

Fatty Acid Profiles of Selected Peanut (*Arachis hypogaea*) Lines in Sri Lanka

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Peanut is one of the most important oil seed crops cultivated in the world. It is used in variety of food products, especially in the production of peanut oil. Thus, identification of healthy fatty acid profile (FAP) containing varieties is important for human nutrition and health. The total FAP of some peanut varieties are reported globally. However, extremely limited studies have been conducted on FAPs of peanut varieties/lines in Sri Lanka. Therefore, objective of this study was to evaluate the saturated, monounsaturated and polyunsaturated FAPs of selected peanut lines (to be released as varieties) in Sri Lanka. Peanut lines, namely ICGV 3089, ICGV 04195, ICGV 4118, ICGV 3098, ICGV 00068, ICGV 06214, ICGV 87187, ICGV 00073, ICGV 06233, ICGV 05198, ICGV 3090 and Red Spanish were used in this study. Fat was extracted from peanut flour, derivatized to methyl esters and analyzed by gas chromatography. Results showed that saturated, monounsaturated and polyunsaturated fatty acids (FAs) of selected peanut lines were in the range of 18.94±0.00 to 23.42±0.01%, 40.98±0.00 to 56.98±0.01% and 24.08±0.01 to 8.38±0.02%, respectively by total FAs content. The saturated FAs in selected peanut lines were Palmitic (C16:0), Heptadecanoic (C17:0), Stearic (C18:0), Arachidic (C20:0), Behenic (C22:0) and Lignoceric (C24:0) acids. The monounsaturated FAs found were Palmitoleic (C16:1), Oleic (C18:1), Vaccenic (C18:1) and Eicosenic (C20:1) acids, while polyunsaturated FAs were Linoleic (C18:2) and Linolenic (C18:3) acids. Interestingly, among these FAs, Palmitic, Oleic and Linoleic acids were the major FAs found in all the studied peanut lines. These three FAs contributed to 88.73±0.02 to 91.18±0.10% by the total FAs contents. It is concluded that the best lines in terms of total FAP (highest unsaturated FAs) were ICGV 04195 and ICGV 00073. Thus, these two peanut lines can be recommended as the best lines in terms of healthy FAP for varietal release.

Keywords: Monounsaturated fatty acids, Polyunsaturated fatty acids, Saturated fatty acids, Sri Lankan peanut lines