



HI-TECH AGRICULTURE

RANG DONG ACCOMPANIES AGRICULTURE, FARMERS AND RURAL AREAS



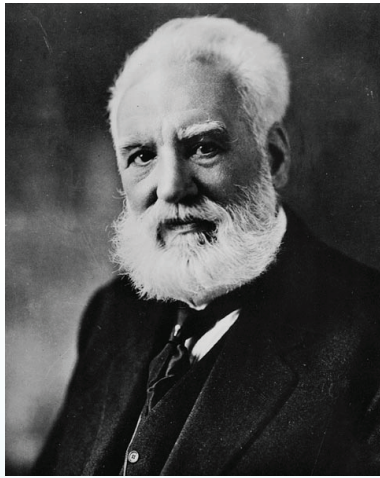
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Precision Agriculture Smart Farming

THE SCIENTIFIC RATIONALE



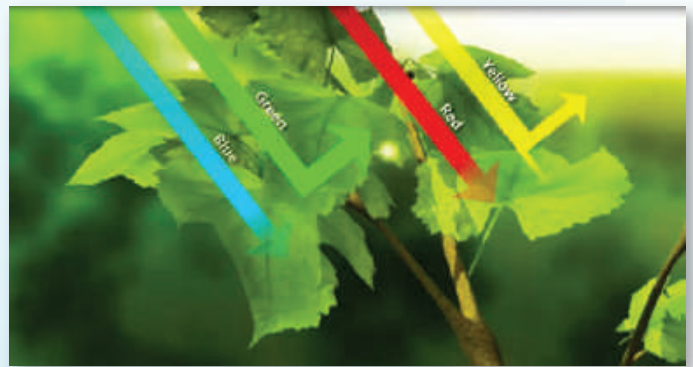
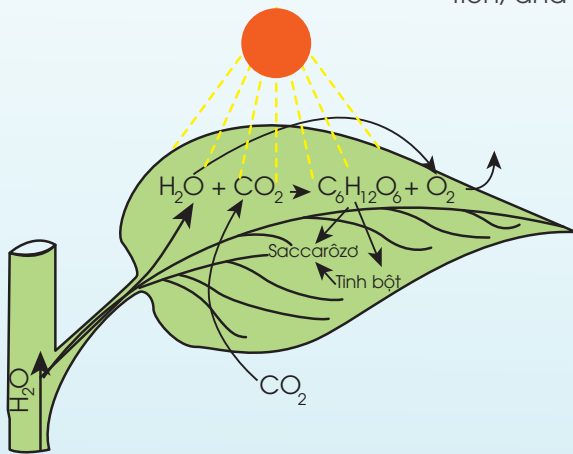
Mr. Timiryazep

Light is a highly essential factor for the life of every organism, plant and animal on Earth. Plants react to light through three mechanisms: 1/ Photosynthesis, 2/ Photomorphology, and 3/ Photoperiod.

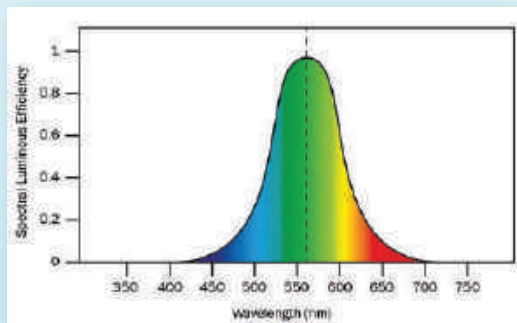
Russian famous botanist K.A. Timiryazev said:

"By controlling the photosynthesis process, humans can exploit plants for perpetuity."

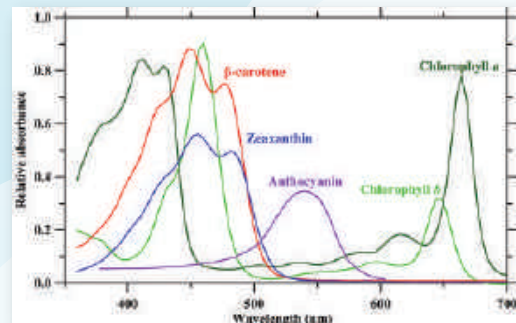
1. Photosynthesis: is the basic process that determines plant productivity, photosynthesis makes up 90-95% of plant solids, the remaining 5-10% are produced by minerals. By studying the relationship between photosynthesis and productivity, Russian botanist Timiryazev concluded that: Plant yield is directly proportional to the photosynthetic indicators, which are photosynthesis intensity, photosynthetic efficiency, potential energy transformation, and economic coefficient.



The difference between light for human eyes and that for plants:



Light-sensitive spectrum of human eyes: The human eye will respond to wavelengths of 380÷780 nm, of which the most sensitive wavelength range is from **500 nm to 600 nm**, and the peak is at **555 nm**. Therefore, lamps are produced with this spectral range.



Light absorption spectrum of plants: The absorption spectrum of chlorophyll is mainly concentrated in two areas: red light with **600÷700 nm** spectrum and blue light with 400÷500 nm spectrum. A part of green light is absorbed by β -carotene, zeaxanthin, and anthocyanin. The Photo-synthetically Active Radiation (PAR) is in the range of **400÷700 nm** with two peaks in the blue and red areas, different from the human eye.

2. Photomorphology:

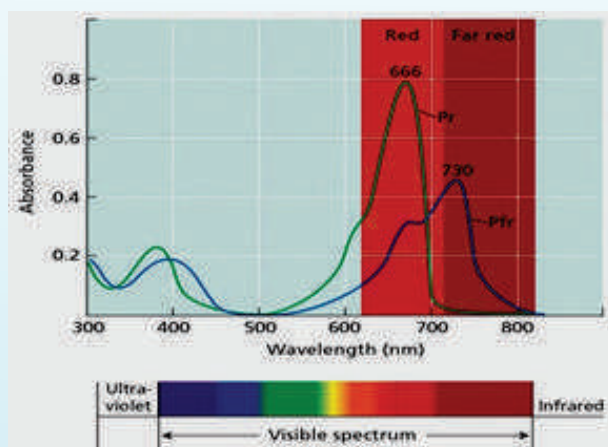
Different color of light or radiation spectrum have impact on plant morphology differently:

+ The blue light spectrum helps promote the synthesis of chlorophyll a and b, increasing the fresh weight and dry weight of plants.

