B-92 A study on the effect of Gliricidia live support on water consumption and leaf growth of pepper *(Piper nigrum)*

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Pepper *(Piper nigrum)* is commonly grown with Gliricidia live support in Sri Lanka but resource partition between these 2 species has not been studied. Therefore, a preliminary experiment was conducted at the Research Station, Matale.

Standard pepper rooted cutting without live gliricidia stick (T1), standard pepper rooted cutting with live gliricidia stick (T2) and live gliricidia stick alone (T3) were separately planted on lysimeter units made of large (30 l) plastic buckets. Daily water consumption of each lysimeter bucket was monitored by means of a platform balance. Deep drainage was collected through a valve connected to the bottom. Drained water following the application of fertilizer was chemically analysed to quantify the leaching losses.

Water consumption parameters, were substantially high under T2. Both maximum cumulative transpiration (90 mm) and the maximum leaf area development (3400 cm^2/vine) were observed in pepper vines at T2 during the third month. These observations indicate the possible existence of mutual benefits between gliricidia live support and pepper vine.

The losses through leaching were in the ranges of 15-34%, 12-25% and 56-85% for Nitrogen, Potassium and Magnesium, respectively. The presence or absence of gliricidia live support has no effect on level of leaching losses during the first season of pepper cultivation.