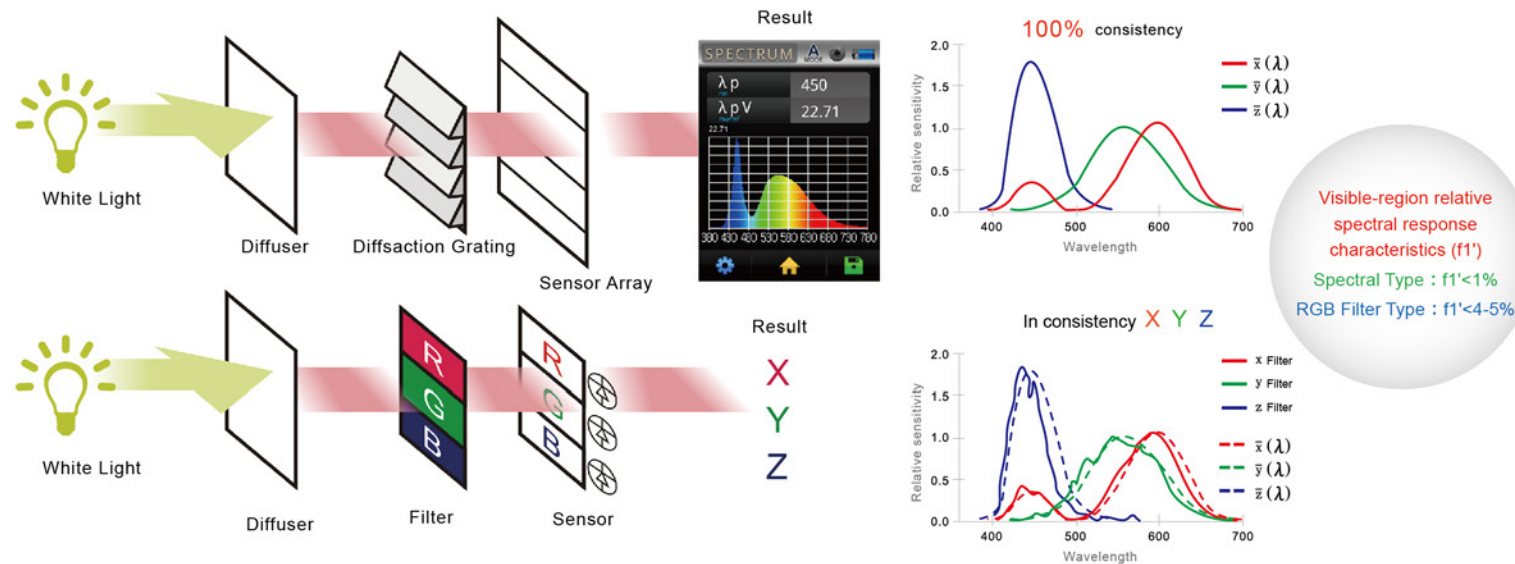


Differences Between Spectral Type and RGB Filter Type

Type	Technology	Components	Concept	Result
Spectrometer	Spectral Type	Diffuser	Light source goes through the "Diffraction Grating and Sensor Array" to collect the spectrum and dispers the light for analysis.	Obtain spectral energy and come out the CIE XYZ
		Diffraction Grating		
		Sensor Array		
Color Analyzer	RGB Filter Type	Diffuser	Light source goes through the "Filter and Sensor" and execute light analysis.	Sensor provides the CIE XYZ directly.
		Filter		
		Sensor		

Summary:
 1. Spectrum information: Spectrometer (✓); Color Analyzer (✗)
 2. CIE XYZ accuracy: Spectrometer > Color Analyzer



Product Features & Competitive Advantages

- ⊙ In-house RD team, one-step production and direct sale service.
- ⊙ All in One design with multi-measurement.
- ⊙ Professional spectrometer tool with post-analysis software.
- ⊙ Integration ability on optical, mechanical and electronic for customized service.
- ⊙ Globalization of marketing and support service system guaranteed.