+ The red light spectrum helps promote bud growth, leaf and stem elongation, leaf expansion.

Therefore, light with appropriate wavelengths for absorption chart Chlorophyll, including blue light of 400 ÷ 500 nm and red light of 600 ÷ 700 nm, has the correct ratio for photosynthesis efficiency.

It means that: for each field that has a different crop purpose, for example, from medicinal plants it is needed to get leaves, roots, or plants providing stems, so adjusting the light spectrum, intensity, and lighting cycle accordingly will help achieve the highest harvest.



3. Photoperiod:

Light influences on the flowering and fruiting process through photoperiod, and the pigment content of Phytochrome Far-Red (Pfr) that plants accumulate plays a decisive role. Plants would absorb dark red light to convert Phytochrome red (Pr) to Phytochrome far-red (Pfr), stimulating the the flowering, and vice versa, they absorb far-red light to convert Phytochrome far-red (Pfr) to Phytochrome red (Pr), curbing the flowering. This shows that dark red light and far-red light can be used based on different illumination cycles to stimulate or inhibit plants' flowering.

LIGHTING FOR DRAGON FRUIT TREE



Typical in Vietnam, dragon fruit tree is a perennial. It means that dragon fruit tree does not flower in winter, or the rainy season since it does not accumulate a sufficient amount of Phytochrome far-red above the threshold of flowering irritation. In order to stimulate dragon fruit tree to flower, it is required to shine a dark red light and far red light to prolong the day or interrupt a long night into two short nights.

LIGHTING FOR CHRYSANTHEMUM

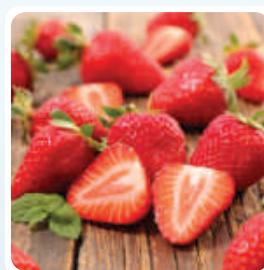


Chrysanthemum is a short-day tree. It means that flower of chrysanthemum is small, short and not bring about high value in winter, short-day and long-night term. To have a large flower with a long stem, we must use artificial dark red light to extend the day or interrupt the long night into two short nights, to help the plant maintain the flower's growth as big and beautiful as desired.

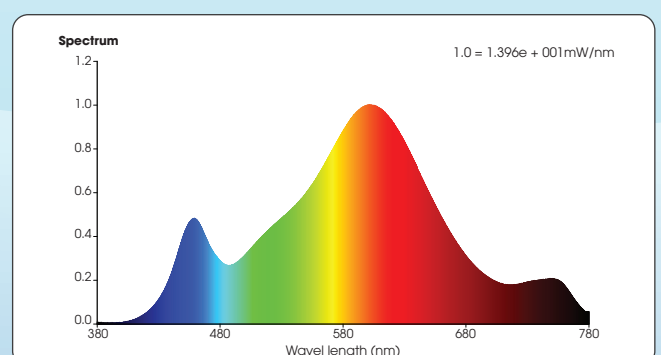
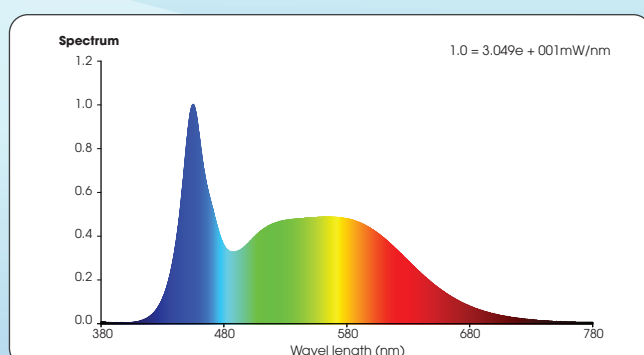
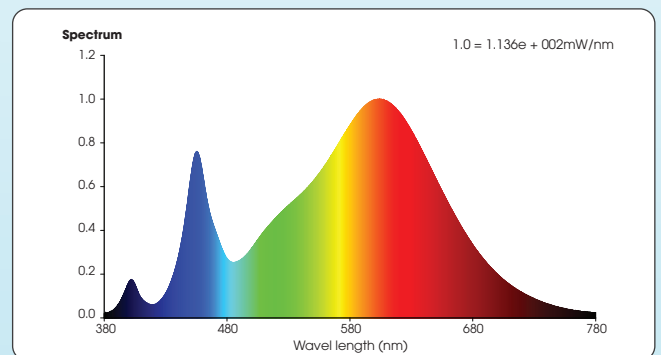
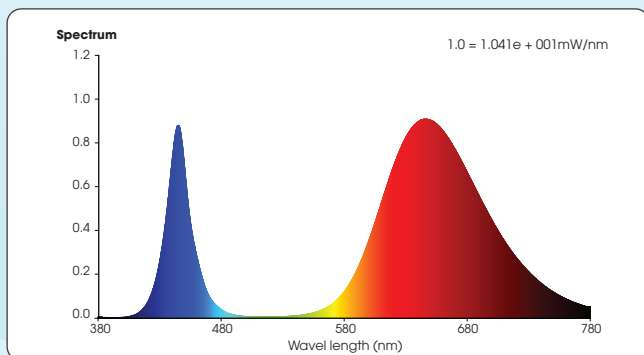
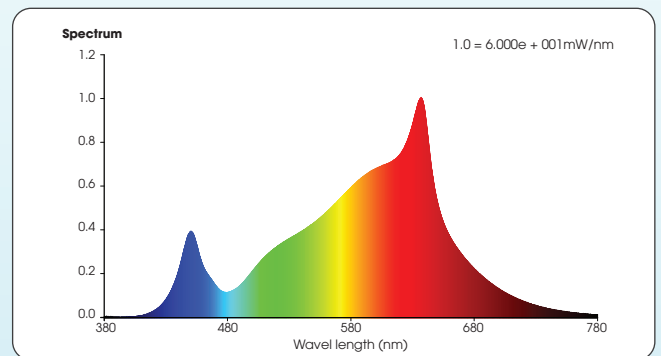
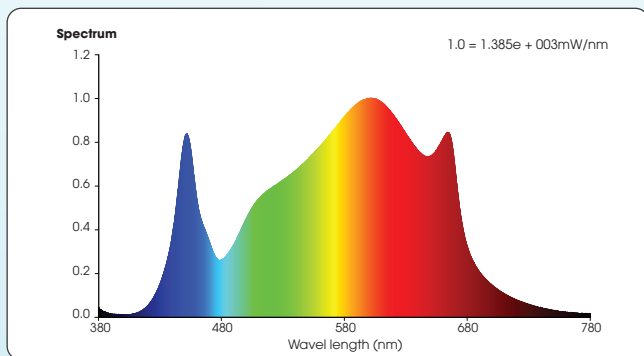
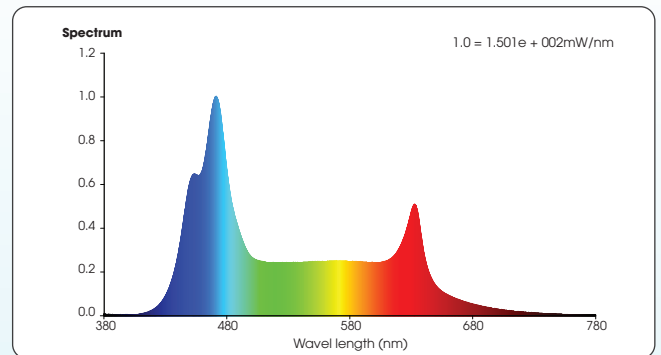
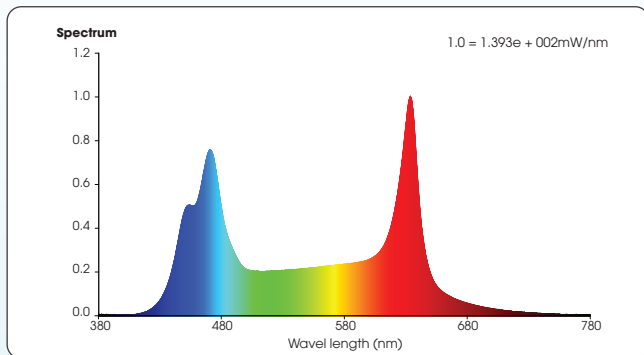
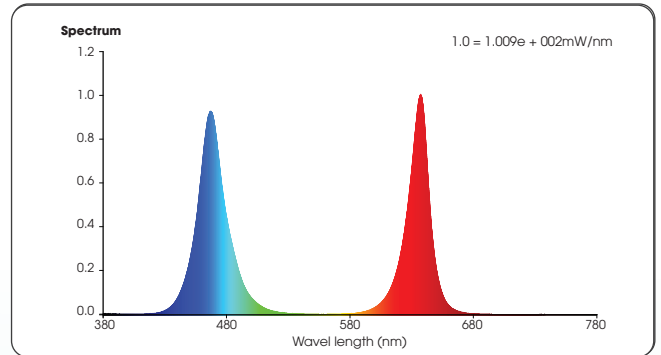
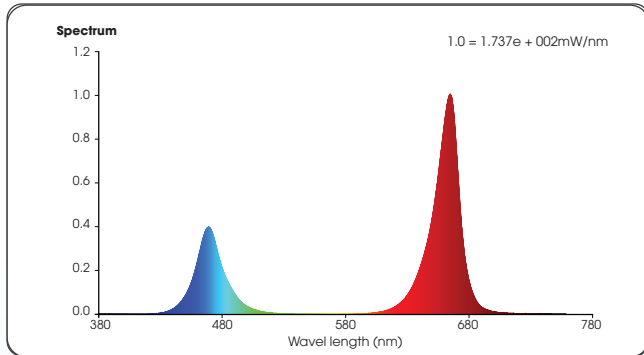
SUITABLE INTENSITY FOR SEVERAL PLANTS

