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Evaluation of arecanut (*Areca catechu* L.) germplasm to select promising individuals

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The arecanut palm, *Areca catechu* L. is the only cultivated species in the genera and the source of the common masticator nut. It is highly cross- pollinated and in the absence of a vegetative propagation method, crop improvement has been achieved through introduction of exotic and indigenous types and evaluation of economic traits followed by refinements in selection procedures. The main objective of this study is to select the best individual palms by evaluating the yield components from a very large collection of germplasm collected from local gene pool. Observations on yield components such as number of nuts per palm, fresh fruit weight and dry kernel weight of nuts have been recorded for six consecutive years (1999 to 2005). To select promising individuals, consistency of the yield was used as one of the most critical yield components in arecanut.

Ratio of mean kernel dry weight and mean fresh fruit weight were taken as recovery percentage of arecanut. Considering its high mean total kernel dry weight per palm per year and high recovery percentage of the palms, S 42 was found to be the best tree among 1736 evaluated palm trees. Based on the mean total kernel dry weight per palm per year; S 42, J 22, Y 45, J32, K 17, G24 trees could be recommended as selections for a breeding programme and issuing nuts to farmers for field planting. Of these recommended selections J22, Y 45 and in addition, C1-17 and H1-32 could be recommended specially for the local market as the main criteria considered for the local market is high number of nuts. J1 45 could be used for genetic and breeding purposes due to its high dry kernel weight and high recovery percentage.