LED 植物燈簡介 - LED Growing Light Introduction

LED 植物燈大約在 1980 年由 NASA (National Aeronautics and Space Administration – 美國國家航空暨太空總署)開始研究及實驗，發現使用 LED 植物燈比使用傳統光源型式的植物燈有更多的優勢。

(1) 更節能

(2) 壽命更長

(3) 植物生長所需波長控制的更精準與集中。

近年來植物工廠的大量興起，讓植物燈的成本進一步的降低，使 LED 植物燈能更普及到個人 / 家庭中。

Since 1980, NASA started studying and experimenting with Light-Emitting diodes (LEDs) for growing plants, and found it is with a variety of advantages compared with traditional light sources.

(1) Energy saving

(2) Durability & long lifetime

(3) The option to select specific spectrum for plant's growing can be more easily, precisely controlled and concentrated.

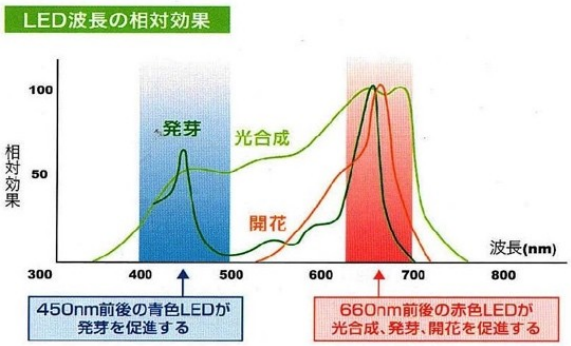
The plant factories have sprung up recently – decreasing cost is required more which makes the LEDs Growing Light have gained popularity in the offices and families.

眾所周知，植物離不開陽光、空氣、水 ，可見光的顏色(光譜) 為紅、橙、黃、綠、藍、靛藍、紫，但植物只需 400nm-700nm 波長行光和作用，同時此波段也提供植物所需的有效能量。

Everyone knows that the plants need sunlight, water, and air (carbon dioxide) so photosynthesis can take place. The visible light spectrum emits light in red, orange, yellow, green, blue, indigo and violet colors. However, plants use wavelengths between 400 and 700 nanometers (nm) for photosynthesis, which provides for all the energy needs of the plants.

昕煒達科技 LED 植物燈帶的做法是選用大多數植物行光合作用所需要的 藍光(450nm) 與 紅光(660nm) 兩種波長混合後呈現粉紅色的光，並藉由封裝製程所作的植物燈條。根據一家日本公司提出的實驗結果(如圖示)，藍光波段在 400nm ~ 500nm，特別在(450nm)波長時，在植物初期生長階段時可幫助發芽及強化光合作用，紅光波段在 640nm ~700nm，在 660nm 波長時可幫助植物莖部生長，開花及製造葉綠素 。紅光也被稱為暖光，特別在日照不足的秋、冬二個季節，紅光對植物的助益更為顯著。 運用 LED 植物軟燈條並開發 DIY 植物盆栽。

New-Wonder Technology adopts combination Blue and Red light for making LED Growing Strip by sealing process, which appears to be Pink Light.



According to the graph launched from one of Japan industry shown as below: The Blue spectrum region around 400nm ~ 500nm, the wavelength of 450nm encourage seedlings and intense photosynthesis during the early phases of plant growth through starting. The Red spectrum region around 640nm ~ 700nm, the wavelength of 660nm encourage stem growth, flowering and fruit production, and chlorophyll production. The red wavelengths are known as warm light and they are naturally more prevalent in sunlight during the shorter days of fall and winter.

It was thanks to LED growing strip that New Wonder Technology could develop DIY growing plant.

植物燈不是萬能，但對於居住在都市叢林中忙碌的現代人來說，是個解決植物日照問題的簡便方案。

LED Stripe Growing light is just an auxiliary tool, which can be helpful for resolving the plant's growing for the persons, who enjoy seeing the green plant, while living in the cement-forest under shortage of sun-shining.