

Screening of *Arachis hypogaea* L. (Groundnut) Breeding Lines for Seed Size and Short Duration under Rain Fed Conditions

P. Kodithuwakku¹, D.G.C. Jeewani², L.M.H.R. Alwis¹, and H.M.S.K. Herath¹

¹*Department of Export Agriculture, Uva Wellassa University, Badulla, Sri Lanka*

²*Oil Seed Breeding Division, Grain Legumes and Oil Crops Research and Development Centre, Angunakolapelessa, Sri Lanka*

There is a higher demand for large seeded groundnuts (100 seeds weight ≥ 70 g) in confectionary food industry in Sri Lanka. Only two large seeded groundnut varieties have been recommended by the Department of Agriculture to-date. Higher demand exists for large seeded, short duration groundnut varieties which can be cultivated under rain fed conditions to be used as confectionaries. This research was conducted to screen groundnut breeding lines for seed size and short duration. Seven breeding lines developed were evaluated with Walawa and Lanka Jumbo; the recommended varieties as check varieties. There is no significant difference among breeding lines and check varieties in pod yield and all yielded more than 2500 kg ha⁻¹ pod yield. Except one line, all the other lines recorded 100-seed weight values greater than 70 g. Two lines [(Tissa \times Nakate Yukata) , (ICGV 06216 \times Ampara)] recorded the highest 100-seed weight values of 85 g. These two lines were not significantly different with Walawa and they showed significantly better performance than Lanka Jumbo. The same two lines recorded 105 days to maturity while Walawa and Lanka Jumbo recorded 120 and 110 days respectively. Hence, these two lines performed better than Walawa and Lanka Jumbo. They can be selected as large seeded, shorter duration groundnut lines which can be cultivated under rain fed conditions in Sri Lanka.

Keywords: Large Seeded, *Arachis hypogaea* L, breeding line, short duration, rain fed