

Vertical Bio-Crop Farm Global Market Insights 2025, Analysis and Forecast to 2030, by Market Participants, Regions, Technology, Application, Product Type

<https://marketpublishers.com/r/VE1141B0121DEN.html>

Date: March 2025

Pages: 94

Price: US\$ 3,200.00 (Single User License)

ID: VE1141B0121DEN

Abstracts

Vertical Bio-Crop Farm Market Summary

Introduction

Vertical bio-crop farms represent a transformative approach to agriculture, utilizing vertically stacked growing layers to cultivate crops in controlled environments for both indoor and outdoor applications. These systems leverage advanced methods like hydroponics, aquaponics, aeroponics, and controlled-environment agriculture (CEA) to maximize space efficiency, conserve resources, and deliver consistent, high-quality yields regardless of external climate conditions. The industry stands out for its sustainability, drastically reduced water usage, and ability to operate in urban settings, addressing challenges like land scarcity and food security. It caters to the rising demand for fresh, locally grown produce, driven by urbanization, environmental pressures, and technological innovation. Key growth factors include increasing global food needs, diminishing arable land, and a shift toward eco-friendly farming practices.

Market Size and Growth Forecast

The global vertical bio-crop farm market is estimated to reach USD 5.1 to 7.8 billion in 2025, with a projected compound annual growth rate (CAGR) of 8.0% to 9.0% from 2025 to 2030. This growth is fueled by the rapid expansion of urban agriculture and widespread adoption of resource-efficient farming technologies.

Regional Analysis

North America: Holds 35-40% market share, with a growth rate of 7-8%. The United States leads with indoor hydroponics for urban consumers, while Canada emphasizes CEA for year-round production.

Europe: Accounts for 30-35% market share, with a growth rate of 8-9%. Germany and

the Netherlands drive demand with sustainable farming initiatives and high-value crop cultivation.

Asia Pacific: Represents 20-25% market share, with a growth rate of 9-10%. China tackles water scarcity with large-scale systems, and Japan advances urban farming technology.

Rest of the World: Holds 5-10% market share, growing at 8-9%, with the UAE focusing on food security through desert-adapted vertical farms.

Trends in North America prioritize premium, traceable produce, while Asia Pacific focuses on scalable solutions to combat resource limitations.

Application Analysis

Indoor applications grow at 8-9%, driven by urban demand for fresh greens, with trends toward hydroponics and CEA for consistent output in city environments. Outdoor applications grow at 7-8%, fueled by peri-urban farming needs, with trends toward aquaponics and aeroponics in regions with constrained land availability.

Product Type Analysis

Hydroponics grows at 8-9%, valued for its water efficiency and soil-less cultivation, with trends toward leafy greens and herbs in urban settings. Aquaponics grows at 9-10%, integrating fish and crop production, with trends toward sustainable systems in Asia and Europe. Aeroponics grows at 8-9%, using minimal water for high yields, with trends toward high-tech indoor adoption. Controlled-environment agriculture (CEA) grows at 7-8%, offering precise climate control, with trends toward large-scale facilities for diverse crops.

Key Market Players

AeroFarms: Headquartered in Newark, New Jersey, AeroFarms is a global leader in aeroponics-based vertical farming. The company operates large-scale indoor farms using misting technology to grow leafy greens with up to 99% less water than traditional methods. Its systems are designed for urban environments, emphasizing sustainability and high productivity, serving premium retail and food service markets across the United States and beyond.

Biopolus: Based in Hungary, Biopolus develops innovative aquaponics systems that combine fish farming with crop cultivation in a closed-loop ecosystem. The company focuses on urban agriculture, offering modular, scalable solutions that reduce waste and water use. Biopolus targets European and Asian markets, collaborating with cities to integrate its technology into sustainable urban planning initiatives.

Garden Fresh Farms: Located in Minnesota, USA, Garden Fresh Farms specializes in hydroponic vertical farming for indoor applications. The company designs compact, automated systems to grow herbs and leafy greens, catering to local supermarkets and

restaurants. Its emphasis on affordability and scalability makes it a key player in North America's urban farming landscape.

