

**EVALUATION OF THE EFFECT OF INTEGRATED PEST MANAGEMENT
SYSTEM ON DISEASE AND PESTS ON TOMATO (*Solanum lycopersicum*)
GROWN UNDER POLY TUNNEL CONDITIONS**



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Abstract

Tomatoes (*Solanum lycopersicum*) are one of the most commercially important vegetables grown worldwide. Tomatoes are an important vegetable crop. It is a rich source of vitamins, minerals, and fiber, as well as nutritional antioxidants.

An experiment was conducted to evaluate the effect of an integrated pest management system on disease and pests on tomato (*Solanum lycopersicum*) grown under poly tunnel conditions at Glorious Holdings (PVT) Ltd, Kandana, Sri Lanka, with the objective of evaluating the effect of integrated pest management system on disease and pests on tomato grown under poly tunnel conditions. The research was laid out in completely randomized design (CRD) with four treatments, and ten replicates of each treatment. The treatments combinations were as T₁ - control- without using any pest and disease management, T₂ – using organic pest and disease management, T₃ - using inorganic pest and disease management, T₄ – integrated pest and disease Management. The results indicated a significant effect of the pest and disease management in treatments observations were recorded for number of branches, height of plants (cm), number of flowers, number of fruits, number of pests and diseases leaves

The highest number of branches (36.9) was recorded in T₄. The maximum height (137.4) was recorded in T₄. The highest number of flowers (31.5) was recorded in T₄ and the lowest (2.6) recorded by T₂. The maximum number of fruits (7.6) was recorded in T₄. Minimum number of fruits (0.9) was produced by T₁ (Control). The treatment T₄ is the most effective treatment in controlling whiteflies up to 12 weeks. The treatment T₄ is the most effective treatment in controlling aphids up to 12 weeks. T₂, T₃ and T₄ treatments are effective in controlling caterpillars. The treatment T₄ is the most effective treatment in management of leaf curl disease up to 12 weeks. T₄ treatment are especially effective in early blight disease management up to 12 weeks. T₄ treatment are effective powdery mildew disease management also up to 12 weeks. Among the four treatments, T₄ demonstrated the highest efficiency and is recommended as the preferred pest and disease management practice for the growth and quality production of tomato.

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