

Plant Growth Chambers - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Plant Growth Chambers Market size is estimated at USD 486.60 million in 2024, and is expected to reach USD 612.22 million by 2029, growing at a CAGR of 4.70% during the forecast period (2024-2029).

Key Highlights

- Rapid urbanization, rising population, and declining arable land are leading to increasing food security concerns around the world. This represents one of the key factors catalyzing the demand for plant growth chambers as they enhance the productivity of agricultural land. These chambers are utilized in horticulture crop production and provide consistent crop quality, increased productivity, flexibility in changing plant location, and thus an efficient usage of the space.
- There is increasing adoption of plant growth chambers for both industrial and academic research purposes. The need to feed an ever-growing global population, coupled with the increasing demand for sustainable agricultural practices, fuelled a significant rise in the demand for plant growth chambers across the world. Moreover, a decreased arable land worldwide is driving the demand for these artificial growth chambers for sustainable crop production. According to the FAO, in the year 2020, the global arable land accounted for 1,387,172.6 thousand hectares, which decreased from 1,389,750.0 thousand hectares in 2018.
- Furthermore, advancements in biological engineering, along with the growing adoption of genetically modified crops, are also contributing to market growth. Moreover, the increasing popularity of plant growth chambers in dry climatic regions that are more susceptible to drought conditions is also driving the growth of the market.

Plant Growth Chambers Market Trends

Increasing Demand for Food and Decreasing Arable Land

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The need to feed an ever-growing global population, coupled with increasing demand for sustainable agricultural practices, fueled a significant rise in demand for plant growth chambers across the world. According to FAO, agricultural production is anticipated to grow two-fold over the coming 36 years, to meet the demands of a population of 9 billion. The need to produce a larger quantity of food is fueling the demand for new innovative technologies for sustainable crop production. Thus, there is broader acceptance and recognition of the increasing benefits of plant growth chambers in developed and developing countries.

Additionally, with the amount of arable land per person declining and the population expanding, global crop yields must increase to meet the food production needs. According to the World Bank statistics, in South Asia, there was a decline in the arable land percentage of the total land, from 43.14% in 2018 to 43.13% in 2020. Also, as per FAO, the total global cropland accounted for 1,560,853.7 thousand hectares in the year 2019 decreased by 1,561,667.6 thousand hectares during the year 2020. Thus, a reduction in cropland and pollution in the developing countries of South Asia is expected to increase the demand for alternative cultivation, including growing in chambers. As a result, the most dramatic rise in the demand for plant growth chambers is likely to be witnessed in the coming years.

In China, there are approximately 334 million acres of arable land, of which around 37 million acres are non-cultivable. The growing population poses a major threat and is needed to create an alternative of more arable land to enhance the yield and productivity of the land currently being cultivated. The technology includes high-yielding varieties, the management of fertilizers and pesticides, mechanization, irrigation management, and employing new farming techniques, such as plant growth chambers.

North America Dominates the Market

North America is currently the largest market for plant growth chambers in the world, with countries, like the United States, Canada, and Mexico, demonstrating massive adoption of incubators for controlled and sustainable plant growth. This is largely attributed to the declining arable land, which spurred the demand for plant growth chambers in the United States and other countries. These chambers are significantly utilized in the region to avoid disturbances in the continuous supply of food and develop innovative and quality plants that are free of diseases. The presence of major companies, such as Thermo Fisher, Caron, and Conviron is majorly contributing to the growth of the market in this region.

Additionally, the rise in the use of plant growth chambers in academic research organizations and cosmetic industries is another key factor propelling the demand for plant growth chambers in the region. According to the international society for Horticultural Sciences, there are nearly over 250 commercial plant laboratories in the United States with probably 50 more within the research units of agribusinesses. Their products can be segmented between agriculture and horticulture. Moreover, new tissue culture laboratories are under progress in the country to undertake research activities, which, in turn, is creating a demand for plant growth chamber equipment.

Canada holds numerous sets of opportunities that embark on the possibility of scaling the production of foods using plant growth chambers over the near future as the need for healthy, fresh, and sustainable produce is increasing in the country. Alberta is one of the advanced provinces when it comes to adopting protected and indoor cultivation practices as well as carrying out various plant research activities. Tomatoes, cucumber, and peppers are the three main crops generally grown commercially in growth chambers in the province. Other commercial crops grown include lettuce, basil, arugula, eggplant, and snap beans, but typically on a much smaller scale.

Plant Growth Chambers Industry Overview

The plant growth chambers market is consolidated, with the major industry players occupying a majority share of the market. ThermoFisher, Conviron, Weiss Technik, Binder GmbH, and Percival Scientific Inc. are some of the major players. The companies

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are largely focusing on expansions, partnerships, mergers, and acquisitions, among other strategies, to move ahead of their competitors in the global market. These players are expanding their presence in many regional markets by partnering with domestic manufacturers to strengthen their foothold in the market. New product launches, partnerships, and acquisitions are the major strategies adopted by the leading companies in the market, in the country. Along with innovations and expansions, investments in R&D and developing novel product portfolios are likely to be crucial strategies in the coming years.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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