Gotham Greens: Operating out of Brooklyn, New York, Gotham Greens builds and manages CEA-based vertical farms, primarily on urban rooftops. The company grows premium greens like lettuce and basil, supplying major retailers and food service providers with pesticide-free produce. Its focus on local distribution and sustainability has made it a prominent name in North American urban agriculture.

Green Sense Farms: Based in Indiana, USA, Green Sense Farms focuses on indoor hydroponic farming with energy-efficient LED lighting. The company produces a variety of greens for retail and institutional buyers, emphasizing year-round production and reduced carbon footprints. Its scalable systems cater to North American farmers seeking sustainable alternatives to traditional agriculture.

Logiqs: Headquartered in the Netherlands, Logiqs is a leading provider of automation and logistics solutions for vertical farms. The company designs advanced shelving and transport systems for hydroponics and CEA, optimizing space and labor efficiency. Its technology supports global producers, particularly in Europe, with a focus on high-tech, large-scale operations.

Lufa Farms: Operating in Montreal, Canada, Lufa Farms pioneered rooftop vertical farming, using hydroponics to grow fresh produce for local delivery. The company serves urban consumers directly through a subscription model, emphasizing freshness and sustainability. Its innovative approach has positioned it as a leader in Canada's urban agriculture sector.

Mirai: Based in Japan, Mirai develops high-tech CEA systems for vertical farming, focusing on precision agriculture. The company grows crops like lettuce in fully controlled indoor environments, targeting Japan's urban markets with efficient, technology-driven solutions. Its systems are designed to address land scarcity and food security challenges.

Sananbio: Headquartered in China, Sananbio offers hydroponics and CEA solutions for large-scale vertical farming. The company integrates advanced lighting and automation to produce leafy greens and herbs, serving China's urban population. Its focus on scalability and cost-efficiency supports the country's food security goals.

Scotts Company: Based in Ohio, USA, Scotts Company leverages its horticultural expertise to supply inputs and systems for vertical farming. The company provides nutrients, lighting, and growing media, supporting global producers with reliable, science-backed solutions for hydroponics and CEA applications.

Shandong Xinhe Construction Group: Located in China, Shandong Xinhe specializes in constructing large-scale vertical farm facilities. The company designs and builds integrated systems for hydroponics and aquaponics, targeting China's urban and peri-urban markets with robust, scalable infrastructure to address water and land

constraints.

YesHealth Group: Operating from Taiwan, YesHealth Group develops hydroponics and CEA systems for vertical farming. The company focuses on high-tech indoor farms, producing greens for Asian markets with an emphasis on sustainability and efficiency. Its scalable designs cater to urban agriculture's growing demand.

These companies compete on technological innovation, resource efficiency, and market scalability, driving the industry forward with cutting-edge solutions tailored to regional needs.

Porter's Five Forces Analysis

The threat of new entrants is moderate, requiring significant investment in technology and expertise, though smaller players can emerge with niche offerings. Substitutes are medium, with traditional farming as an alternative, but land and water limitations reduce its appeal. Buyer power is medium, with retailers and consumers negotiating prices, but demand for sustainable produce sustains loyalty. Supplier power is moderate, with components like LEDs and nutrients widely available, though specialized equipment can limit options. Rivalry is high, with players differentiating through technology, crop diversity, and sustainability, fostering continuous innovation.

Market Opportunities and Challenges

Opportunities

Rising global food demand driving vertical farming adoption.

Advancements in water-saving technologies enhancing system appeal.

Government incentives for sustainable agriculture boosting investment.

Challenges

High setup and operational costs limiting small-scale adoption.

Energy-intensive systems increasing production expenses.

Limited crop variety suitable for vertical farming constraining growth.

Merger and Acquisition News

Vertical Farming Company Expands by Acquiring Three Farms (Date: April 2024): A prominent vertical farming company acquired three facilities, expanding its hydroponics and CEA capacity to meet North American urban demand with increased production.

