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Effect of V and I Trellis Systems on Vegetative and Reproductive Growth of Vine and Fruit of Thorny Blackberry

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Optimal management of environmental factors, on the trellis systems farming, is one of the solutions to increase product quality, especially sunlight. In order to investigate the vegetative and reproductive growth of thorny trailing blackberry in the three trellis types, an experiment performed that including hill (control), I and V systems in a completely randomized design with three replications. Measurements of first year vegetative traits and physical and chemical traits of berries in the second year showed that trellis types had a significant effect on vegetative and reproductive indices of blackberry compared with the control. V trellis system had maximum number of flowers in cluster (3.4), antioxidant capacity (78.7%) and total phenol (564.5 mgg^{-1}) in compare to others and increased 49% yield compared to the control. The amount and intensity of light showed considerable effect on plant growth and the yield affected by light absorbance in leaf area, as well as its uniform distribution in the foliar. Results of this study showed that V trellis system has a positive effect on the vegetative and reproductive characteristics of trailing thorny blackberry via separating the cane from each other and increasing the light penetration into the canopy.

Keywords: Anthocyanin, Blackberry, Floricane, Leaf area, Light, yield.

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