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Studies on propagation and growth conditions of *Piper longum* (L.) in Sri Lanka

Piper longum (L.) of family Piperaceae is a perennial herb with a branched rootstock and an ascending or prostrate stem. Almost all its parts are used for medicinal purposes.

Three separate experiments were carried out to determine the best type of cuttings/s, best substratum and optimum shade level for its growth.

Selection of the best type of cutting for propagation was investigated by planting five different types of stem cuttings (comprising the one, two and three uppermost node/s, and 2 and 3 nodes without the uppermost node). 96% of cuttings comprising the two uppermost nodes rooted. This result was significantly higher ($p<0.01$) than the results obtained from the other types of cuttings, which ranged between 86 – 92%. *Piper longum* did not require hormonal application to enhance rooting.

The most suitable substratum was examined by growing plants in sand, top soil (Reddish Brown Latosolic) and farm yard manure mixed in the ratio of 2:1:1: (A), 3:1:0; (B) and 1:1:1 (C). The performance of *P. longum* grown is substratum C was significantly higher ($p<0.01$) than that in the other substrata.

To evaluate the optimum shade requirement, *P. Longum* plants were grown in shelters under three shade levels (25%, 50% and 75% shades), obtained by using 1-2 layers of coir mesh combine with UV treated polythene. Light intensities were measured using quantum sensors (LI -190Z, LiCor and a data logger (LI-1000, LiCor). The means of plant height, leaf number and chlorophyll content were all significantly higher ($p<0.01$) in plants grown in 50% shade compared to that in ach of the remaining shelters.