required.

[0008]

It is an object of the present invention to provide a plant growing apparatus capable of irradiating plants by switching white light from a white light source into light of a color of a specific wavelength by using a partition plate that partitions a light source placement space and a plant growing space.

Solution to Problem

[0009]

A plant growing apparatus according to the present invention includes: a white light source emitting white light and being provided so as to face plants to be grown; a housing facility including a light source placement space configured to place the white light source and a plant growing space configured to place the plants to be grown, and blocking entry of external light; and a partition plate being provided so as to extend in the housing facility in a horizontal direction, blocking at least one of temperature transfer and air circulation between the light source placement space and the plant growing space, and being arranged a filter configured to transmit light of a specific wavelength in the white light from the white light source.

As used herein, the term “light source emitting light of a specific wavelength” refers to a light source emitting

CLAIMS

[Claim 1]

A plant growing apparatus comprising:

a white light source emitting white light and being provided so as to face plants to be grown;

a housing facility including a light source placement space configured to place the white light source and a plant growing space configured to place the plants to be grown, and blocking entry of external light;

a partition plate being provided so as to extend in the housing facility in a horizontal direction, blocking at least one of temperature transfer and air circulation between the light source placement space and the plant growing space, and being arranged a filter configured to transmit light of a specific wavelength in the white light from the white light source.

[Claim 2]

The plant growing apparatus according to Claim 1, wherein the partition plate includes a partition plate body and an attachment part where the filter is attached, and

the filter is provided so as to be attachable to and detachable from the attachment part.

[Claim 3]

The plant growing apparatus according to Claim 2,

wherein the filter is provided so as to be attachable to and detachable from a light source placement space side of the partition plate.

[Claim 4]

The plant growing apparatus according to Claim 2 or 3, wherein the partition plate body transmits the white light.

[Claim 5]

The plant growing apparatus according to Claim 2 or 3, wherein in a case where the plants to be grown are classified and planted in each predetermined unit,

the plant growing apparatus comprises a plurality of different types of the filters corresponding to the predetermined unit.

[Claim 6]

The plant growing apparatus according to Claim 1, wherein the filter is provided integrally with the partition plate.

[Claim 7]

The plant growing apparatus according to any one of Claims 2 to 4, wherein the plant growing apparatus further includes a horizontal movement device moving the filter horizontally.

[Claim 8]

The plant growing apparatus according to Claim 7, wherein

the filter is provided so as to be attachable to and detachable from the light source placement space side of the partition plate.

[Claim 9]

The plant growing apparatus according to Claim 7 or 8, wherein

the partition plate transmits the white light.

[Claim 10]

The plant growing apparatus according to any one of Claims 7 to 9, wherein

in a case where the plants to be grown are classified and planted in each predetermined unit,

the plant growing apparatus comprises a plurality of different types of the filters corresponding to the predetermined unit.

[Claim 11]

The plant growing apparatus according to any one of Claims 1 to 10, wherein the plant growing apparatus further includes a light-condensing device condensing light to the plants to be grown.

[Claim 12]

The plant growing apparatus according to Claim 11, wherein the light-condensing device is disposed in the plant growing space.

[Claim 13]

The plant growing apparatus according to any one of Claims 1 to 12, wherein the plant growing apparatus further includes a vertical movement device moving the partition plate vertically.