - 8.1.4.1.2.3. Sunflower
      - 8.1.4.1.2.4. Others
  - 8.1.4.2. Fruits & vegetables
  - 8.1.4.3. Turf & ornamentals
- 8.1.5. United States\*
  - 8.1.5.1. By Form
    - 8.1.5.1.1. Liquid
    - 8.1.5.1.2. Powder
    - 8.1.5.1.3. Others
  - 8.1.5.2. By Mode of Application
    - 8.1.5.2.1. Seed Inoculation
    - 8.1.5.2.2. Soil Inoculation
  - 8.1.5.3. By Microorganism
    - 8.1.5.3.1. Bacteria
    - 8.1.5.3.2. Fungi
    - 8.1.5.3.3. Algae
    - 8.1.5.3.4. Others
  - 8.1.5.4. By Crop Type
    - 8.1.5.4.1. Cash Crop
      - 8.1.5.4.1.1. Cereals & grains
        - 8.1.5.4.1.1.1. Wheat
        - 8.1.5.4.1.1.2. Rice
        - 8.1.5.4.1.1.3. Corn
        - 8.1.5.4.1.1.4. Others
      - 8.1.5.4.1.2. Oilseeds & pulses
        - 8.1.5.4.1.2.1. Cotton seed

8.1.5.4.1.2.2. Soya bean

8.1.5.4.1.2.3. Sunflower

8.1.5.4.1.2.4. Others

8.1.5.4.2. Fruits & vegetables

8.1.5.4.3. Turf & ornamentals

\*All segments will be provided for all regions and countries covered

8.1.6. Canada

8.1.7. Mexico

8.2. Europe

8.2.1. Germany

8.2.2. France

8.2.3. Italy

8.2.4. United Kingdom

8.2.5. Russia

8.2.6. Netherlands

8.2.7. Spain

8.2.8. Turkey

8.2.9. Poland

8.3. South America

8.3.1. Brazil

8.3.2. Argentina

8.4. Asia-Pacific

8.4.1. India

8.4.2. China

8.4.3. Japan

8.4.4. Australia

8.4.5. Vietnam

8.4.6. South Korea

8.4.7. Indonesia

8.4.8. Philippines

8.5. Middle East & Africa

8.5.1. Saudi Arabia

8.5.2. UAE

8.5.3. South Africa

## **9. SUPPLY SIDE ANALYSIS**

9.1. Capacity, By Company

9.2. Production, By Company



9.3. Operating Efficiency, By Company

9.4. Key Plant Locations (Up to 25)

## **10. MARKET MAPPING, 2022**

10.1. By Form

10.2. By Mode of Application

10.3. By Microorganism

10.4. By Crop Type

10.5. By Region

## **11. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE**

11.1. Supply Demand Analysis

11.2. Import Export Analysis – Volume and Value

11.3. Supply/Value Chain Analysis

11.4. PESTEL Analysis

11.4.1. Political Factors

11.4.2. Economic System

11.4.3. Social Implications

11.4.4. Technological Advancements

11.4.5. Environmental Impacts

11.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)

11.5. Porter's Five Forces Analysis

11.5.1. Supplier Power

11.5.2. Buyer Power

11.5.3. Substitution Threat

11.5.4. Threat from New Entrant

11.5.5. Competitive Rivalry

## **12. MARKET DYNAMICS**

12.1. Growth Drivers

12.2. Growth Inhibitors (Challenges, Restraints)

## **13. KEY PLAYERS LANDSCAPE**

13.1. Competition Matrix of Top Five Market Leaders

13.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2022)

13.3. Mergers and Acquisitions/Joint Ventures (If Applicable)

13.4. SWOT Analysis (For Five Market Players)

13.5. Patent Analysis (If Applicable)

## **14. PRICING ANALYSIS**

## **15. CASE STUDIES**

## **16. KEY PLAYERS OUTLOOK**

16.1. Rizobacter Argentina S.A

16.1.1. Company Details

16.1.2. Key Management Personnel

16.1.3. Products & Services

16.1.4. Financials (As reported)

16.1.5. Key Market Focus & Geographical Presence

16.1.6. Recent Developments

16.2. Premier Tech Ltd

16.3. Novozymes A/S

16.4. Agrauxine SA

16.5. Bioceres Crop Solutions Corp

16.6. Bayer AG

16.7. BASF SE

16.8. Verdesian Life Sciences, LLC

16.9. XiteBio Technologies Inc

16.10. Kalo Inc

\*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

## **17. STRATEGIC RECOMMENDATIONS**

## **18. ABOUT US & DISCLAIMER**

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