



Management of graduate education

Faculty of Science

Department of Biology

**Dissertation for obtaining a master's degree in the field of biology,
majoring in plant physiology**

**The effect of foliar application of
brassinosteroid and carrageenan
biostimulants on the quantitative and
qualitative traits of the medicinal plant
Physalis (Physalis alkekengi L.)**

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(123.11 cm), the largest leaf area (25.74 cm²), the highest antioxidant power (98.6 percent), the highest vitamin C content (97.2 mg of Ascorbic acid/100 ml of fruit juice) was observed in B600K400 treatment. Also, the highest fruit diameter (19.1 mm), the highest fruit fresh weight (1.9 g), the highest fruit carotenoid content (4.65 mg/g F.W.) and flavonoid (3 mg Q/g D.W.) were measured in the elicitation with B600K600. The highest fruit yield (5.9 T/ha) was measured in B300K400 treatment. The highest content of photosynthetic pigments (20.43 mg/g F.W.) was measured in the B300K600 treatment and the highest content of phenolic compounds (80.6 mg GA/g D.W.) in the treatment with carrageenan at a concentration of 400 ppm. In general, the results of the present experiment showed that the stimulation of *Physalis* plants with Brassinosteroid and Carrageenan biostimulants led to an increase in its quantitative and qualitative characteristics.

Key words: *Physalis*, growth promoter, phytochemical, total phenol