UTILIZATION OF OKRA (Hibiscus esculentus L) SEED AS A SOURCE OF VEGETABLE OIL.

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Okra (Hibiscus esculentus L) belonging to family Malvaceae is a very popular vegetable crop. However, it is not well known that it could be grown either for fibre or for oil. Okra stubble and the pods which are over matured for use as vegetables are nuisance to the farmer to dispose. Okra seeds have high protein and oil and some varieties of Okra in South America are said to compete with Soya beans, Sunflower, Sesame, Groundnuts and Caster beans in terms of seed and oil production per hectare. (Theodor Doerfler, 1976). The leaves are eaten as spinach and the fibres are sometimes used for making strings and nets in Africa (IBPGR 1982).

Okra seed which looses viability on prolonged storage and the seed extracted from mature pods in farmers fields could be used profitably to extract oil. Bulked seed of breeding lines which is normally distroyed could also be used for oil extraction by methods which are applicable to soyabean and winged bean.

Table I: Chemical composition of Okra and Winged bean seed.

	Okra	Winged bean
Moisture	10.70%	9.60%
Fat	15.80%	15.42%
Protein	22.70%	36.03%
NFE*	20.60%	25.76%
Fibre	26.20%	9.15%
Ash	4.00%	3.95%

* Nitrogen free extract.

Source: Vilmori Devapalni, 1982 JARQ 16(3).

Table II:

Fatty acid composition of Okra and Winged Bean Seed.

	Okra	Winged Bean.
FA C_{10}***	-	-
Myristic acid	0.30	-
Palmitic acid	35.00	10.48
Stearic acid	3.70	5.09
Oleic acid	20.40	37.53
Linoleic acid	40.60	26.59
Linolenic acid	-	2.66
Arachidic acid	-	2.47
Behenic acid	-	15.17

*** Fatly acid.

Source: Vilmori Devapalni,198 2 JARQ 16: (3).

Okra seeds contain about 18% of oil and 25.4% protein on dry matter basis. Fibre content is 29% and is considerably higher than those of other oil crops such as soyabeans, sesame, cotton seed etc. (JARQ 1982).

Okra oil consist of 39% saturated fatty acids and 61% unsaturated fatty acids. Iodine value indicates that it belongs to a semidrying oil category Refined Okra oil is said to have only traces of malualic and sterucuric fatty acids belonging to cycroprepenoid acid series and is said to be suitable for use as food oil and raw material for margarine. Coffee prepared from two varieties (MI 5 and MI 7) at the Regional Agricultural Research Centre, Kilinochchi tasted equally good as Soybean (Pb-1) and Winged bean (TPt-2) Coffee.

Ref: D. Devapalni. V, Tanchorand R (1982)
Chemical composition of some oil seeds in Thailand JARO Nov. 1982 Vol. 16 No:3.

2) Doerfler. T. (1982)
Seed Production Guide for the Tropics p 235, 242 & 294.

3) Vegetable Crops edited by IBPGR, Rome, Italy. p. 12.

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