1-MCP AND NAA ON FRUIT RETENTION OF GHERKIN (*Cucumis sativus var. anguria*) UNDER GREENHOUSE CONDITIONS

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Gherkin (*Cucumis sativus var. anguria*) is a popular commercial cash crop in Sri Lanka for the last 15 years. The industry experiences a problem of greater pre-harvest fruit drop, resulting in low crop production. This study was undertaken to reduce immature fruit drop of gherkins by using exogenous plant growth regulators under controlled environmental conditions.

1-MCP: an ethylene action inhibitor, and NAA, a synthetic auxin, was sprayed on gherkins as foliar application at different intervals, commencing at 50% flowering stage onwards. Five treatments were applied; T_1 (50 mg l^{-1} 1-MCP in three weeks intervals), T_2 (10 mg l^{-1} NAA in one week intervals), T_3 (10 mg l^{-1} NAA in two weeks intervals), T_4 (10 mg l^{-1} NAA in three weeks intervals) and T_5 (spraying water as control). The design of the experiment was Complete Randomized Design with 4 replicates. Number of fruits dropped and harvested per plant was counted daily after the application of treatments for six weeks.

Results revealed that application of 1-MCP at three weeks interval (T_1) significantly reduced cumulative pre-mature fruit drop which was 27% when compared to 43% in the control. Exogenous NAA (i.e. T_2, T_3, and T_4) did not show significant differences in reduction of cumulative fruit drop, though weekly fruit drop data revealed a marginal positive influence of T_2 and T_3 in controlling immature fruit drop. Cumulative harvested fruit numbers were not significantly different among the treatments.

Key words: Fruit drop, Gherkin, Greenhouse, 1-methylcyclopropane, Naphthaleneacetic acid