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An approach to control nutmeg leaf fall disease by spraying fungicides

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Nutmeg is one of the important export spice crop present in Sri Lanka. Leaf fall disease reported recently caused a considerable loss to the harvest by reducing a high percentage from the total production. Disease is caused by an imperfect fungi, *Colletotrichum* species. Symptoms at the initial stage can be seen on tender leaves as tiny black to brown spots. With the leaf growth, spots enlarged up to 1-2mm in size and cause immature leaf fall resulting withered twigs. Finally, seriously affected twigs can be seen as dried sticks.

This study was carried out to find out a rapid solution to control this wide spreading disease. Two steps were included in the experiment. In the first experiment, four fungicides were screened in the laboratory with a control. *Colletotrichum* sp. (Causative organism) was cultured on PDA with different concentrations of fungicides. Dithane M® 45, Ridomil®, Folicur® and 1% Bordeaux mixture were used as fungicides with 3 replicates. Dithane M 45® showed the best controlling ability against the fungus.

In the field trial above mentioned fungicides were sprayed directly to the foliage of the infected trees in following concentrations. Nine grams of Dithane M 45®, sixteen grams of Ridomil®, five milliliter of Folicur® each were dissolved separately in ten Liter of water and 10 liter of 1% Bordeaux mixture. Each application was carried out with three replicates at two week intervals and the data was collected as percentage canopy loss of the infected trees. From the results Dithane M 45® and Ridomil® showed a better canopy recovering ability of 28% and 25% respectively, in comparison to other two fungicides. In addition Dithane M 45® showed a rapid recovering ability against the disease. Based on the results, Dithane M 45® can be considered as a better fungicide for controlling nutmeg leaf fall disease. Fungicide application should be repeated at two week intervals during the flushing season until the newly formed tender leaves become matured.

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