COFFEE IN AGRO-FORESTRY SYSTEMS INVOLVING
DIFFERENT TREE SPECIES

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The experiment was conducted to study the growth and yield of arabica and robusta coffee
grown in agro-forestry systems involving different shade tree species. The final objective is
to select the best tree species as shade for coffee.

The experiment was conducted at Delpitiya in the mid country wet zone of Sri Lanka. The
experiment site contained four tree species established in 1986 at 2.5m x 2.5m spacing.
The four tree species were Gliricidia sepium, Calliandra calothyrsus, Acacia magnum and
Erythrina lithosperma. Robusta coffee in 2.5m x 2.5m and arabica coffee in 1.25m x
1.25m spacing were planted between the shade trees. The measurements were also made
in a control treatment which had coffee without shade. Each treatment had three
replicates.

Yield data of this experiment showed that the highest coffee yield was obtained under
Gliricidia and Calliandra, next under Acacia and then Erythrina. The lowest yield was
obtained from coffee grown without shade.

Coffee plants were collar pruned in 1996 and collected growth measurement of coffee
showed significantly highest shoot growth under Gliricidia, Calliandra, Acacia and
Erythrina. Unhealthy stunted shoots were observed in the coffee grown without shade.
Hence, it can be concluded that coffee is best grown under Gliricidia, Calliandra, Acacia
and Erythrina shade.