



# 太陽光模擬器應用介紹

PLASMA LAMP APPLICATION  
FIELDS INTRODUCTION



# 太陽光模擬器的應用 The Application Of Plasma Lamp

- 戶外照明 Outdoor Lighting

隧道照明、棒球場、足球場等、公共藝術照明、運輸公共空間  
Public lighting:Tunnel,Baseball field,football field,etc

- 農牧漁 Farming,animal Husbandry And Fishery

工廠、溫室補光、漁藥用植物栽種、漁用燈及倉儲、養殖燈及燈塔  
Factory,Greenhouse,Cultivation of fisher&Medicinal plants,Fishing light and warehousing,breeding light and lighthouse

- 醫療產業 Medical industry

疾病的光療、憂鬱症、SAD等治療、院內空間照明、實驗用光源  
light therapy of disease,melancholia,Seasonal Affective Disorder,Hospital lighting, Experimental light source

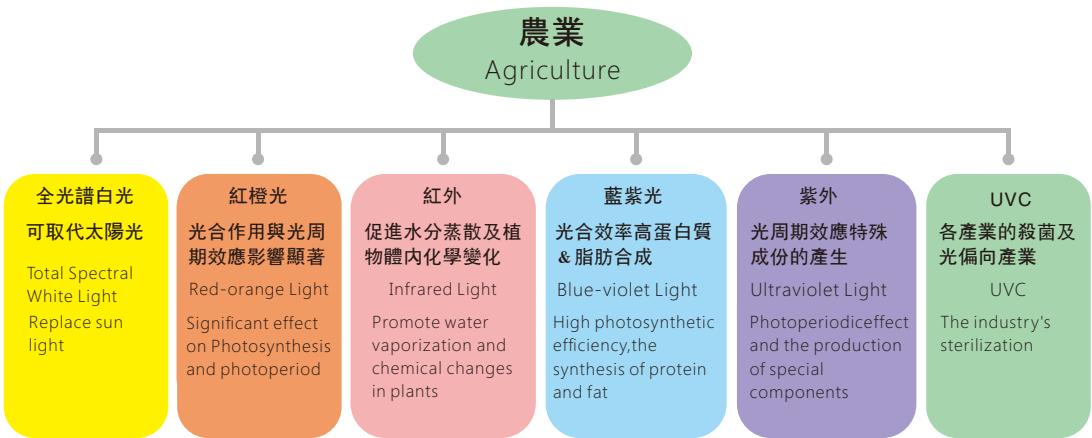
- 其他應用 Other Application

室內運動場、大型展覽場、飛機維修工廠、倉儲高度照明  
Lighting for Indoor playground,Large exhibition ,Aircraft maintenance factory and warehouse



全光譜陽光模擬器

## 系列的產品綫 Series Production Line



## Plasma開發現階段進度 The Development Process Of Plasma Lamp



# 農業領域的應用 The Application Of Agriculture

## ● 不同色光對植物的作用 The effects of different light on plant

紅外光 Infrared Light	紅橙光 Red-orange Light	藍紫光 Blue-violet Light	紫外光 Ultraviolet Light
葉大而薄 The leaf is big and thin	加速光合作用、加速糖類合成 Accelerate photosynthesis and carbohydrate synthesis	蛋白質、脂肪、有機酸、光合色素合成 Protein, fat, organic acid, photosynthetic pigment synthesis	毛茸發達催芽、表皮蠟質增厚 Flourishing fuzz .Epidermal wax thickening
開花誘導 Flowering induction	促進葉綠素形成、有效誘導開花 Promote chlorophyll formation Effectively induce flowering	花青素、維生素C、等之合成、葉茂生理時鐘、光周期 The synthesis of anthocyanin and Vitamin C /Leafy / physiological clock /Photoperiod	花青素及類黃酮形成/ 破壞、蛋白質 & DNA The formation of Anthocyanin and Flavonoid.Damage the protein& DNA
種子發芽/萌發 Seed germination	種子發芽/萌發 Seed germination	向光生長、氣孔開放、延長花期 Toward the sun .Stomata Opening .Extend the flowering period	莖干矮短、葉面縮小、葉肉增厚 Short tems .Leaves narrowed. Mesophyll thickening
促進莖伸長 Promote stem elongation	促進長日效應、植物生長/短日植物相反 Promote long-day plant growth / Inhibit short-day plant growth	破壞生長素、抑制莖伸長、促進芽分化、側芽、側枝、地下部生長 Damage auxin .Inhibit the stem elongation .Promote the bud differentiation .lateral bud & Underground growth	葉綠素將萎縮、光合作用下降 Chlorophyll will shrink . Photosynthesis decline

