

Plant Factory and Grow Lights Market Shares, Strategies, and Forecasts, Worldwide, 2012 to 2018

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Abstracts

WinterGreen Research announces that it has published a new Plant Factory Grow Lights study. The 2012 study has 386 pages, 169 tables and figures. Worldwide markets are poised to achieve significant growth as the food supply for the world starts to adopt automated process. Grow lights have become more sophisticated and less expensive to run as solar and wind energy are adopted by greenhouses and plant factories.

Food factories produce organic vegetables. This represents a next step in the application of automated process to everyday life. Automated process for farming provides immediate help for food stores. Plant factories support farming practices that are not dependent on the climate. Food factories produce organic vegetables 24 hours a day. With the land available for farming depleting quickly, new types of farming are evolving.

PLANT FACTORIES MARKET DRIVING FORCES

Demand for ability to grow food consistently

Demand for ability to grow food locally

Can grow food in warehouses

Can grow food in the home

Dedicating space that is efficient for producing food

Fresh, sanitary food available consistently

Food factories

Ability to produce organic vegetables

Ability to produce vegetables 24 hours a day

Land available for farming depleting quickly

New types of farming are evolving

Growing of vegetables indoors all year round

A plant factory allows the growing of vegetables indoors all year round. It is a system that artificially creates the environment necessary for plants to grow by controlling the amount of culture solution, air, and light from light-emitting diodes (LED). Because the amount of light, temperature, humidity, and carbon dioxide (CO₂) concentration levels can be optimized without being affected by the weather, the growth rate of vegetables is two to four times faster than those grown in open-air fields, and yields are ten to twenty times higher.

Visible natural light has a spectrum different from grow lights. Visible light is measured by lux or energy. Plant factory grow lights are different. Grow lights provide artificial light used for plant growth. The spectrum of growth lights is tuned to the plant growing task. Plant light has photons from the blue to red (400-700 nm) part of the spectrum. This is called growth light.

Horticulture lamps address the role of light in the growth and development of plants. Plant growth is a function of photosynthesis. The plant growth lights work in three different ways:

To provide all the light a plant needs to grow

To supplement sunlight, especially in winter months when daylight hours are short

To increase the length of the 'day' in order to trigger specific growth and

flowering

Because the amount of light, temperature, humidity, and carbon dioxide (CO₂) concentration levels can be optimized without being affected by the weather, the growth rate of vegetables is two to four times faster than those grown in open-air fields, and yields are ten to twenty times higher.

According to Susan Eustis, lead author of the study, 'Plant factories use growth light to automate and control growing. The ability to grow food consistently, locally represents a major breakthrough for humanity'. Grow lights permit people to grow food in warehouses and in the home, dedicating previously unused space to a purpose and in a manner that is efficient for producing food.

Plant factory grow light markets at \$741.6 million in 2011 are anticipated to reach \$4 billion by 2018. Growth is driven by the need to provide inexpensive, safe and consistent food supplies. Automated process provides more efficient production of fruits and vegetable crops.

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, Bloomberg, and Thompson Financial.

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