

CURRENT IMPLICATIONS OF USING INSECT-PROOF NETS TO CONTROL CHILI LEAF CURL COMPLEX IN DRY ZONE OF SRI LANKA

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Insect-proof nets are increasingly used by farmers in the dry zone of Sri Lanka to control insect pests associated with chili cultivation including the Chili Leaf Curl Complex (CLCC). However, some farmers report that these nets do not effectively control CLCC. Therefore, this study was conducted to evaluate the effectiveness of insect-proof nets in managing CLCC in the dry zone of Sri Lanka and to assess the environmental impact of this cultivation method. Three treatment conditions were evaluated: (1) insect-proof nets with fertigation, (2) open fields with fertigation, and (3) open fields with flood irrigation. The Thrips and CLCC severity, whitefly population levels, yield parameters, and weather parameters were collected from 28 farmers over three months at two-week intervals. The field-use Environmental Impact Quotient (EIQ) was also calculated for each treatment. A sample of 30 farmers was selected to complete the survey questionnaire. The results revealed that both the Thrips Severity Index (TSI) and CLCC Severity Index (CLCSI) increased over time across all treatments, with open-field flood irrigation (T3) showing the highest severity levels. No significant differences ($p>0.05$) in TSI were observed between the netted fertigation (T1) and open-field fertigation (T2) treatments, although T2 showed a lower (30.56 ± 5.75) CLCSI at 12 weeks post-planting ($p<0.05$). There was no significant difference in yield among treatments; however, whitefly counts differed significantly, with T3 displaying the highest count (158.23). Temperature and relative humidity showed no significant impact on whitefly numbers. According to the survey, 93% of the farmers are willing to grow chili inside the insect-proof nets. The lowest EIQ was observed in T1 (114403.92). The study suggested that although the insect-proof nets may not effectively reduce CLCC, they have a comparatively low environmental impact.

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