## ● 溫室市場 Greenhouse Market

蔬菜年產值約為643.68億元  
生長環境可以控制  
減少植物生長的逆境  
Annual output value of vegetables : \$9 billion  
To control growth environment  
Reduce the adversity of plant growth



## ● 日曬干燥的應用 Sun Drying Application

咖啡 Coffee  
全球咖啡生豆產量已達8,643,660公噸新高紀錄，  
全球咖啡栽植面積已逾11,000,000公頃。  
將整顆連肉帶皮帶子的咖啡果實，放到曬豆場上去日曬，  
自然干燥到含水量約12%，所需時間約二至四周，依據產地氣候而定  
Global coffee production has reached new record high of 8.6million tonnes.  
Global coffee planting area have more than 11million hectares.  
Put coffee on coffee drying pation,to reach about 12% of water content by natural dryness,  
it takes about2~4 weeks( depending on region climate).



水果干 Dried fruit  
種類: 芭樂、楊桃、芒果、藍莓、李子、鳳梨、西紅柿、蘋果等  
成功關鍵在烘焙技術，才能做出保留水果纖維與香味的水果干。

全球新鮮水果產業預計未來將以成長率 8.7%加速成長。

2017年全球模將達6,929 億美元。干燥水果出口值: US\$22.1億。

Category: guava, carambola, mango, blueberry, plum, pineapple, tomato, apple, etc

The key to success is baking, which can preserves the fiber and fragrance of dried fruit.

The global fresh fruit industry is expected to grow at an accelerating rate of 8.7% in the future.

In 2017, global production value will reach \$692.9 billion, with dry fruit exports at \$2,21 billion

稻米干燥的應用 The application of rice drying

現如今，隨著生活水平的提高，對於稻米的消費型態已由量的需求轉為質的需求。從加工技術等方面改進，已使稻米質量大為改善。傳統日曬法是將稻谷鋪在曬場上，利用日光曝曬並配合人工示時翻動，可是極易受天候影響，相較下太陽光模擬器除了可以避免天候的影響，更具有省時、省工及干淨效果，可合理調節干燥速度，使質量更容易控制，得到高質量的稻谷。

With the improvement of living standard, the demand for rice consumption has been transformed from the quantity to the quality. Processing technology has greatly improved rice quality. Traditional sun-drying: Sun Exposure and turn over timely.(extremely be vulnerable to the weather). Compared with sun drying, sunlight simulator not only can avoid climate effects, but also is more time-saving, labor-saving and clean. Reasonably adjust drying speed to control quality in order to obtain high quality rice.



## 茶葉產業的應用 The application of the tea industry

- 1、從聯合國農糧組織(FAO)統計資料顯示，至2010年茶栽種面積已達304.5萬公頃。每萬公頃單位面積生產量為13,101噸。
- 2、紅茶一直是全球最大宗之產制茶類，2010年全球紅茶產量高達251.2萬噸，占全球各類茶產量 60.4%。近十年來產量只增產29.6萬噸，增幅 11.8%。綠茶約為128.4 萬噸，2010年綠茶產量占全球茶產量30.9%，單僅紅茶和綠茶兩者就占全球各類茶產量之91.3%。
- 3、臺灣在2010年每年每人平均消費量為1,725公克，擠進全球前6名。高出日本近一倍。
  - 1、UNFAO statistical data shows that tea planting area have reached 3.045 million hectares, The production value(per 10,000 hectare) is 13,101 tons.
  - 2、Black tea is the global largest production value, Global production value of black tea is up to 2,512 million tons, which account for 60.4% of world tea production. Production increased by 0.296 million tons in last 10 years, an increase of 11.8%. Green tea is 1,284 million tons, green tea production value accounts for 30.9% of world tea production, Black tea and green tea accounts for 91.3% of world tea production value.
  - 3、Taiwan's average consumption was 1,725 grams/ per person in 2010, pushing it into the top six, nearly double than Japan's.



