

B-94: Survey on distribution and seasonal variation of earthworm populations in coconut soils within the coconut triangle

P A C R Perera¹, M M Keerthi^{1,2}

(*Coconut Research Institute, Lunuwila, ²Tea Research Institute, Talawakelle*)

The survey was designed to identify the present distribution and variations of earthworm populations in the different agroclimatic zones of the coconut triangle.

The survey covered 6 agroclimatic zones (2 from the intermediate lowlands and 4 from the wet lowlands). Sampling was done at 40 randomly selected locations, each point being the centre of a grid fitted over a one inch map. At each sampling point, counts of earthworm casts on the surface of a 0.25 m² area, demarcated by a metal quadrat, were recorded. Counts of earthworms in the soil enclosed by the quadrat were recorded upto a depth of 30 cm from the surface using the formalin extraction method. These counts were recorded separately for areas within the manure circle and at the centre of the planting square and were repeated at 2 other points within the locality.

Analysis of the data showed that both earthworm casts and populations per m² were significantly ($P < 0.05$) different between the major agroclimatic zones of wet low country and intermediate low country. In general, populations in the centre of the coconut square were found to be greater than that in the manure circle. The considerable variation observed was probably due to variation in estate management practices. Similar trends were recorded for counts of earthworms per m² between seasons, but the counts for casts showed an opposite trend. The latter effect was probably due to wash off following rain.