Greenhouse Horticulture Market Report by Material Type (Glass, Plastic), Crop Type (Fruits and Vegetables, Flowers and Ornamentals, Nursery Crops, and Others), Technology (Heating System, Cooling System, and Others), and Region 2024-2032

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Report description:

The global greenhouse horticulture market size reached US$ 30.9 Billion in 2023. Looking forward, IMARC Group expects the market to reach US$ 63.3 Billion by 2032, exhibiting a growth rate (CAGR) of 8% during 2024-2032. The growing food security concerns and demand for fresh and high-quality produce year-round, increasing frequency of extreme weather events, rising water scarcity concerns, and rapid urbanization and land constraints are some of the major factors propelling the market.

Greenhouse horticulture, often referred to as greenhouse farming or controlled environment agriculture, is a modern and innovative approach to cultivating plants in a controlled environment, such as a greenhouse or glasshouse. This practice involves creating a controlled microclimate that allows for precise management of temperature, humidity, light, and other key factors essential for optimal plant growth. The primary objective of greenhouse horticulture is to extend the growing season, improve crop yields, and protect plants from adverse weather conditions, pests, and diseases. By harnessing advanced technologies like automated irrigation, climate control systems, and supplemental lighting, growers can tailor the environment to the specific needs of various crops, enhancing their quality and productivity.

With a growing global population, there is an increasing demand for fresh and high-quality produce year-round. Greenhouse horticulture enables consistent and reliable crop production, ensuring a stable food supply regardless of external weather conditions. Additionally, erratic weather patterns and the increasing frequency of extreme weather events have underscored the vulnerability of traditional agriculture. Greenhouse horticulture provides a controlled environment that shields crops from adverse climate impacts, reducing yield losses due to unexpected weather fluctuations. Other than this, water scarcity is a pressing issue in many regions, necessitating efficient water use in agriculture. Greenhouse systems enable precise irrigation and reduced water wastage, making them an environmentally responsible choice. Besides this, pests, diseases, and invasive species pose significant

threats to crop yields. Greenhouse acts as a physical barrier, reducing the need for chemical pesticides and minimizing crop losses. Besides this, rapid urbanization encroaches on arable land, limiting traditional farming spaces. Greenhouse horticulture's vertical farming and efficient land use capabilities make it feasible to grow crops in urban and suburban areas. In line with this, greenhouses provide an optimized growth environment, enhancing photosynthesis, nutrient uptake, and overall plant health. This results in higher crop yields and improved product quality compared to open-field cultivation. Moreover, the integration of automation, IoT, and AI technologies into greenhouse systems enables precise control over environmental variables. This leads to increased efficiency, reduced labor costs, and higher crop productivity.

Greenhouse Horticulture Market Trends/Drivers:
Rising Food Security concerns

The escalating global population is accompanied by a rising demand for food, challenging traditional agricultural methods to meet these needs consistently. Greenhouse horticulture addresses this challenge by enabling year-round production of various crops, irrespective of external climate conditions. The controlled environment within greenhouses facilitates optimal growth parameters such as temperature, humidity, and light, resulting in predictable and increased yields. This consistent supply of fresh produce contributes significantly to food security, as consumers have access to nutritious food regardless of seasonal fluctuations or adverse weather events. Market research companies can emphasize the role of greenhouse horticulture in enhancing food security, showcasing its potential to stabilize supply chains and mitigate food scarcity concerns.

Extreme Climate Change Resilience

The unpredictable impacts of climate change, including extreme weather events, droughts, and heatwaves, pose substantial risks to traditional agriculture. Greenhouse horticulture acts as a shield against these vulnerabilities. By creating a controlled microclimate, greenhouses offer protection from sudden temperature changes, heavy rains, and other climate-related stressors. This resilience ensures that crops remain unaffected by adverse conditions, reducing the likelihood of yield losses. Market research firms can underscore the importance of greenhouse horticulture as a climate-smart solution, highlighting its capacity to mitigate the negative effects of climate change on crop production and foster agricultural sustainability.

Growing Water Scarcity Concerns

Greenhouse horticulture addresses this concern through its efficient water management practices. Advanced irrigation systems, such as drip irrigation and hydroponics, minimize water wastage by delivering precise amounts of water directly to the plant roots. Additionally, the enclosed environment of greenhouses reduces evaporation, further conserving water. By optimizing water usage, greenhouse cultivation aligns with water-saving goals and reduces the environmental impact of agriculture. Market research companies can spotlight how greenhouse horticulture's water-efficient methods contribute to sustainable water resource management, resonating with environmentally conscious consumers and industry stakeholders.

Greenhouse Horticulture Industry Segmentation:
IMARC Group provides an analysis of the key trends in each segment of the global greenhouse horticulture market report, along with forecasts at the global, regional, and country levels for 2024-2032. Our report has categorized the market based on material type, crop type, and technology.

Breakup by Material Type:

Glass
Plastic

Plastic dominates the market

The report has provided a detailed breakup and analysis of the market based on the material type. This includes glass and plastic. According to the report, plastic represented the largest segment.

One of the primary reasons is its exceptional versatility and adaptability. Plastic materials, such as polyethylene and polyvinyl chloride (PVC), are widely utilized for constructing greenhouse structures and covers. Their lightweight nature, durability, and cost-effectiveness make them favorable choices for creating enclosed growing spaces. Plastics offer superior light transmission, crucial for optimizing photosynthesis and plant growth, while also providing effective insulation to maintain controlled temperatures. Furthermore, plastic materials are resistant to corrosion and degradation caused by exposure to moisture, UV radiation, and other environmental factors. This longevity ensures that greenhouse structures endure over time, reducing the need for frequent replacements.