Vertical Farming Startup Plenty to Expand via \$680 mIn JV with UAE's Mawarid (Date: August 2024): Plenty partnered with UAE-based Mawarid in a \$680 million joint venture, scaling its aeroponics operations to enhance food security in the Middle East.

GreenState Acquires Yasai to Become Vertical Farming Market Leader in Switzerland (Date: November 2024): GreenState acquired Yasai, consolidating its hydroponics leadership in Switzerland to dominate the premium produce market.

Growth Trend Analysis

The World Economic Forum notes that only 3% of the world's water is suitable for drinking and farming, despite covering 71% of the Earth's surface, with usage growing twice as fast as population increases. By 2030, global water demand could rise 50%, intensified by agriculture's 70% share of water withdrawals, causing soil salinization and crop quality declines. The United Nations highlights China's water scarcity—21% of the world's population but only 6% of its freshwater—driving vertical farming adoption. These pressures fuel demand for hydroponics and aeroponics, which use up to 90% less water, with Asia Pacific leading through firms like Sananbio. North America's urban focus and Europe's sustainability push further accelerate growth, supporting the market's 8-9% CAGR amid rising food needs and environmental constraints.

Contents

CHAPTER 1 EXECUTIVE SUMMARY

CHAPTER 2 ABBREVIATION AND ACRONYMS

CHAPTER 3 PREFACE

- 3.1 Research Scope
- 3.2 Research Sources
 - 3.2.1 Data Sources
 - 3.2.2 Assumptions
- 3.3 Research Method
- Chapter Four Market Landscape
- 4.1 Market Overview
- 4.2 Classification/Types
- 4.3 Application/End Users

CHAPTER 5 MARKET TREND ANALYSIS

- 5.1 Introduction
- 5.2 Drivers
- 5.3 Restraints
- 5.4 Opportunities
- 5.5 Threats

CHAPTER 6 INDUSTRY CHAIN ANALYSIS

- 6.1 Upstream/Suppliers Analysis
- 6.2 Vertical Bio-Crop Farm Analysis
 - 6.2.1 Technology Analysis
 - 6.2.2 Cost Analysis
 - 6.2.3 Market Channel Analysis
- 6.3 Downstream Buyers/End Users

CHAPTER 7 LATEST MARKET DYNAMICS

- 7.1 Latest News
- 7.2 Merger and Acquisition

7.3 Planned/Future Project

7.4 Policy Dynamics

CHAPTER 8 HISTORICAL AND FORECAST VERTICAL BIO-CROP FARM MARKET IN NORTH AMERICA (2020-2030)

8.1 Vertical Bio-Crop Farm Market Size

8.2 Vertical Bio-Crop Farm Market by End Use

8.3 Competition by Players/Suppliers

8.4 Vertical Bio-Crop Farm Market Size by Type

8.5 Key Countries Analysis

8.5.1 United States

8.5.2 Canada

8.5.3 Mexico

CHAPTER 9 HISTORICAL AND FORECAST VERTICAL BIO-CROP FARM MARKET IN SOUTH AMERICA (2020-2030)

9.1 Vertical Bio-Crop Farm Market Size

9.2 Vertical Bio-Crop Farm Market by End Use

9.3 Competition by Players/Suppliers

9.4 Vertical Bio-Crop Farm Market Size by Type

9.5 Key Countries Analysis

9.5.1 Brazil

9.5.2 Argentina

9.5.3 Chile

9.5.4 Peru

CHAPTER 10 HISTORICAL AND FORECAST VERTICAL BIO-CROP FARM MARKET IN ASIA & PACIFIC (2020-2030)

10.1 Vertical Bio-Crop Farm Market Size

10.2 Vertical Bio-Crop Farm Market by End Use

10.3 Competition by Players/Suppliers

10.4 Vertical Bio-Crop Farm Market Size by Type

10.5 Key Countries Analysis

10.5.1 China

10.5.2 India

10.5.3 Japan

- 10.5.4 South Korea
- 10.5.5 Southeast Asia
- 10.5.6 Australia

CHAPTER 11 HISTORICAL AND FORECAST VERTICAL BIO-CROP FARM MARKET IN EUROPE (2020-2030)

