FATTY ACID CONSTITUENTS OF *SCHLEICHERA OLEOSA* (LOUR.) OKEN. SEED OIL

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Schleichera oleosa (Lour.) Oken. Syn. *S. trijuga* Willd. & Klein [SAPINDACEAE] is an evergreen tree with the height up to 30 m and the girth up to 3 m. The leaves are paripinnate, 20-40 cm long. The leaflets are 2 to 4 pairs, elliptic or elliptic-oblong, coriaceous, margins entire and apex rounded. The flowers are minute, yellowish green, either male or bisexual, fascicled in spike like axillary racemes 7.5 to 12.5 cm long. The fruits are berry, globose or ovoid, and hard skinned. The seeds are brown, irregularly elliptic, slightly compressed, oily, enclosed in a succulent aril. *S. oleosa* is widely in the sub-Himalayan region, throughout central and southern India, Burma, Ceylon, Java and Timor. The oil obtained from its seeds is called Kusum oil or Macassar oil which is traditionally used for the cure of itch, acne, burns, other skin troubles, rheumatism (external massage), hair dressing and promoting hair growth[1,2)].

Table 1 Fatty acid profile of *S. oleosa* seed oil

	Fatty acid	%
C14:0	Myristic acid	0.01
C16:0	Palmitic acid	7.59
C16:1 n-7	Palmitoleic acid	1.80
C18:1 n-9 *Cis*	Oleic acid	2.83
C18:2 n-6 *Trans*	Linolelaidic acid	49.69
C18:2 n-6 *Cis*	Linoleic acid	5.56
C18:3 n-3	*alpha*-Linolenic acid	0.26
C20:1 n-9	Eicosenoic acid	29.54
C20:2 n-6	Eicosadienoic Acid	0.24
C21:0	Heneicosanoic Acid	0.04
C22:0	Behenic Acid	1.14
C22:1	Erucic acid	1.22
C24:0	Lignoceric Acid	0.03
C22:6	Docosahexaenoic Acid	0.02
C19:0		0.01

In Thailand, *S. oleosa* named Ta-Khro is found in the Northern, North-eastern, South-eastern, South-western and Central region. It is used in the wood industry. The wood is suitable for fuelwood and charcoal, the bark is used as dye and the young leaves are eaten as vegetable.

In this study, Ta-Khro seeds were blended and macerated with hexane. The oil was then separated and hexane was evaporated *in vacuo*. The fatty acid composition was investigated by GC/MS after methylation. Ta-Khro seed contain 40.3% oil with yellowish brown color. Fatty acid profile showed 16 components. Linolelaidic acid, the *trans* form of linoleic acid, was found as dominant fatty acid (49.7%). The next below were eicosenoic acid or gondoic acid (29.5%), palmitic acid (7.6%), linoleic acid (5.6%) and oleic acid (2.8%) (Table 1).

Oleic acid was previously well-known as major fatty acid in Kusum oil[1)]. However Basu's study showed the different result which reported 50% linoleic acid[3)]. This study revealed the *trans* fatty acid in *S. oleosa* seed oil.

Keywords: *Schleichera oleosa*, seed oil, fatty acid

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