OFF-SEASON FLOWERING TREATMENT BY LIGHTING RED PULP DRAGON FRUIT IN GIA LAM DISTRICT, HANOI, VIETNAM

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ABSTRACT

In Northern Vietnam, red pulp dragon fruit is widely planted in the provinces of Vinh Phuc, Quang Ninh, Ha Noi, Hai Duong, and Son La, with the whole cultivation area reaching more than 800 ha and producing some 16,000 tons of fruit. Following the annual ecological conditions in the Northern provinces, harvesting time of red pulp dragon fruit happens anytime between 15 July and 30 October. Our study on the red pulp dragon fruit variety TL5 was conducted in Gia Lam district, Ha Noi between 2013 and 2014. Our primary aim was to study the off-season flowering treatment by lighting and draw conclusions regarding the prolongation of harvesting time of the said variety.

The lamps that were used for the study were of the incandescent type with 75 watts of power. Quantity of lamps was equivalent to the planting density of the dragon fruit. They were hung in between rows of dragon fruit plants with height of 70 to 100 cm from the ground to the lamps. The lighting experiment started on 20 February which is considered the first season while the second season started on 20 October. Lighting was done at 10 hours/night and continued for 20 days.

The initial results showed that the red pulp dragon fruit variety TL5 gave good flowering ability and good quality fruit at both off season of flowering treatment times of the year. At the first flowering treatment time, plants had flower buds appearing at 3-4 days after lighting was switched off. The duration from budding to flowering was about 27-30 days and the blossoming duration was three days. Meanwhile, the duration from flowering to harvesting occurred in 45-48 days, while the duration from budding to harvesting happened in 75-78 days. At the second flowering treatment time, plants flower buds appeared at 3-4 days after the lights were switched off. The duration from budding to flowering was about 20-22 days and the blossoming duration was three days. Likewise, the duration from flowering to harvesting occurred in 30-35 days while the duration from budding to harvesting happened in 57-62 days.

The mean fruit weight of the red pulp dragon fruit variety TL5 at both off season flowering treatment times reached 420-450 grams with yield of 5.0 – 5.2 kg fruit/polar/lighting time. This was equivalent to 5.0–5.2 t/ha. Fruit harvested in the off-season flowering treatment condition has the similar quality compared to the harvested fruit in the main season with Brix of 17- 18%. Off season flowering treatment contributed to improve the economic efficiency of dragon fruit farmers in the Northern provinces of Vietnam.