NO.	TYPES OF PLANT	PPFD (Photosynthetic photon flux density) ($\mu\text{mol}/\text{m}^2/\text{s}$)
1	Chrysanthemum	0.5 ÷ 1.5
2	Dragron fruit	0.5 ÷ 1.5
3	In-vitro tissue plants	20 ÷ 60
	- Sciophytes	20 ÷ 25
	- Neutral plants	25 ÷ 40
	- Heliophytes	40 ÷ 60
4	Breeding algae	25 ÷ 40
5	Butterfly orchids and Dedrobium anosmum orchids	50 ÷ 80
6	Growing indoor plants	40 ÷ 150
	- Sciophytes	40 ÷ 100
	- Heliophytes	100 ÷ 150
7	Growing lettuce, sweet cabbage	140 ÷ 250
8	Breeding algae indoor	100 ÷ 150
9	Fruits: cataloupe, strawberry, tomato	250 ÷ 400
10	Growing Koreand ginseng, Vietnamese ginseng	70 ÷ 100
11	Growing Ngoc Linh ginseng	50 ÷ 80
12	Growing medicinal plants	140 ÷ 200

(For reference purposes only)



TYPICAL SPECTRA OF RANG DONG'S LED LIGHTS APPLIED IN AGRICULTURE



PRECISION AGRICULTURE

IoT SMART FARM SYSTEM



CENTRAL CONTROL BOX



MODEL: RD-NN.GW01

Operating voltage	150 ÷ 250VAC / 50Hz
Output voltage	8 - 32 channels
Control modes	- Manual - Automatic - Controlled via app and website

Light agrosensor



MODEL: CB02-NN.LS.LR

Battery	Li-Po 6000 mAh
Wireless connection	LoRa technology
Intensity range	0 ÷ 100 000 lux

Thermal hygrometer agrosensor



MODEL: CB01-NN.TH.LR

Battery	Li-Po 6000 mAh
Wireless connection	LoRa technology
Temperature range	0 ÷ 65°C, ± 0.3°C
Humidity range	0 ÷ 100%, ± 3%

CO₂ agrosensor



MODEL: CB03-NN.CO2.LR

Battery	Li-Po 6000 mAh
Wireless connection	LoRa technology
CO₂ concentration range	0 ÷ 5000 ppm