Breakup by Crop Type:

Fruits and Vegetables
Flowers and Ornamentals
Nursery Crops
Others

Fruits and vegetables hold the largest share in the market

A detailed breakup and analysis of the market based on the crop type has also been provided in the report. This includes fruits and vegetables, flowers and ornamentals, nursery crops, and others. According to the report, fruits and vegetables accounted for the largest market share.

Consumer preferences for fresh, nutritious, and locally sourced produce have driven the demand for fruits and vegetables. Greenhouse horticulture offers a controlled environment that ensures year-round production, enabling consistent availability of these essential food items even in regions with challenging climates. This segment encompasses a wide range of crops, including tomatoes, peppers, cucumbers, lettuce, berries, and more, catering to diverse dietary needs. From an economic perspective, fruits and vegetables have demonstrated strong market demand and profitability. Their relatively short growth cycles compared to other crops allow for quicker turnover and higher yields per square meter of greenhouse space. This efficiency appeals to growers and investors alike.

Breakup by Technology:

Heating System
Cooling System
Others

Cooling system dominate the market

The report has provided a detailed breakup and analysis of the market based on technology. This includes heating system, cooling system, and others. According to the report, cooling system represented the largest segment.

Greenhouses create controlled environments that can sometimes lead to heat buildup, especially in regions with high ambient temperatures. The cooling system addresses this challenge by regulating the internal climate, preventing excessive heat stress

and ensuring plants receive the ideal conditions for growth. Efficient cooling systems, such as evaporative cooling and fan ventilation, enhance air circulation and temperature moderation, preventing heat-related damage and enhancing photosynthesis. These systems effectively lower temperatures while managing humidity levels, reducing the risk of diseases and improving overall crop quality. Furthermore, as greenhouse horticulture expands into diverse climates, the demand for cooling technologies has grown significantly. The ability to tailor cooling systems to specific regional requirements has positioned them as indispensable components of modern greenhouse infrastructure.

Breakup by Region:

North America
United States
Canada
Asia Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Europe exhibits a clear dominance in the market

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Europe accounted for the largest market share.

One key factor is the continent's highly variable climate, which necessitates innovative approaches to ensure consistent crop production. Greenhouse horticulture offers a solution by providing controlled environments that shield crops from unpredictable weather conditions, enabling year-round cultivation of a wide range of crops. Furthermore, Europe's population density and limited available arable land have prompted the adoption of intensive agricultural practices. Greenhouses enable efficient land use through vertical farming and optimized cultivation, maximizing crop yields in limited spaces. Stringent food safety and quality regulations in Europe align well with greenhouse horticulture's ability to reduce pesticide usage, control inputs, and ensure

traceability. This resonates with consumers' demands for safe and sustainable produce.

Competitive Landscape:
Leading companies invest significantly in research and development to innovate new greenhouse technologies, improved growing substrates, and advanced cultivation techniques. This fosters the development of more efficient, resource-conscious, and high-yield greenhouse systems. Additionally, key players are at the forefront of integrating automation, Internet of Things (IoT), and artificial intelligence (AI) technologies into greenhouse operations. These innovations allow for real-time monitoring, precise climate control, and data-driven decision-making, resulting in enhanced productivity and resource optimization. Other than this, numerous industry leaders prioritize sustainable practices by implementing energy-efficient designs, using renewable energy sources, and reducing water consumption. These initiatives resonate with consumers and align with global environmental goals. Besides this, key players are expanding the variety of crops grown in greenhouses, catering to changing consumer preferences. This diversification includes not only traditional fruits and vegetables but also herbs, ornamental plants, and specialty crops. In line with this, global greenhouse horticulture leaders are actively expanding their presence into emerging markets. By partnering with local growers, they contribute to technology transfer and knowledge exchange, fostering the adoption of modern greenhouse practices in new regions.

The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Agra Tech Inc.
Argus Control System Ltd.
Certhon Build B.V.
Dalsem Greenhouse Projects BV
Les Industries Harnois Inc.
Heliospectra AB
Hort Americas, LLC
Keder Greenhouse Ltd.
Logiqs BV
Lumigrow, Inc.
Netafim Ltd.
Priva Holding BV
Richel Group
Ridder Holding Harderwijk BV
Rough Brothers Inc.
Top Greenhouses Ltd.
Van der Hoeven Horticultural Projects BV
Recent Developments:
Certhon Build B.V., by acquiring DENSO, a prominent Japanese company, marks a significant development in the global greenhouse horticulture landscape. The acquisition reflects Certhon's strategic vision to expand its technological capabilities and international presence by integrating DENSO's expertise.
In June 2023, Dalsem, the developer of complete, high-tech greenhouses worldwide, announced that it has been awarded a contract to design, manufacture and install a new large-scale greenhouse for starter plants on a greenfield site in Ontario, Canada.

Key Questions Answered in This Report

1. What was the size of the global greenhouse horticulture market in 2023?

2. What is the expected growth rate of the global greenhouse horticulture market during 2024-2032?
3. What are the key factors driving the global greenhouse horticulture market?
4. What has been the impact of COVID-19 on the global greenhouse horticulture market?
5. What is the breakup of the global greenhouse horticulture market based on the material type?
6. What is the breakup of the global greenhouse horticulture market based on the crop type?
7. What is the breakup of the global greenhouse horticulture market based on the technology?
8. What are the key regions in the global greenhouse horticulture market?
9. Who are the key players/companies in the global greenhouse horticulture market?

Table of Contents:

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