- 11.1 Vertical Bio-Crop Farm Market Size
- 11.2 Vertical Bio-Crop Farm Market by End Use
- 11.3 Competition by Players/Suppliers
- 11.4 Vertical Bio-Crop Farm Market Size by Type
- 11.5 Key Countries Analysis
 - 11.5.1 Germany
 - 11.5.2 France
 - 11.5.3 United Kingdom
 - 11.5.4 Italy
 - 11.5.5 Spain
 - 11.5.6 Belgium
 - 11.5.7 Netherlands
 - 11.5.8 Austria
 - 11.5.9 Poland
 - 11.5.10 Russia

CHAPTER 12 HISTORICAL AND FORECAST VERTICAL BIO-CROP FARM MARKET IN MEA (2020-2030)

- 12.1 Vertical Bio-Crop Farm Market Size
- 12.2 Vertical Bio-Crop Farm Market by End Use
- 12.3 Competition by Players/Suppliers
- 12.4 Vertical Bio-Crop Farm Market Size by Type
- 12.5 Key Countries Analysis
 - 12.5.1 Egypt
 - 12.5.2 Israel
 - 12.5.3 South Africa
 - 12.5.4 Gulf Cooperation Council Countries
 - 12.5.5 Turkey

CHAPTER 13 SUMMARY FOR GLOBAL VERTICAL BIO-CROP FARM MARKET (2020-2025)

- 13.1 Vertical Bio-Crop Farm Market Size
- 13.2 Vertical Bio-Crop Farm Market by End Use
- 13.3 Competition by Players/Suppliers
- 13.4 Vertical Bio-Crop Farm Market Size by Type

CHAPTER 14 GLOBAL VERTICAL BIO-CROP FARM MARKET FORECAST (2025-2030)

- 14.1 Vertical Bio-Crop Farm Market Size Forecast
- 14.2 Vertical Bio-Crop Farm Application Forecast
- 14.3 Competition by Players/Suppliers
- 14.4 Vertical Bio-Crop Farm Type Forecast

CHAPTER 15 ANALYSIS OF GLOBAL KEY VENDORS

- 15.1 AeroFarms
 - 15.1.1 Company Profile
 - 15.1.2 Main Business and Vertical Bio-Crop Farm Information
 - 15.1.3 SWOT Analysis of AeroFarms
 - 15.1.4 AeroFarms Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share
(2020-2025)
- 15.2 Biopolus
 - 15.2.1 Company Profile
 - 15.2.2 Main Business and Vertical Bio-Crop Farm Information
 - 15.2.3 SWOT Analysis of Biopolus
 - 15.2.4 Biopolus Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share
(2020-2025)
- 15.3 Garden Fresh Farms
 - 15.3.1 Company Profile
 - 15.3.2 Main Business and Vertical Bio-Crop Farm Information
 - 15.3.3 SWOT Analysis of Garden Fresh Farms
 - 15.3.4 Garden Fresh Farms Vertical Bio-Crop Farm Revenue, Gross Margin and
Market Share (2020-2025)
- 15.4 Gotham Greens
 - 15.4.1 Company Profile
 - 15.4.2 Main Business and Vertical Bio-Crop Farm Information
 - 15.4.3 SWOT Analysis of Gotham Greens
 - 15.4.4 Gotham Greens Vertical Bio-Crop Farm Revenue, Gross Margin and Market

Share (2020-2025)

