

## SOIL CONDITIONERS ON RECOVERY OF LEAF SCORCH DECLINE (LSD) IN COCONUT (*Cocos nucifera* L.)

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Leaf Scorch Decline (LSD) is a disorder of unknown etiology affecting coconut palms (*Cocos nucifera* L.) in Sri Lanka. Sustainable remedial measures on recovery of LSD-affected palms are yet to be identified. Soil improvement is a possible remedial measure on recovery of LSD-affected palms at its mild stage. Objective of this study was to evaluate the effect of different soil conditioners on root growth and distribution of LSD-affected palms.

The experimental design was RCBD with four treatments (T1- Control, T2- Poultry manure + Coconut Shell Charcoal, T3 – Vermi-compost, T4 – Commercial Compost), tested in two blocks [B1-Very suitable soil (S2), B2-Suitable to marginally suitable soil (S3 and S4)]. Soil and root samples were taken from two locations at four depths of the manure circle. After separation, roots were grouped as primary, secondary, tertiary, live and dead. Root length and dry weight of roots were recorded and the root density was calculated. The root distribution pattern was studied by using soil profile photographs of each LSD-affected palm. Total number of live roots, number of tertiary live roots ( $P < 0.01$ ) and dry weight of tertiary live roots ( $P < 0.001$ ) were significantly higher in palms treated by Poultry manure + Charcoal (T2) than other treatments. Total number of dead and live roots was similar among the Land Suitability Classes. Results revealed that application of Poultry manure + Coconut Shell Charcoal may be a possible remedial measure on recovery of LSD- affected coconut palms.

**Key words:** Coconut, Leaf Scorch Decline, Recovery of roots, Remedial measures, Soil conditioners, Soil Profile study