Soil moisture agrosensor



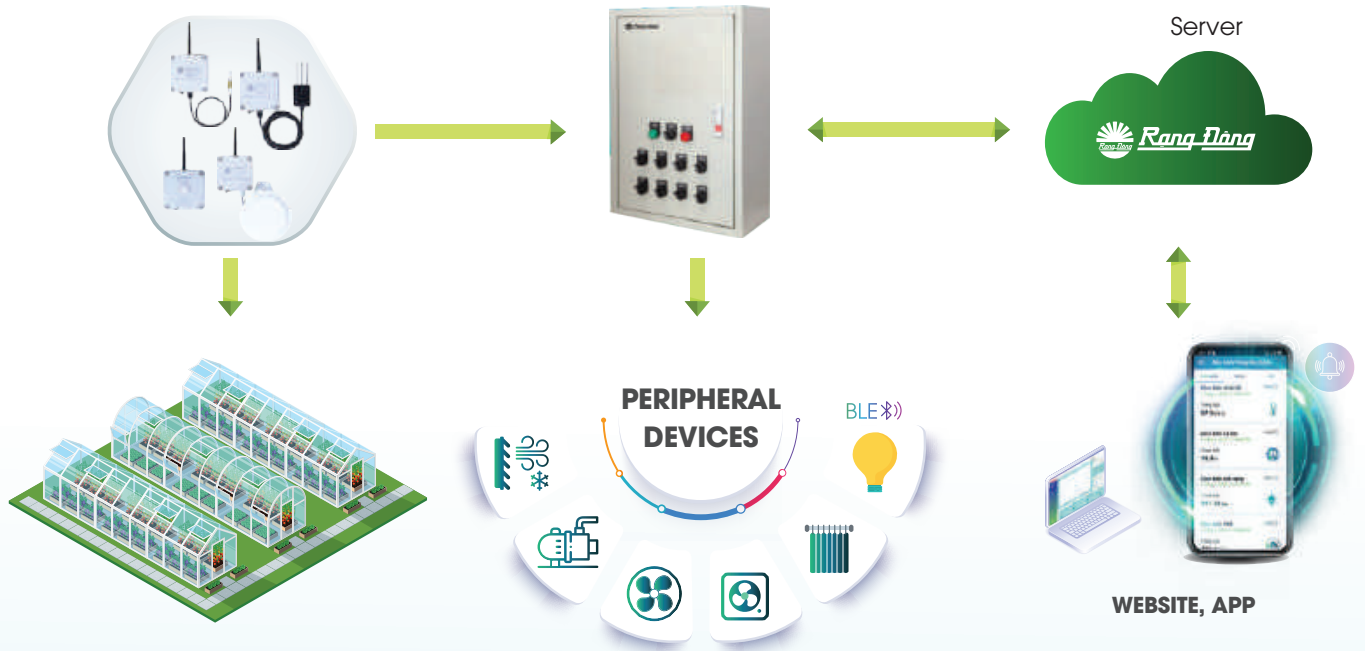
MODEL: CB04-NN.SM.LR

Battery	Li-Po 6000 mAh
Wireless connection	LoRa technology
Humidity range	0 ÷ 100%, ± 5%

Operating principle:

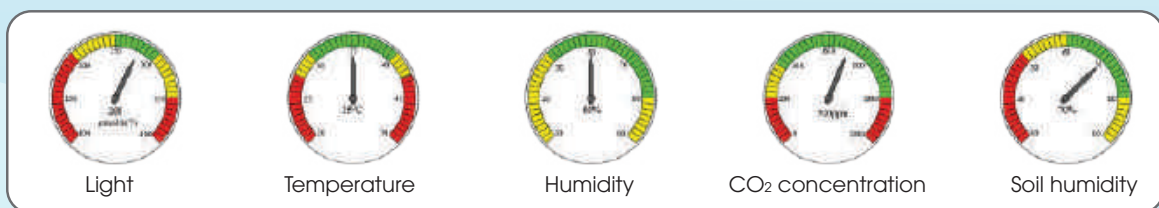
- Sensors record the measured parameters of light, temperature, ambient humidity, CO₂ concentration, soil moisture, etc. then send signals to the central control box.
- The central control box receives data and sends order to peripheral device via automatic or manual setting to control the green house environment as per set-up parameters: the cooling system, light, watering, fan, curtain, spraying, etc.

OVERALL DIAGRAM OF IoT SMART FARM SYSTEM

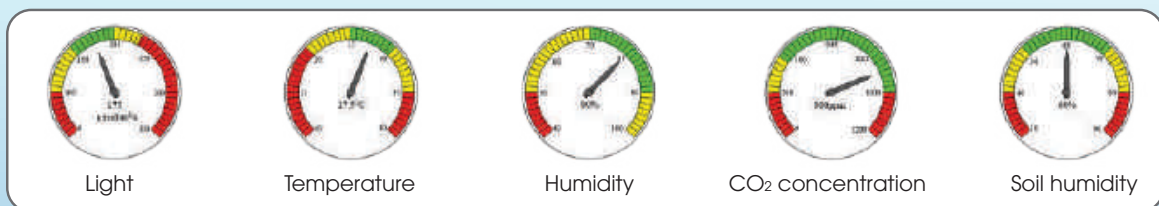


EFFECTIVENESS OF IoT SMART FARM

NO.	Criteria	No Smart Farm application	Applied Smart Farm
1	Supervising weather parameters: light, temperature, air moisture, soil moisture, nutrition, etc.	<ul style="list-style-type: none"> Parameters are not monitored Plants can not reach the optimal growth condition 	<ul style="list-style-type: none"> Weather parameters are monitored on computer or smartphone Data are storeable
2	Operating devices: lamps, cooling machines, fans, curtains, pumping machines, etc.	<ul style="list-style-type: none"> Farm owner has to operate manually Parameters are not accurate 	<ul style="list-style-type: none"> Devices can be operated by smartphone and via website Setting for automatic operation is possible
3	Controlling weather parameters as desired	<ul style="list-style-type: none"> Ambient parameters are not changeable Dependence on natural weather parameters 	<ul style="list-style-type: none"> Ambient parameters can be adjusted as desired Independence on natural conditions
4	Growing many kinds of plants without depending on weather	<ul style="list-style-type: none"> Only seasonal plants are grown Low economic return 	<ul style="list-style-type: none"> A variety of plants can be grown Independence on natural weather, or crop
5	High economical effect and short payback period	<ul style="list-style-type: none"> Low yield Products of low quality, with low market value 	<ul style="list-style-type: none"> Ambient conditions can be optimized for plant growth Off-season crop yield and market value can be raised



