EFFECT OF INTERCROPPING ON SOIL EROSION AND RUNOFF IN COCONUT LANDS

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Majority of lands under coconut in Sri Lanka is undulating with slopes ranging from 3-15 percent. Heavy loss of fertile top soil during the rains is further aggravated by the frequent cultivation of crops under coconut.

Soil erosion and runoff were monitored in a 4-5% slope coconut land on a lateric gravelly soil. Each plot consists of four coconut palms and the intercropping treatments included Brachiaria miliiformis (Cori grass), Panicum maximum (Guinea B), Manihot esculenta (manioc) and a weed free control plot.

Two years' results showed that the soil loss and runoff were minimum with cori grass, whereas the soil loss was highest with Manioc. The order of soil erosion was Cori grass < Guinea B < weed free (control) < Manoic, and the differences were related to ground cover and the cultural practices associated with the treatments. Soil erosion was generally increased with the increase in runoff. The effect of rainfall on soil erosion was found to be dependent on the intensity of the rain, previous cultural practice and ground cover. Results showed that Cori grass effectively reduced soil erosion and, further clean weeding or intercropping with manioc should not be undertaken in sloping coconut lands.