

Here is our technology!!

Plant flowering control operated by LED light source

Stanley strives to make a social contribution by pursuing the value of light. For "harnessing light's energy", which is one of "the five ways of creating value with light", we have researched into controlling plant flowering with light. In this volume, we focus on controlling plant flowering by LEDs.

Why are we able to control the growth of plants with light energy?

Plants sense the changing of the seasons as they sense changes in day length (the time which elapses from sunrise to sunset) and temperature. Timing of blooming depends on the kind of flower, because each kind requires a different day length for flowering.

Therefore, we thought of controlling the growth of plants by changing the wavelength and amount of light they receive to "confuse" the plants with artificial day lengths.

Is it still night time?

Completely dark

I see!

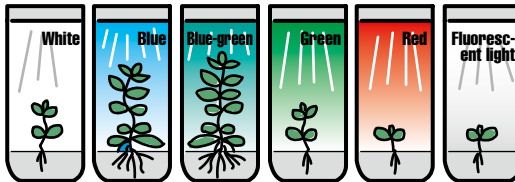
Why do we use LEDs?

Plants grow in sunlight. Therefore, we have conducted experiments to irradiate lights of various wavelength included in sunlight by using LEDs.

Cultivating in a sterile environment



We experimented with wide-ranging spectrums, from light with high energy to low energy.



Irradiating light of various colors (wavelength)

Time Measurement

Collecting numerous data

Room temperature Same conditions

Amount of light

Turn it on!

Findings of the experiments

Blue-green LED promotes growth before flowering.

The flowering rate in two weeks after LED irradiation increases by about 6 times compared with fluorescent light.

So fast!

Blue-green LED

Grow quickly! Come on! Come on! Grow quickly! Come on! Come on! Grow quickly! Come on! Come on!

Energy of blue-green light promotes flowering.

The key point is the delicate balance between the wavelength and the amount of light!

It depends on the color.

Red LED

Stay as you are. Stay as you are. Stay as you are. Stay as you are. Stay as you are. Stay as you are.

Energy of red light keeps plants young.

Red LED can keep plants blooming.

It almost doubles the life of cut flowers.

So young and healthy!

So wilted...

In the future, new businesses that take advantage of this characteristic of LEDs can be launched.

Possible applications

For example...

Installing LEDs in florists' storage areas, so that plants can bloom on the day that the florists want to sell them.

florist



No loss.

Lighting glass vessels or small pots used for flowers.

How beautiful!

Light energy has created various possibilities.