茶苗栽培

The Cultivation of Tea Seedling



葉芽不分化為花芽

Flower bud differentiation



味道提升

Enhance the flavor



萎凋

Withering



誘蟲、驅避

Attract insects

### ● 人工光源應用於部分發酵茶制茶質量改良計劃

The application of Plasma Lamp in the quality improvement of some fermented tea.

以人工光源替代日光萎凋，探討不同光處理茶菁質量變化，共同研發接近日光萎凋效果之取代方案，提升成茶質量與風味。

With Plasma Lamp replace sunlight, we discuss the quality change of tea under different light, and develop a replacement scheme closing to the effect of sun's wilting, which will improve the quality and flavor of tea.

## 醫療行業的應用 Medical application

### ● 科學人雜誌報導:

95%維生素D是皮膚制造,皮膚制造的維生素D,不需經過肝及腎的活化,直接經陽光照射即可制造出具生物活性的1.25D分子,1.25D分子的作用,可以控制體內幾乎所有組織中基因的【開啟】或【關閉】,下列是已經證實1.25D分子會有作用的組織和細胞:骨骼、腦、乳房、脂肪、小腸、腎臟、肝臟、神經、胰臟、副甲狀腺、前列腺、皮膚皮膚角質細胞、免疫細胞、不孕症、失智、抗癌

Scientific American says 95% of vitamin D is made by the skin. Vitamin D is made by skin and do not need the activation of liver and kidney. The bioactive 1, 25 D molecules can be directly produced by sunlight. The function of 125D molecules controls the opening and closing of genes in almost all tissues. The certified tissues and cells see below: Skeleton, brain, breast, fat, small intestine, kidney, liver, nerve, pancreas, parathyroids, prostate, skin, skin keratinocyte, immune cell, infertility, dementia and anti-cancer.



## 畜產業的應用 The application of the livestock industry

昆蟲黑水虻幼蟲能夠以廚余、畜禽糞便作為食物,轉化為自身物質如蛋白和脂肪等,并減輕廚余回收及畜禽糞便造成的越來越嚴重的環境污染問題,引起了世界範圍廣泛重視。

國外研究表明,黑水虻成蟲的交配需要太陽光的刺激,因此在陰天和冬季光照時間短的時候,交配產卵率低,只能勉強維持傳代,不能適應畜禽糞便大規模處理的需要,而目前以金頓科技的人工光源小太陽刺激黑水虻成蟲交配產卵,獲得明顯的效果。

Black soldier fly can take them as food (kitchen waste, livestock and poultry faeces) and translate to their substance (such as protein and fat), which reduce environmental pollution (caused by kitchen waste recycling and livestock and poultry waste), and attract worldwide attention. Foreign study shown that the mating of black soldier fly requires the stimulation of the sun, thus in short lighting winter and on cloudy day, mating spawning rate is low and only can carry on the family line, can't meet the need for large-scale disposal of animal and poultry waste. But King Design Plasma Lamp can stimulate the mating and spawning of black soldier fly, and have obtained obvious effect.



## 水產養殖行業的應用 The application of aquaculture industry

光照是水產養殖環境中的一項重要因素,對於水產動物的生理狀態具有一定影響。一方面通過植物和影響其他環境因素的動態而產生的間接關係,另一方面主要起着信號作用,對於動物的行為和生理上有很大影響,在有些情況下光是動物生活中所需要的環境因子之一,通過對光的科學控制,從而實現科學養殖,提高質量的同時增加產量,實現經濟效益。

Lighting is an important factor of aquaculture industry. On the one hand, lighting has an indirect relation through affecting plant and other environment factor, on the other hand, has great effect on the behavior and physiology of aquatic animal. In some case light is an environment factor in aquatic animal life. To achieve scientific farming through scientific control of light, improve quality and increase production to create enormous economic benefit.





掃描二維碼關注

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