The Mystery of Controlling Plant Growth

Light, water, air are the three elements of plant growth. Among them, "light" has direct regulatory effects on Photosynthesis and plant growth. Even more, different plants have different requirements from light. As time goes by, spectral technology and equipments are getting mature, applying it on horticulture field are taking advantages as below:

🌱 LED light wavelength coincides with plant requirements
 LED visible spectrum wavelength is 380-780nm, the Photosynthesis visible spectrum wavelength is about 400-700nm. We can evaluate light quality, light density and light uniformity by intelligent detection of spectrum. From the experiment results we know that blue light (400-500nm) and red light (610-720nm) are contributed to the growth and flowering of vegetables and flowers.

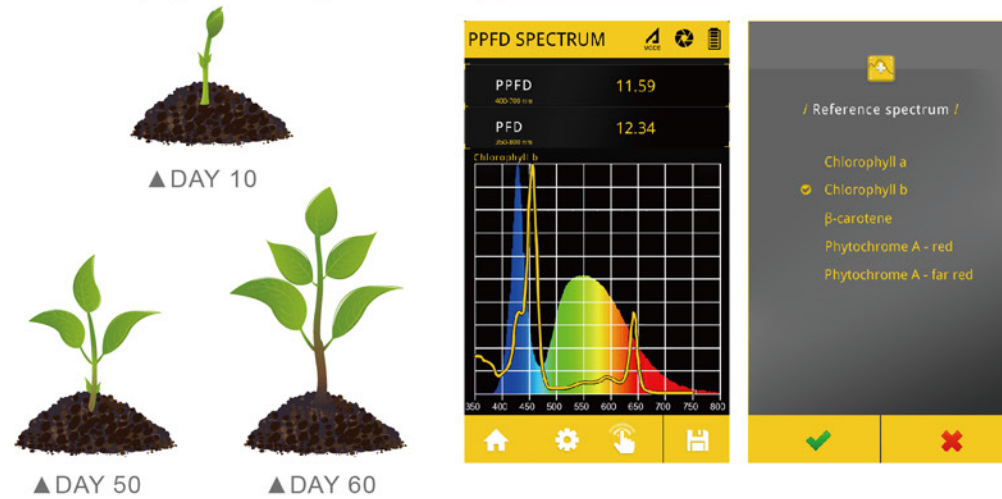
👁️ Spectrum and light intensity can be adjusted by users
 The LED can emit monochromatic light which is needed by plants so that R&D may adjust the light intensity of plants, improve the utilization rate of light energy, and provide the most suitable growth environment for plants by referring the spectrum and the values (PPFD, PFD, LUX, CCT and etc.) which were measured by spectrometer.



Increase space utilization

Most of the cultivators are using multilayers shelves to maximize the space utilization because the changes of the way of crop cultivation. This is not only effective in avoiding natural disasters, but also reduces the cost of renting land.

PG200N offers plant reference spectrum for users to compare and compensate the necessary light wavelength needed by plant.



Knowledge of Primary School

- PAR (Photosynthetically active radiation)-Giving direct light on the plants can speed up the growth. The light from 400-700nm wavelength is closely related to photosynthesis.
- PPF (Photosynthetic photon flux)-The number of photons are emitted per second within the range of light (400-700 nm).
- PFD-Ultraviolet radiation-The number of photons are emitted per second within the range of light (380-400nm / 350-400 nm).
- PFD-Blue light-The number of photons are emitted per second within the range of light (400-500 nm).
- PFD-Green light-The number of photons are emitted per second within the range of light (500-600 nm).
- PFD-Red light-The number of photons are emitted per second within the range of light (600-700 nm).
- PFD-FR-The number of photons are emitted per second within the range of light (700-780nm / 700-800 nm).
- PPFD (Photosynthetic photo flux density)-The number of photons are emitted per second within the range of light (400-700 nm) in every square meter .



Customizing PPFD (Photosynthetic Photon Flux Density) & PFD (Photon Flux Density) range of plant.



Measurement Description

Multiple measurement solution provider, unlimited capturing the real light output, and making effective communication with customers.



▲ Stand-alone Measurement



▲ APP Measurement
PC SW Measurement



▲ Remote Measurement:
USB Type C cable
A removable sensor head can be set up in the Plant Growth Chambers and measure the Led growth lights conveniently.



▲ Automatic Equipment
System built-in
Measurement



Application Categories