15.5 Green Sense Farms

15.5.1 Company Profile

15.5.2 Main Business and Vertical Bio-Crop Farm Information

15.5.3 SWOT Analysis of Green Sense Farms

15.5.4 Green Sense Farms Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share (2020-2025)

15.6 Logiqs

15.6.1 Company Profile

15.6.2 Main Business and Vertical Bio-Crop Farm Information

15.6.3 SWOT Analysis of Logiqs

15.6.4 Logiqs Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share (2020-2025)

15.7 Lufa Farms

15.7.1 Company Profile

15.7.2 Main Business and Vertical Bio-Crop Farm Information

15.7.3 SWOT Analysis of Lufa Farms

15.7.4 Lufa Farms Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share (2020-2025)

15.8 Mirai

15.8.1 Company Profile

15.8.2 Main Business and Vertical Bio-Crop Farm Information

15.8.3 SWOT Analysis of Mirai

15.8.4 Mirai Vertical Bio-Crop Farm Revenue, Gross Margin and Market Share (2020-2025)

Please ask for sample pages for full companies list

Tables and Figures

Table Abbreviation and Acronyms

Table Research Scope of Vertical Bio-Crop Farm Report

Table Data Sources of Vertical Bio-Crop Farm Report

Table Major Assumptions of Vertical Bio-Crop Farm Report

Figure Market Size Estimated Method

Figure Major Forecasting Factors

Figure Vertical Bio-Crop Farm Picture

Table Vertical Bio-Crop Farm Classification

Table Vertical Bio-Crop Farm Applications

Table Drivers of Vertical Bio-Crop Farm Market

Table Restraints of Vertical Bio-Crop Farm Market

Table Opportunities of Vertical Bio-Crop Farm Market

Table Threats of Vertical Bio-Crop Farm Market
Table Covid-19 Impact For Vertical Bio-Crop Farm Market
Table Raw Materials Suppliers
Table Different Production Methods of Vertical Bio-Crop Farm
Table Cost Structure Analysis of Vertical Bio-Crop Farm
Table Key End Users
Table Latest News of Vertical Bio-Crop Farm Market
Table Merger and Acquisition
Table Planned/Future Project of Vertical Bio-Crop Farm Market
Table Policy of Vertical Bio-Crop Farm Market
Table 2020-2030 North America Vertical Bio-Crop Farm Market Size
Figure 2020-2030 North America Vertical Bio-Crop Farm Market Size and CAGR
Table 2020-2030 North America Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 North America Vertical Bio-Crop Farm Key Players Revenue
Table 2020-2025 North America Vertical Bio-Crop Farm Key Players Market Share
Table 2020-2030 North America Vertical Bio-Crop Farm Market Size by Type
Table 2020-2030 United States Vertical Bio-Crop Farm Market Size
Table 2020-2030 Canada Vertical Bio-Crop Farm Market Size
Table 2020-2030 Mexico Vertical Bio-Crop Farm Market Size
Table 2020-2030 South America Vertical Bio-Crop Farm Market Size
Figure 2020-2030 South America Vertical Bio-Crop Farm Market Size and CAGR
Table 2020-2030 South America Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 South America Vertical Bio-Crop Farm Key Players Revenue
Table 2020-2025 South America Vertical Bio-Crop Farm Key Players Market Share
Table 2020-2030 South America Vertical Bio-Crop Farm Market Size by Type
Table 2020-2030 Brazil Vertical Bio-Crop Farm Market Size
Table 2020-2030 Argentina Vertical Bio-Crop Farm Market Size
Table 2020-2030 Chile Vertical Bio-Crop Farm Market Size
Table 2020-2030 Peru Vertical Bio-Crop Farm Market Size
Table 2020-2030 Asia & Pacific Vertical Bio-Crop Farm Market Size
Figure 2020-2030 Asia & Pacific Vertical Bio-Crop Farm Market Size and CAGR
Table 2020-2030 Asia & Pacific Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 Asia & Pacific Vertical Bio-Crop Farm Key Players Revenue
Table 2020-2025 Asia & Pacific Vertical Bio-Crop Farm Key Players Market Share
Table 2020-2030 Asia & Pacific Vertical Bio-Crop Farm Market Size by Type
Table 2020-2030 China Vertical Bio-Crop Farm Market Size
Table 2020-2030 India Vertical Bio-Crop Farm Market Size
Table 2020-2030 Japan Vertical Bio-Crop Farm Market Size
Table 2020-2030 South Korea Vertical Bio-Crop Farm Market Size

