EFFECTIVENESS OF BENOCIDE AND HYDROGEN PEROXIDE IN MITIGATING DAMPING-OFF DISEASE IN LARAN (*NEOLAMARCKIA CADAMBA*)

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ABSTRACT

Damping-off disease manifests in two phases: pre-emergence, where seeds rot before germination, and post-emergence, characterised by water-soaked lesions, wilting, and seedling collapse. Environmental factors such as high soil moisture, poor drainage, and moderate temperatures exacerbate the disease. Effective management requires an integrated approach, including chemical treatments like Benocide and Hydrogen Peroxide. This study aimed to evaluate the effectiveness of Benocide and Hydrogen Peroxide in controlling damping-off disease in Laran (*Neolamarckia cadamba*). The experiment followed a Completely Randomized Design (CRD) with seven media treatments and 12 replicates each, totalling 84 experimental units. The media treatments were: T1 (control), T2 (Benocide 6%), T3 (Benocide 3%), T4 (Benocide 1%), T5 (Hydrogen Peroxide 6%), T6 (Hydrogen Peroxide 3%), and T7 (Hydrogen Peroxide 1%). Data were analysed using a one-way Analysis of Variance (ANOVA) with the Statistical Analysis System (SAS 9.4 Portable). Results indicated a significant reduction in disease severity with both fungicides compared to the control. The most effective concentration for Benocide was 3%, while Hydrogen Peroxide was most effective at 6%, both significantly reducing the incidence of damping-off disease. These findings suggest that Benocide and Hydrogen Peroxide are viable options for managing damping-off in Laran, with specific concentrations enhancing their effectiveness.