Optimal environment for cantaloupe



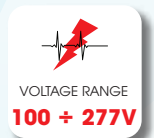
Optimal environment for orchid


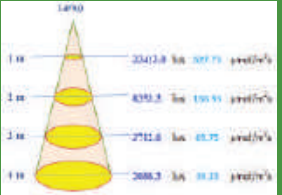
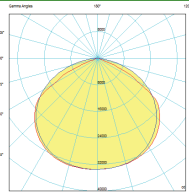

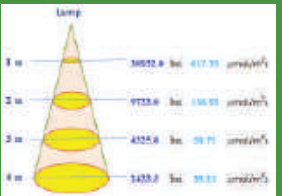
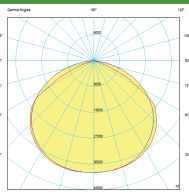

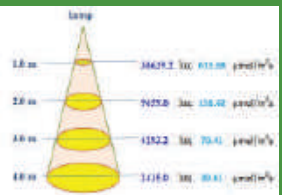
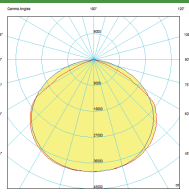


SPECIALIZED LED LIGHT FOR GROWING MEDICINAL PLANTS

ADVANTAGES

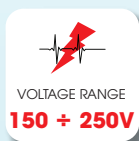
- Full light spectrum, high efficiency, suitable for the growth and development of many plants such as leafy vegetables, medicinal plants.
- Large light intensity, flexible adjustment, meeting most of plants' requirements.
- 5 dimming levels.
- Suitable for operating in environments with high humidity, combined with a central controller to make possible the control of the whole system with up to 200 lights.
- Handy accessories, easy to install and hang lights. Applied for greenhouses, net houses, multi-storey plant stands.
- **Replacement for Metal halide (MH) lamp 1.000-1.500 W.**



Product	Illumination grid	Photo distribution	Specification					
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxWxH (mm)	Lifespan (hours)	Weight (kgs)
			RD-720-HE G1	720	1980	1080x1212x110	54000	14
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxWxH (mm)	Lifespan (hours)	Weight (kgs)
			RD-720-SE G2	720	2088	1088x1212x85	54000	10
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxWxH (mm)	Lifespan (hours)	Weight (kgs)
			RD-720-SE G3	720	2050	1088x1212x85	54000	12


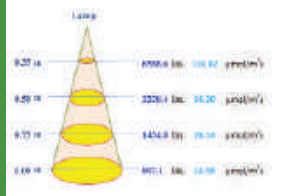
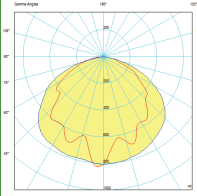

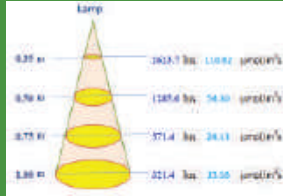
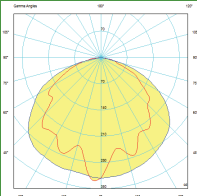


LED GROW LIGHTS FOR MEDICINAL PLANTS AND HERBS



ADVANTAGES

- Suitable spectrum with components able to stimulate the precious substances in medicinal plants, ginseng, mushroom, as well as to raise fruit sweetness.
- IP65 grade helps the grow lights perform well outdoors, in damp and wet conditions.
- Integrated tube design provides good protection, long lifespan, and makes it easy to install on racks.

Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux ($\mu\text{mol/s}$)	Dimension LxWxH (mm)	Lifespan (hours)
			T8 LT 200/30W WBU	30	36	1200x30x30	30000
			Model	Power (W)	Photon flux ($\mu\text{mol/s}$)	Dimension LxWxH (mm)	Lifespan (hours)
			T8 LT 1200/30W B/R	30	36	1200x30x30	30000



LED GROW LIGHTS FOR PLANTS IN GREENHOUSE, NET HOUSE FARMING


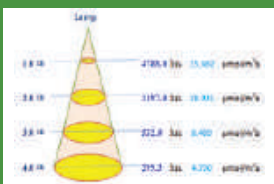
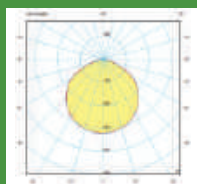

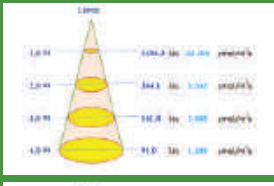
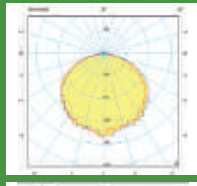

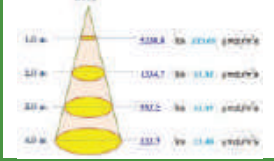
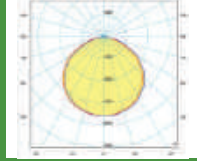
Specialized for fruits:

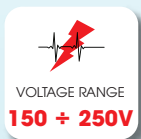
- Optimal spectrum with white blue and ultra-violet (WBU) for fruits including cataloupe, tomato, strawberry, cucumber; increasing flavors of spices such as sweet basil, mustards, perilla, and herbs.
- Cantaloupe: raising sweetness (brix), crunchiness, weight, and flavors.
- Strawberry: supporting growth, raising sweetness and flavors.
- Tomato: supporting growth, raising sweetness and flavors.
- Good structure that enables easy installation in greenhouse, net houses; Suitable for outdoor.

Specialized for Dendrobium anosmum orchids:

- Suitable spectrum with 3 wavelength peaks of violet, blue and red.
- Accelerating photosynthetic pace and metabolism process, limiting shoot shrinks, aiding growth in winter and wet season.
- Stimulating the growth of roots and early development of main shoots.
- Good structure for easy installation.



Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux ($\mu\text{mol/s}$)	Dimension (mm)	Lifespan (hours)
			LED UFO330 150W / WBU	150	190	\varnothing 330	30000
			TR140N1 / 50W WBU	50	80	\varnothing 140	20000
			HB.GR05 360 / 200W	200	610 (typ)	\varnothing 360xH 185	54000



LED MULTIFUNCTIONAL SMART GROW LIGHTS FOR TISSUE CULTIVATION

ADVANTAGES

- Spectra can be changeable to make it compatible with each type and growth stage of plants.
- Flexible dimming in a range of 1÷100%, suitable for many kinds of plants: sciophytes, heliophytes, and neutral plants, optimizing energy and seedling quality.
- Connection with smartphone possible to control spectra, intensity via bluetooth mesh.
- Suitable for plant research facilities; Applicable on many types of plants and multiplication technologies.



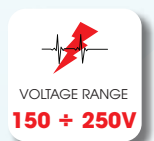
Product	Illumination grid	Photo distribution	Specifications				
	<p>0.25 m: 4996.6 lux, 100.82 μmol/m²/s</p> <p>0.50 m: 2226.8 lux, 45.00 μmol/m²/s</p> <p>0.75 m: 1454.8 lux, 29.38 μmol/m²/s</p> <p>1.00 m: 892.1 lux, 18.08 μmol/m²/s</p>		Model	Power (W)	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			LED DN 120/2x25W WBR 220V (SMART)	50	80	1200x17	25000
	<p>0.25 m: 2623.7 lux, 116.82 μmol/m²/s</p> <p>0.50 m: 1285.6 lux, 54.40 μmol/m²/s</p> <p>0.75 m: 571.4 lux, 24.43 μmol/m²/s</p> <p>1.00 m: 321.4 lux, 13.55 μmol/m²/s</p>		Model	Power (W)	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			LED DN 120/2x25W B/R 220V (SMART)	50	50	1200x17	25000


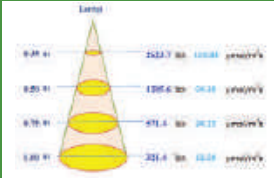
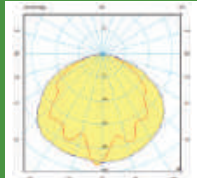

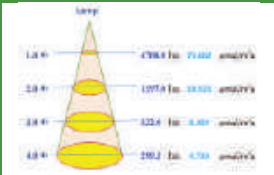
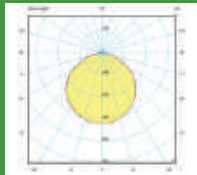

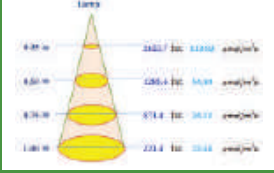
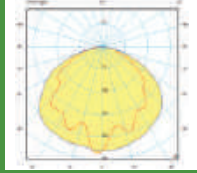


LED GROW LIGHTS FOR ALGAE

ADVANTAGES

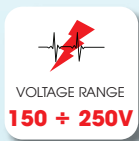
- Spectrum suitable with many types of algae in fresh water, sea water and brackish water (Chlorella, Thalassiosira, Spirulina, etc.) with high biomass density.
- LED technology applied with high efficiency, energy saving, long lifespan.
- Various designs, suitable for growing algae in tanks, on racks, or pillars.



Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux (μmol/s)	Dimension (mm)	Lifespan (hours)
			T8 LT 1200 / 30W B/R	30	36	1200x30	25000
			LED UFO330 150W/WB	150	190	Ø 330x141	30000
			HB05 220/ 150W-WB	150	250	220x220x195	30000


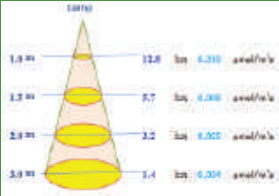
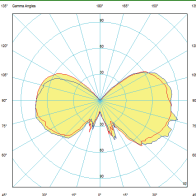

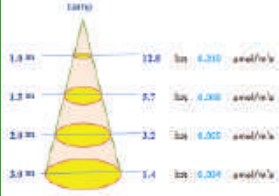
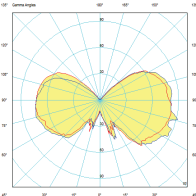


LED GROW LIGHTS FOR STIMULATING DRAGON FRUIT FLOWERING



ADVANTAGES

- Spectra suitable for stimulating dragon fruit flowering, 20-25% more effective than normal fluorescent lamps.
- Replacing 60W incandescent lamp (IL), 40W halogen lamp and 20W CFL.
- Closed structure, water-proof for good performance outdoors.
- Save electricity 4 times compared with 20W CFL and 12 times compared with 60W IL.
- Lifespan 4 times longer than CFL, 20 times above IL.
- Use LED light source with high efficacy and long lifespan.
- Products have registered industrial design, certified utility solutions.

Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux ($\mu\text{mol/s}$)	Dimension LxH (mm)	Lifespan (hours)
			T60.TL/XW	5	8.2	60x106	20000
			Model	Power (W)	Photon flux ($\mu\text{mol/s}$)	Dimension LxH (mm)	Lifespan (hours)
			LED.TL-T60 WFR/9W	9	12	60x114	15000

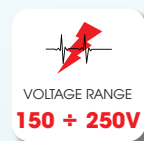
Note: It is recommended to use the light with Rang Dong's IP lamp holder to ensure safety and waterproof.


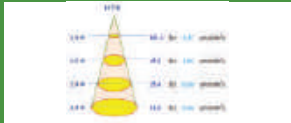
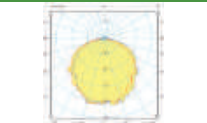

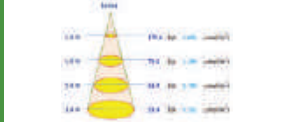
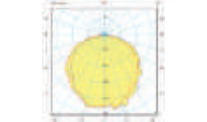

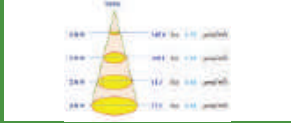
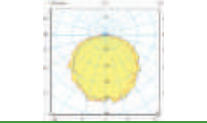

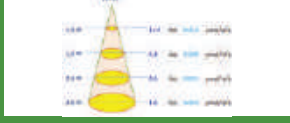
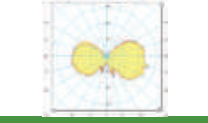


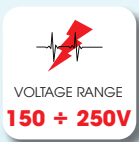
LED GROW LIGHTS FOR CHRYSANTHEMUM BLOSSOM

ADVANTAGES

- Spectrum suitable for stimulating the flowering and multiplication on chrysanthemum.
- Providing high and stable quality, with high economic value.
- Energy saving up to 4 times compared to conventional 20W compact lamps (CFL).
- Lifespan 4 times longer than CFL.
- Diverse design on offer, suitable for farming solutions in different locations.




