

B-73: On-farm evaluation of alley cropping for rainfed uplands in the dry zone of Sri Lanka

R S K Keerthisena

(Field Crops Research and Development Institute, Maha Illuppallama)

An experiment was conducted in Anuradhapura District to assess the adaptability of alley cropping system for the rainfed upland farming situation. About 1000m² large alley cropping plots and 400m² large conventional cropping plots were established in 5 farmer fields in Maha 91/92 season. The alley cropping plot consisted of Gliricidia seedling planted in 5-6m distance apart rows and 0.5m within row spacing. Blackgram and cowpea in every Maha and Yala season were planted respectively as test crops starting from Maha 92/93 season. During the first 2 years, farmers were trained on alley cropping. Thereafter, observations were continued until Yala 98 season without any involvement by research staff other than frequent visits and supply of seed materials. In Maha 96/97 season, every alternative tree row in half of the alley cropping plot was removed to include 10-12m wide system.

Average biomass production by Gliricidia trees during the first and second 3 year cropping periods was 1 and 2.8 t/ha/year respectively. Highest biomass yield of 3.2 t/ha was produced by 5-6m system in 97/98 and it was 1.8 t/ha in 10-12m system. Seed yield in alley cropping system during first 4 Maha seasons was lower by 12% to 47% compared to the conventional system. In Maha 96/97 and 97/98 seasons, 10-12m wide system produced 17% and 59% higher yield while 5-6m wide system gave 23% and 10% less yield respectively than conventional system.

It can be concluded that 10-12m wide system is more appropriate than 5-6m wide system due to the flexibility it offers for pruning.

B-74: Effect of different rates of poultry manure on tomato yield in the upcountry intermediate zone

J D H Wijewardena*

(Regional Agricultural Research & Development Centre, Bandarawela)

Use of poultry manure in combination with chemical fertilizer is a common practice in tomato. Farmers in this region apply variable quantities of poultry