DESCRIPTION

TITLE OF INVENTION: VEGETABLE PRODUCTION METHOD ~~AND LETTUCE~~

FIELD

[0001] The present disclosure relates to a vegetable production method and a lettuce.

BACKGROUND

[0002] Hydroponics is a known alternative to typical methods with soil for producing plants (refer to, for example, Japanese Unexamined Patent Application Publication No. 6-7047, Japanese Patent No. 5300993, WO 2015/155914, Japanese Unexamined Patent Application Publication No. 2017-221177, and WO 2019/139031).

BRIEF SUMMARY

[0003] A vegetable production method is ~~and a lettuce are~~ described.

[0004] A vegetable production method according to one aspect includes seeding, causing a cotyledon to sprout from a seed in a first period, growing a vegetable in a second period subsequent to the first period, further growing the vegetable in a third period subsequent to the second period, and harvesting the vegetable. The vegetable is grown with first light having a first maximum value of a light intensity in a wavelength range of 420 to 490 nm and including at least portion of light in a wavelength range of 500 to 600 nm in a later part of the second period, and is grown with second light having a second maximum value of a light intensity in a wavelength range of 590 to 650 nm, having a peak light intensity less than the second maximum value in a visible light wavelength range of less than or equal to 500 nm, and including light in a wavelength range of 500 to 590 nm in the first period, an earlier part of the second period, and the third period~~In the growing the vegetable in the second period, the vegetable is grown with first light having a first maximum value of a light intensity in a wavelength range of 420 to 490 nm in at least a partial period in the second period~~.

~~[0005] A lettuce according to one aspect has a Brix value of greater than or equal to 3.~~

BRIEF DESCRIPTION OF DRAWINGS

[0006] FIG. 1 is a diagram of an example hydroponic growth period with a vegetable production method according to a first embodiment.

FIG. 2A is a schematic perspective view of an example seeded growth site, and FIG. 2B is a schematic left view of the seeded growth site in FIG. 2A.

FIG. 3A is a schematic perspective view of an example growth site with sprouts, and FIG. 3B is a schematic left view of the growth site with sprouts in FIG. 3A.

CLAIMS

1. A vegetable production method, comprising:

seeding;

causing a cotyledon to sprout from a seed in a first period;

growing a vegetable in a second period subsequent to the first period;

further growing the vegetable in a third period subsequent to the second period; and

harvesting the vegetable,

wherein~~, in the growing the vegetable in the second period,~~ the vegetable is grown with first light in a later part of the second period, and is grown with second light in the first period, an earlier part of the second period, and the third period, the first light having a first maximum value of a light intensity in a wavelength range of 420 to 490 nm and including at least portion of light in a wavelength range of 500 to 600 nm, the second light having a second maximum value of a light intensity in a wavelength range of 590 to 650 nm, having a peak light intensity less than the second maximum value in a visible light wavelength range of less than or equal to 500 nm, and including light in a wavelength range of 500 to 590 nm~~ in at least a partial period in the second period~~.

~~2. The vegetable production method according to claim 1, wherein~~

~~in the growing the vegetable in the second period, the partial period includes a later part of the second period.~~

2~~3~~. The vegetable production method according to claim 1~~ or claim 2~~, wherein

in the growing the vegetable in the second period, the ~~partial period~~later part of the second period has a length of 1/4 to 1/2 of a total length of the first period, the second period, and the third period.

~~4. The vegetable production method according to any one of claims 1 to 3, wherein~~

~~in the causing the cotyledon to sprout, the growing the vegetable in the second period, and the further growing the vegetable in the third period, the vegetable is grown with second light having a second maximum value of a light intensity in a visible light wavelength range of greater than 500 nm in a period other than the partial period.~~

3~~5~~. The vegetable production method according to claim 1~~4~~ or claim 2, wherein

the second light has a maximum light intensity being a maximum value of a relative light intensity in a wavelength range of 590 to 650 nm, a first value of a relative light intensity at a wavelength of 700 nm being greater than or equal to 20 percent of the maximum light intensity, and a second value of a relative light intensity at a wavelength of 800 nm being less than or equal to 10 percent of the maximum light intensity.

~~6. The vegetable production method according to claim 4 or claim 5, wherein~~

~~the second light further has a peak light intensity less than the second maximum value in a visible light wavelength range of less than or equal to 500 nm.~~

~~7. The vegetable production method according to any one of claims 1 to 6, wherein~~

~~in the growing the vegetable in the second period, the vegetable is grown with a first nutrient solution in the partial period, and the first nutrient solution has a nitrogen content of 0.2 to 0.47 mg per liter and a calcium oxide content of 0.33 to 0.83 mg per liter.~~

~~8. The vegetable production method according to any one of claims 1 to 7, wherein~~

~~in the causing the cotyledon to sprout and the growing the vegetable in the second period, the vegetable is grown with a second nutrient solution in a period before the partial period, and the second nutrient solution has a nitrogen content of 0.06 to 0.14 mg per liter and a calcium oxide content of 0.1 to 0.25 mg per liter.~~

~~9. The vegetable production method according to any one of claims 1 to 8, wherein~~

~~in the further growing the vegetable in the third period, the vegetable is grown with a third nutrient solution, and the third nutrient solution contains nitrogen in a form of ammonia nitrogen and has a nitrogen content of 0.21 to 0.42 mg per liter.~~

~~10. The vegetable production method according to any one of claims 1 to 8, wherein~~

~~in the further growing the vegetable in the third period, the vegetable is grown with a fourth nutrient solution, and the fourth nutrient solution has a nitrogen content of less than or equal to 0.01 mg per liter, a magnesium oxide content of 0.12 to 0.24 mg per liter, and a calcium oxide content of 0.54 to 0.8 mg per liter.~~

4~~11~~.The vegetable production method according to any one of claims 1 to 3~~10~~, wherein the vegetable includes a leafy vegetable.

~~12. A lettuce having a Brix value of greater than or equal to 3.~~

~~13. The lettuce according to claim 12, wherein~~

~~the lettuce has a glutamine content of greater than or equal to 220 ppm.~~

~~14. The lettuce according to claim 12 or claim 13, wherein~~

~~the lettuce has a nitrate concentration of less than or equal to 1300 ppm.~~