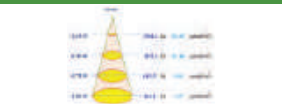
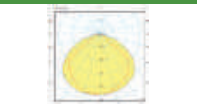

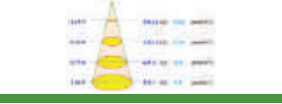
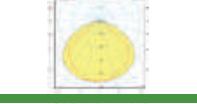


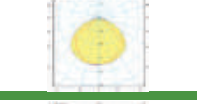


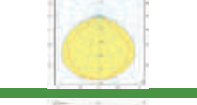
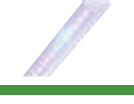

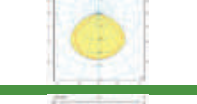


Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			LED A60. HC/YW	5	7.5	60x106	20.000
			LED HC A60 /6W WR	6	6.5	60x110	15.000
			LED HC A60 /9W	9	12	65x123	15.000
			LED TR60. HC/9W	9	11	60x114	15.000



LED GROW LIGHTS FOR TISSUE CULTIVATION

ADVANTAGES

- Specialized spectrum, suitable for tissue culture propagation lighting for a variety of plants.
- Use high-quality LED light source with high efficacy, saving 60% of energy in compared with Fluorescent light.
- Consuming less energy, low heat dissipation, helping cool the tissue cultivation workshop.

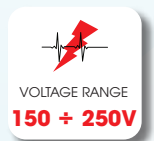
Product	Illumination grid	Photo distribution	Specifications					
			Model	Power (W)	IP	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			NCM02 600/10W	10	42	14	600x17	25.000
			NCM02 1200/10W	10	42	15	1200x17	25.000
			NCM02 1200/16W	16	42	20	1200x17	25.000
			LED NCM 16W 120/WR	16	42	20	1200x17	25.000
			LED NCM 120/16W WBU	16	42	22	1200x40	25.000
			LED NCM 1200/25W WBU	25	54	36	1200x40	20.000



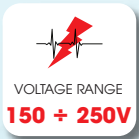
LED GROW LIGHTS FOR VEGETABLE

ADVANTAGES

- Spectra Suitable to stimulate the growth of fresh weight, dry weight and micronutrients in microgreens, lettuce, herbs and vegetable, etc.
- Using LED light source with high efficacy, high quality.
- Saving 60% of energy compared with FL.
- Durable, slight structure, many sizes; good design to enable easy installation for maximum illuminating on vegetable.
- Good use for growing vegetable in high-tech farms, greenhouses, net houses, at families (directly replacing FL).



Product	Illumination grid	Photo distribution	Specifications					
			Model	Power (W)	IP	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			T5 LT 1200/16W	16	65	21	1200x26	25.000
			T8 LT. GR02 1200/18W	18	-	≥40	1200x38	20.000
			LED TRR 25W 120/WR	25	42	32	1200x17	25.000
			T8 LT 1200/30W WBU	30	65	36	1200x30	25.000
			T8 LT 1200/30W B/R	30	65	36	1200x30	25.000



LED GROW LIGHTS FOR INDOOR PLANTS

ADVANTAGES

- WR spectrum has optimal Blue and Red ratio for stimulating the growth of indoor plants.
- Optional designs include flood light, tracklight, spotlight, Integrated tube for many kinds of indoor plants.
- Can be compatible with many kinds of plants, including sciophytes, heliophytes and neutral plants.

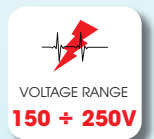
Product	Illumination grid	Photo distribution	Specifications					
			Model	Power (W)	IP	Photon flux (μmol/s)	Dimension (mm)	Lifespan (hours)
			TRL05 30W	30	20	33		25,000
			CX50W WR-220V	50	54	60	248x215	25,000
			TR140N1 / 50W WR	50	54	80	Ø 140	20,000
			T8 LT 1200 / 30W WBU	30	65	36	1200x30	25,000


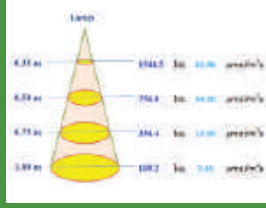
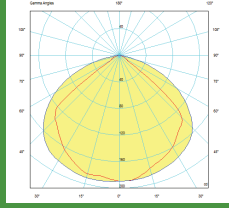

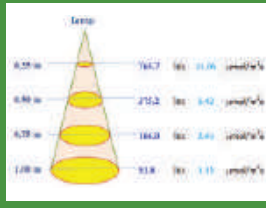
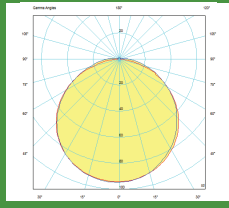


LED GROW LIGHTS FOR CORDYCEPS

ADVANTAGES

- Spectrum suitable for cordyceps, improving precious substance content.
- Optimal dimming levels for growth stages of cordyceps, increasing biomass of cordyceps.
- Wide beam angle for uniform photo distribution.
- Saving 60% of energy compared with fluorescent lamps.



Product	Illumination grid	Photo distribution	Specifications				
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			NCM02.DIM 1200/16W	16	(0 ÷ 20)	1200x17	25.000
			Model	Power (W)	Photon flux (μmol/s)	Dimension LxH (mm)	Lifespan (hours)
			RD-LD01.7W	7	(0 ÷ 18)	14x8	25.000



LED GROW LIGHTS FOR POULTRY



ADVANTAGES

- Spectrum suitable for egg laying, meat, breeding.
- Non-flicker output light.
- Optional dimming levels for chicken's growth stages.
- IP54 grade for chicken breeding conditions.

