EFFECT OF EXOGENOUS GROWTH REGULATORS ON SEED PRODUCTION OF TOMATO (*Solanum lycopersicon*) VARIETY THILINA

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By

KUMARASINGHE ARACHCHIGE THUSHANI KUMARASINGHE

Export Agriculture Degree Programme

Faculty of Animal Science and Export Agriculture

Uva Wellassa University, Sri Lanka

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ABSTRACT

Tomato (*Solanum lycopersicon)* is widely cultivated vegetable crop having high demand in Sri Lanka. "Thilina" is a popular tomato variety, but high cost in seed production due to the low seed number per pod. The effect of exogenous growth regulators on stimulation of true seed production in "Thilina" was studied using Gibberellic acid at 350 ppm and Cycocel at 1500 ppm. The level of the Gibberellic acid in flower stalk was changed by applying Gibberellic acid at two different times as two treatments and Cycocel twice as one treatment. Four treatments including control applied within two blocks in Randomized Complete Block Design. Seed number and germination percentage of seeds obtained were observed and analyzed using SAS package. Results reveal that there is significant difference between treatments. Application of Gibberellic acid once and twice gave higher mean seed number than the mean seed number obtained from the other treatment and the control. Application of Cycocel and control gave lower mean seed number. There was no significant difference between application of gibberellic acid once and twice. A significant difference can be observed between application of Gibberellic acid and control. Application of Gibberellic acid once was the best treatment to increase the seed number of "Thilina" variety. Application of Gibberellic acid once is adequate to stimulate the increase of the seed number per fresh tomato fruit. Therefore application of gibberellic acid twice is a waste to increase seed number. The seeds obtained from four treatments were shown more than 80% of germination ability. These results reveal that there is no effect on seed germination by application of Gibberellic acid and Cycocel to increase the seed number in tomato fruits.

Key words: Tomato, growth regulators, flower stalk, mean seed number, Gibberellic acid, seed germination