

LED Agricultural Grow Lights: -- Markets Reach \$1.8 Billion By 2021

LEXINGTON, Massachusetts (March 10, 2015) – WinterGreen Research announces that it has published a new study *LED Agricultural Grow Lights: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2021*. The 2015 study has 596 pages, 163 tables and figures. Worldwide markets for LED Agricultural Grow Lights are growing as units support more efficient indoor growing. The LEDs are less costly than alternatives and save significantly on electricity costs. Rapid adoption of LED lighting in general is occurring. Rapid adoption of LED grow lights worldwide is occurring as systems provide peak growing efficiently.

LED grow lights are more powerful and efficient than the older generation high-pressure sodium and metal halide bulb grow lights. They lower the electricity bill and produce less heat. Less heat allows putting the light closer to plants, the plants do not get burned.

Next-generation LED grow lights deliver dramatic power savings and unmatched product reliability. LED grow lights are shifting as illustrated by the new Everlight GL-Flora LED lighting fixtures for agriculture. They offer low power, high-efficiency, uniform light pattern, homogenous light distribution at precisely the right wavelengths and color ratios needed for superior photosynthetic response.

LED 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.



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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

LED grow lights use growth light to automate and control growing. The ability to grow food consistently, locally represents a major breakthrough for humanity. Growth lights permit people to grow food in warehouses and in the home, dedicating unused space in a manner that is efficient for producing food.

Taking cost of transportation out of the food chain is a breakthrough of major proportions. The ability to make fresh, sanitary food available consistently presents a major shift in how people live and achieve quality of life. Growth lights increase the density of food production by a factor of ten. This is significant.

In some places, like Japan, where there is a deficiency in the environment, plant factories will continue to proliferate and to use LED grow lights as large warehouse type entities that provide food for the general public and for people who need specialized nutrition.

According to Susan Eustis, the lead author of the team that created the study, "Solid state electronics brings the same advantages to agriculture as it has brought to all other industry segments it touches. Growers are finding that they can achieve a rapid return on investment from substantially decreasing the energy costs associated with using grow lights, lengthening the growing season, eliminating chemical contaminants in the food supply, and significantly decreasing transportation costs for food production."

As more people become more health conscious and try to avoid the deleterious effects of pesticides in their food grow lights are anticipated to find more and larger markets among greenhouse operators. The large warehouse size plant factories are expected to concentrate on raising seedlings.



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LED grow light module markets at \$395 million in 2014 are forecast to reach \$1.8 billion by 2021. Rapid growth is anticipated as green house and plant factory growers find the LED grow lights improve agriculture.

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