

Effect of Calcium Application on Growth, Yield and Quality in Tomato (*Solanum lycopersicum*)

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Tomato (*Solanum lycopersicum*) is world's third most consumed vegetable. It has an increasing demand for locally and large export potential too. One of the biggest problems in tomato production is poor nutrient management where calcium plays an important role. Therefore, this study was conducted to determine the potential of calcium to enhance plant growth, yield and quality of tomato. This experiment was conducted at the poly-tunnel of the Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka to investigate the performance of tomato cv. Platinum F1 under foliar application of calcium. The experiment was conducted using Completely Randomized Design with two factors and four replicates. Calcium was applied with three different calcium sources namely, Calnit, Winner and Calmax in two level of time of application namely one week after transplanting and just before flowering and repeatedly apply with fifteen days interval. Those calcium sources were applied in 0.5% concentration until entire plant was wet. Earliness of flowering, flower clusters, flower count, days to the first fruiting, fruit count, fruit weight, fruit circumference, fruit hardness, pH, total soluble solid content, vitamin C, lycopene content, blossom end rot incidence, plant height and plant fresh weight were measured. The highest plant height (112.5 ± 2.25 cm), flower count (60 ± 2.55), fruit weight (30.6 ± 1.63 g) and vitamin C content (0.00319 ± 0.00014 mg/100g) were recorded with foliar application of calcium sources. However, time of application has no effect on the above parameters. Foliar application of calcium has no significant effect on days to first fruiting, flower clusters, fruit count, fruit hardness, pH, total soluble solid content, lycopene content, blossom end rot incidence and plant fresh weight. This indicates that the foliar application of calcium has a positive effect on growth, yield and yield quality parameters of tomato through there is no effect of the time of application.

Keywords: *Calnit, Calmax, Foliar application, Tomato, Winner*