

Vertical Farming Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 172 pages | Mordor Intelligence

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Report description:

The vertical farming market is projected to register a CAGR of 10.3% during the forecast period (2022-2027).

While many industries are contracting because of COVID-19, vertical farming is enhancing their demand. Vertical farming, which has been expanding in urban areas even before the pandemic, is now gaining huge growth as the vertical farms control everything from seed to store. Furthermore, they provide the consumers with information about where their food comes from and how it is produced. While on the other hand, the incidences of crop rot in fields because of disruptions to farming and supply chains have triggered the growth of vertical farms such as Bowery Farming and Aero Farms due to their quality and productive outputs.

The increased demand for organic products among consumers, fueled by the improved standard of living and higher disposable income, has paved the way for the development of vertical farming, wherein organic farming is practiced widely. Microgreens are among the crops cultivated by vertical farming methods and are a rich source of polyphenols, a class of antioxidants that helps to lower the risk of diseases such as heart disease, Alzheimer's disease, diabetes, and certain cancers. Many commercial growers are adopting high capital expenditure technologies, such as advanced hydroponic systems and electronic traceability systems. Additionally, growers are heavily investing in LEDs and other innovative lighting products in order to reduce their exposure to associated risks by carefully monitoring and investing in new technologies. People are growing the necessary crops in their own houses on a small scale to have food free from pests. An increase in health consciousness and consumption of residue-free food has paved the way for the usage of advanced techniques, like hydroponics, aeroponics, etc. The increasing demand for healthy products has led to an increasing need for maximizing crop yields which are expected to drive the vertical farming market in the future. Many commercial growers are adopting high capital expenditure technologies, such as advanced hydroponic systems and electronic traceability systems. Additionally, growers are heavily investing in LEDs and other innovative lighting products in

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order to reduce their exposure to associated risks by carefully monitoring and investing in new technologies. The need for food supply against the explosive population is expected to increase by 2050, which has catalyzed the growth of the vertical farming market. Funds are being invested in the market to bring developments and technological advancements to this specific sector. Hence, the increased need to meet the demand of the growing population and limited and scarce agricultural land and water are anticipated to drive the global market for vertical farming during the forecast period.

Vertical Farming Market Trends

Shrinking Agricultural Land Area

Increasing population trends, urbanization, decreasing water supply, and continuing climate change have contributed to the declining arable land stocks per person. Additionally, the introduction of the Conservation Reserve Program (CRP), the emergence of the biofuel industry, and other economic factors have contributed to significant changes in land-use patterns. Due to such constraints, more production is required from a lesser land area. This is where vertical farming helps in achieving a higher yield of different crops. Due to the continuous decline in per capita farmland availability, a possible way out is the practice of increasing productivity. Thus, there is a need to increase yield from the available land, which can be achieved through vertical farming. Vertical farming, which involves greater use of technology and automation for land-use optimization, exemplifies solutions for improving future food production. Vertical farming aims to significantly increase productivity and reduce environmental footprint within a framework of high-rise urban, indoor, and climate-controlled buildings. According to the United States Department of Agriculture (USDA), farmers in the United States voluntarily removed land from crop production because of poor growing conditions or constrained irrigation water supplies. Gradual declines have occurred in cropland, while grazed forestland has decreased more rapidly. Increases in land used for non-agricultural special uses, which include national parks and other protected areas, have contributed to the relative increase in non-agricultural land use over time while agricultural lands have kept decreasing.

North America Dominates the Market

The US market dominated the North American region. Growing concerns toward food security and nutrition are expected to open a number of novel opportunities for the industry to prosper. The United States is anticipated to invest a significant share in facilitating the ecosystem for future foods. As more consumer insights develop toward "fresh-from-farm-to-table," the availability of freshly harvested vegetables across retail outlets is expected to increase in the country (which is also the pioneer in adopting this concept). The onset of urban population dwellings across cities, such as New York, Chicago, and Milwaukee, has propelled the environment for vertical farming with activities such as revamping derelict vacant warehouses, derelict buildings, and high rises, which has, in turn, led to an increase in the production of fresh grown foods altogether. In certain potential parts of the country, new aeroponic systems are under construction. For instance, Aerofarms is building a 69,000 square-foot farm in Newark, and 2.0 million pounds of leafy greens are expected to be produced annually from this farm. Over the past few years, the vertical farming concept has laid its hands across the booming cannabis market, where companies are including alternative options to garner more revenues. According to the March 2020 report by Ontario's Greenbelt Foundation, there are at least four vertical farms operating in B.C, at least two in Alberta, six in Ontario, and one in Nova Scotia. Major players in the Canadian vertical farm industry are Canada's Modular Farms, based in Toronto, and Nova Scotia's TruLeaf, leading the trail, followed by startups, such as Ecobain Gardens, which grew from 1300 sq. ft. in 2013 to 6000 sq. ft. in 2018, by engaging the fresh herb mix concept. The main hydroponic systems used in Mexico are the drip irrigation and Nutrient Film Technique system. The maximum number of per acreage hydroponic installations was recorded in the Distrito Federal province of Mexico. Thus, the expansion of companies to the vertical farming market through increased investment is anticipated to drive the growth of the market studied during the forecast period.

Vertical Farming Market Competitor Analysis

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The market is highly fragmented, with major revenue-generating companies, which are Aerofarms, InFarm, Jones Food Company, and Swegreen, among others, cornering just some part of the market share, while the rest of the market is shared among numerous players such as Sky Greens Pte Ltd, Agricoool, Future Crops, V-Farm, etc. The new players entering the indoor vertical farming market can fetch profits by choosing the most profitable crops and using the correct facility systems. These major players are investing in new products and improvisation of products, expansions, and acquisitions for business expansions. Another major area of investment is the focus on R&D to launch new products at lower prices.

Additional Benefits:

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

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