Table 2020-2030 Southeast Asia Vertical Bio-Crop Farm Market Size
Table 2020-2030 Australia Vertical Bio-Crop Farm Market Size
Table 2020-2030 Europe Vertical Bio-Crop Farm Market Size
Figure 2020-2030 Europe Vertical Bio-Crop Farm Market Size and CAGR
Table 2020-2030 Europe Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 Europe Vertical Bio-Crop Farm Key Players Revenue
Table 2020-2025 Europe Vertical Bio-Crop Farm Key Players Market Share
Table 2020-2030 Europe Vertical Bio-Crop Farm Market Size by Type
Table 2020-2030 Germany Vertical Bio-Crop Farm Market Size
Table 2020-2030 France Vertical Bio-Crop Farm Market Size
Table 2020-2030 United Kingdom Vertical Bio-Crop Farm Market Size
Table 2020-2030 Italy Vertical Bio-Crop Farm Market Size
Table 2020-2030 Spain Vertical Bio-Crop Farm Market Size
Table 2020-2030 Belgium Vertical Bio-Crop Farm Market Size
Table 2020-2030 Netherlands Vertical Bio-Crop Farm Market Size
Table 2020-2030 Austria Vertical Bio-Crop Farm Market Size
Table 2020-2030 Poland Vertical Bio-Crop Farm Market Size
Table 2020-2030 Russia Vertical Bio-Crop Farm Market Size
Table 2020-2030 MEA Vertical Bio-Crop Farm Market Size
Figure 2020-2030 MEA Vertical Bio-Crop Farm Market Size and CAGR
Table 2020-2030 MEA Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 MEA Vertical Bio-Crop Farm Key Players Revenue
Table 2020-2025 MEA Vertical Bio-Crop Farm Key Players Market Share
Table 2020-2030 MEA Vertical Bio-Crop Farm Market Size by Type
Table 2020-2030 Egypt Vertical Bio-Crop Farm Market Size
Table 2020-2030 Israel Vertical Bio-Crop Farm Market Size
Table 2020-2030 South Africa Vertical Bio-Crop Farm Market Size
Table 2020-2030 Gulf Cooperation Council Countries Vertical Bio-Crop Farm Market Size
Table 2020-2030 Turkey Vertical Bio-Crop Farm Market Size
Table 2020-2025 Global Vertical Bio-Crop Farm Market Size by Region
Table 2020-2025 Global Vertical Bio-Crop Farm Market Size Share by Region
Table 2020-2025 Global Vertical Bio-Crop Farm Market Size by Application
Table 2020-2025 Global Vertical Bio-Crop Farm Market Share by Application
Table 2020-2025 Global Vertical Bio-Crop Farm Key Vendors Revenue
Figure 2020-2025 Global Vertical Bio-Crop Farm Market Size and Growth Rate
Table 2020-2025 Global Vertical Bio-Crop Farm Key Vendors Market Share
Table 2020-2025 Global Vertical Bio-Crop Farm Market Size by Type
Table 2020-2025 Global Vertical Bio-Crop Farm Market Share by Type

Table 2025-2030 Global Vertical Bio-Crop Farm Market Size by Region
Table 2025-2030 Global Vertical Bio-Crop Farm Market Size Share by Region
Table 2025-2030 Global Vertical Bio-Crop Farm Market Size by Application
Table 2025-2030 Global Vertical Bio-Crop Farm Market Share by Application
Table 2025-2030 Global Vertical Bio-Crop Farm Key Vendors Revenue
Figure 2025-2030 Global Vertical Bio-Crop Farm Market Size and Growth Rate
Table 2025-2030 Global Vertical Bio-Crop Farm Key Vendors Market Share
Table 2025-2030 Global Vertical Bio-Crop Farm Market Size by Type
Table 2025-2030 Vertical Bio-Crop Farm Global Market Share by Type

I would like to order

Product name: Vertical Bio-Crop Farm Global Market Insights 2025, Analysis and Forecast to 2030, by Market Participants, Regions, Technology, Application, Product Type

Product link: <https://marketpublishers.com/r/VE1141B0121DEN.html>

Price: US\$ 3,200.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/VE1141B0121DEN.html>