B-26 Progeny evaluation as an effective method of selection in coconuts

C K Bandaranayake, W M U Fernando
(*Genetics and Plant Breeding Div., Coconut Research Institute, Lunuwila*)

Since all high yielders are not transmitters, it is vital to identify superior palms through progeny testing. Therefore, the efficiency of the 2 methods of selecting mother palms of coconut, progeny testing and mass selection were compared.

The parents were selected from the Isolated Seed Garden, Ambakelle. Progeny arising from crossing of mother palms selected according to mass selection procedures were evaluated for vegetative and reproductive characters. Palm characters of the property *viz.* girth, total leaf production upto 5 years and flowering time are significantly correlated with yield of female parents with correlations of 0.33, 0.42 and -0.64 respectively. Time taken for flowering has the highest correlation and could be effectively used as an indicator of adult palm performance.

The breeding values for characters, leaf production and flowering time calculated based on the progeny data, were used to identify the best mother palms. But the palms with the best phenotypic performance were not the same as the ones, identified following progeny testing. The progeny means selected on the basis of mother palm selection for leaf production and flowering period were 22.7 and 61.6 respectively. The best progeny arising from individual palms recorded means 25.01 for leaf production and 60.25 for flowering.

The broad heritabilities for girth, leaf production and flowering are 15%, 6% and 29% respectively. Based on the initial results, progeny testing was more effective in identifying mother palms in coconut than only mass selection.