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Management of Mealybug Wilt of Pineapple (*Ananas comosus*(L.) Merr.) using different fertilizer applications

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Mealybug wilt of pineapple is a serious problem for the pineapple industry worldwide. This disease is common in pineapple cultivations in Sri Lanka. Reddening of leaves, twisting of tips, and wilting of whole plants are the characteristic symptoms of the disease. It is caused by pineapple mealybug wilt associated virus (PMWaV), which is spread by mealybugs. Farmers in Sri Lanka use various kinds of fertilizers to suppress the disease.

The objective of this study was to determine different fertilizer applications, which could show any effect on managing mealybug wilt disease and to determine the best fertilizer/fertilizers that can be used to control the disease successfully.One hundred and five pineapple suckers (3months old), infected with pineapple mealybug wilt associated virus, were planted in three rows. There were seven blocks in each row and each block consisted of five pineapple plants. One and a half months after planting, six different fertilizer treatments (Albert's solution, Baur Coconut fertilizer, Baur pineapple fertilizer, NPK mixture recommended by the Department of Agriculture, Green care Liquid fertilizer, and Rhizobacteria Bio fertilizer) were given. One treatment was given for one block and the treatments were randomized between blocks. Fertilizer applications were continued every two months for one year. Infected plants with no fertilizer added were used as the control.

All plants were indexed using a five-unit disease index scale, in order to evaluate the disease severity. All treated and control plants were tested for the presence of pineapple mealybug wilt associated virus by Indirect Enzyme-Linked Immunosorbent Assay (ELISA), using locally produced polyclonal antiserum. Growth parameters (number of leaves and leaf length) were also measured in all treated and control plants.The results showed that the disease severity was low in plants treated with Albert's solution throughout the experimental period. Although the plants treated with Baur coconut fertilizer showed a higher disease severity at the beginning, there was a sharp decrease in severity with time. Plants treated with Baur coconut fertilizer had the lowest virus titer, and the next lowest was observed in plants treated with Albert's solution. While the number of leaves were highest in plants treated with Baur coconut fertilizer, the greatest length of leaves were observed in plants treated with Albert's solution. Out of the fertilizers used, Albert's solution and Baur coconut fertilizer were the best fertilizers which can be used to control the mealybug wilt disease in pineapple.

Keywords: Mealybug wilt, pineapple, fertilizers, disease severity, growth parameters, enzyme- linked immunosorbent assay

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