

## DEVELOPMENT OF PROPHYLACTIC AND CURATIVE BIO-CONTROL BASED INTEGRATED DISEASE MANAGEMENT PACKAGE AGAINST BASAL STEM ROT (*Ganoderma* WILT) DISEASE IN COCONUT

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### Executive Summary

In this research project work, a survey study and lab experiment was conducted during July 2018 to June, 2019. The survey study was held in three districts of coastal area viz. Noakhali, Barisal and Patuakhali and in Sher-e-Bangla Agricultural University (SAU) campus, Dhaka-1207. The lab study was conducted in Molecular Biology and Plant Virology Laboratory, Department of Plant Pathology, SAU, Dhaka-1207. The study was aimed to demonstrate occurrence and incidence of *Ganoderma* wilt of coconut in surveyed areas and to develop bio-control-based management packages. The disease incidence of *Ganoderma* wilt was measured 65%, 64.44%, 60.83%, 49.17%, in SAU, Patuakhali, Noakhali and Barisal, respectively. The disease severity was 33.88%, 30%, 26.67%, 24.58% in Noakhali, SAU, Patuakhali and Barisal, respectively. The highest disease incidence (27.5%) of *Ganoderma* wilt was found in loamy soil, where the soil p<sup>H</sup> was found 6-7. It was also noted that the highest disease incidence (24%) of *Ganoderma* wilt was found in plant age group 36-40 years old plant. In total 120 root samples were collected for aseptic isolation. The isolated pathogens from root samples were identified as *Ganoderma* sp. In total 32 *Ganoderma* infected plants from SAU campus were selected and treated with bio-control agent and botanicals viz., *T. viridae*, cattle urine, mustard oil cake, neemseeds, and garlic extract. After 5 months of treatment root samples were collected and isolated the pathogen for further estimation of disease incidence. Among the three combinations cattle urine and mustard oil cake + neemseeds + *T. viridae* gave the best performance and disease inhibition were 52.5% and 35%, respectively over control. The results of the present study revealed that *Ganoderma* wilt was frequently occurred in the survey areas and cattle urine was found effective in the management of *Ganoderma* wilt in coconut.

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