Product	Illumination grid	Photo distribution	Specifications																
	<table border="1"> <tr><td>1.0m</td><td>52.0 lux</td><td>0.06 μmol/m²/s</td></tr> <tr><td>1.5m</td><td>45.3 lux</td><td>0.06 μmol/m²/s</td></tr> <tr><td>2.0m</td><td>33.8 lux</td><td>0.06 μmol/m²/s</td></tr> <tr><td>3.0m</td><td>14.8 lux</td><td>0.15 μmol/m²/s</td></tr> </table>	1.0m	52.0 lux	0.06 μmol/m ² /s	1.5m	45.3 lux	0.06 μmol/m ² /s	2.0m	33.8 lux	0.06 μmol/m ² /s	3.0m	14.8 lux	0.15 μmol/m ² /s		Model	Power (W)	Luminous flux (lm)	Dimension Ø (mm)	Lifespan (hours)
1.0m	52.0 lux	0.06 μmol/m ² /s																	
1.5m	45.3 lux	0.06 μmol/m ² /s																	
2.0m	33.8 lux	0.06 μmol/m ² /s																	
3.0m	14.8 lux	0.15 μmol/m ² /s																	
			A60/5W DIM.G	5	470	Ø60	20.000												
	<table border="1"> <tr><td>1.0m</td><td>100.6 lux</td><td>0.07 μmol/m²/s</td></tr> <tr><td>1.5m</td><td>88.2 lux</td><td>0.06 μmol/m²/s</td></tr> <tr><td>2.0m</td><td>66.1 lux</td><td>0.06 μmol/m²/s</td></tr> <tr><td>3.0m</td><td>28.0 lux</td><td>0.22 μmol/m²/s</td></tr> </table>	1.0m	100.6 lux	0.07 μmol/m ² /s	1.5m	88.2 lux	0.06 μmol/m ² /s	2.0m	66.1 lux	0.06 μmol/m ² /s	3.0m	28.0 lux	0.22 μmol/m ² /s		Model	Power (W)	Luminous flux (lm)	Dimension Ø (mm)	Lifespan (hours)
1.0m	100.6 lux	0.07 μmol/m ² /s																	
1.5m	88.2 lux	0.06 μmol/m ² /s																	
2.0m	66.1 lux	0.06 μmol/m ² /s																	
3.0m	28.0 lux	0.22 μmol/m ² /s																	
			A60/7W DIM.G	7	650	Ø60	20.000												
DIM			Model	Power (W)	Dimension (mm)														
			HCA D02.G / 400W	5 ÷ 400	23x23x55														

CERTIFICATES AND PROJECTS

CERTIFICATES



PROJECTS



Lighting solution for dragon fruit



Lighting solution for chrysanthemum



Lighting solution for tissue cultivation



Lighting solution for Dendrobium anosmum orchids



Lighting solution for tomatoes



IoT model



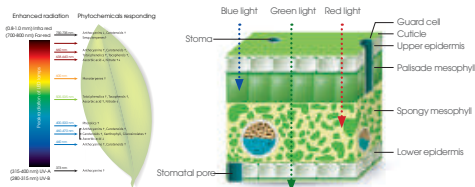
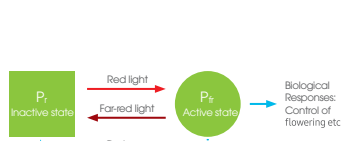
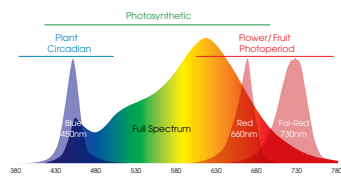
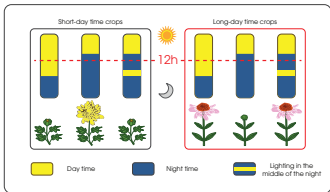
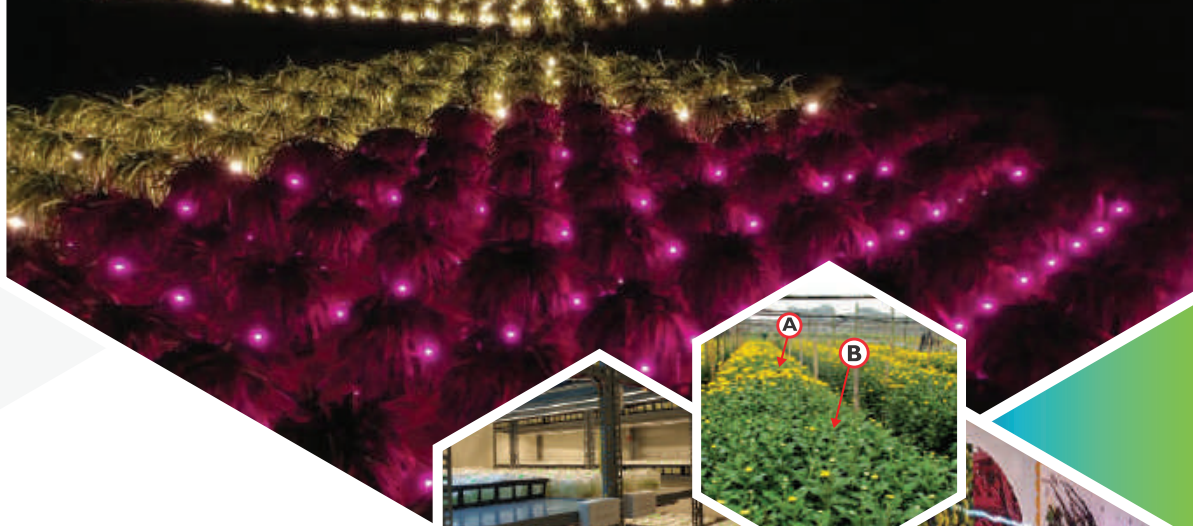
Lighting solution for cordyceps



Lighting solution for butterfly orchids/plants



Lighting solution for vegetable



“By **Controlling**
the Photosynthesis process
 Humans
 can **Exploit Plants**
for perpetuity”

- Russian famous botanist K.A. Timiryazev -



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