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NOTE

Isolation and Extraction of Medicinally Important Oil from the Seeds of *Melia composita* Willd

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The extracted material from the dried seeds of *Melia composita* is used as an indigenous medicine. Using the various solvents for extraction, *viz.*, diethyl ether, petroleum ether, benzene, *n*-hexane, methanol and ethanol, the materials of varied composition are obtained in varied yields, expected to have varied medicinal value.

Melia composita (*M. dubia*), a lofty tree of *Ghat* forests and sometimes known as 'Giant neem', belongs to the family Meliaceae. It also occurs in the wet forests of Srilanka[1]. It is known with the name *Hebbevu*[2] in Karnataka area and *Gajharra*[3] in Halbi language. The dried fruits of the tree are known for their value in indigenous medicine[4]. The fruit of *Melia composita* is an ovoid, bluntly pointed, green when young and unripe, yellow to brown when ripe, with a very thin epicarp, mesocarp with scanty pulp and a hard bony endocarp, enclosing 4–5 seeds. Seeds have a black covering and white material inside.

Shade-dried authenticated seeds of *Melia composita* were procured from Silviculturist, Southern Zone, Madikeri, Karnataka and verified by Forest Research Institutes, Dehradun. Coarsely powdered seeds were exhaustively extracted in a Soxhlet using a number of solvents.

Extraction in diethyl ether: 12 g of powdered material were kept in sufficient diethyl ether in a Soxhlet extractor for 48 h. Lemon yellow extract was collected and fresh diethyl ether added again and kept for 48 h. The procedure was repeated till the extract became colourless. Solutions were mixed together. Diethyl ether was separated by vacuum distillation. Solid used raw material was now used for subsequent extraction in benzene in a Soxhlet following the same procedure. A greenish yellow extract was obtained. Benzene was removed by vacuum distillation. Subsequent extraction of solid raw material of ether extract was done in methanol also. Reddish brown extract was obtained. Solvent was separated by vacuum distillation.

Extraction in petroleum ether (40–60°C)*:* Similar procedure as in diethyl ether was adopted. Mustard yellow extract was collected and petroleum ether separated by vacuum distillation. Subsequent extraction was done in diethyl ether. A greenish yellow extract was obtained. Solvent was separated again.

Extraction in n-hexane: Light yellow extract obtained using similar procedure. Solvent separated again as above. Subsequent extraction of the solid left out material was done in methanol. A canary yellow extract was obtained. Solvent was separated again.

The physical appearances and yields of the oil are given in Table-1.

TABLE-1
PHYSICAL APPEARANCE AND YIELDS OF OIL
Crushed seeds = 12 g

S. No.	Solvents	Yield (g)	Colour and state	Odour	Colour of decoction
1.	Diethyl ether	2.926	yellow-brown highly viscous liquid	honey like	lemon yellow
	(a) Benzene (used raw material)	0.844	mustard yellow viscous liquid	honey like	greenish yellow
	(b) Methanol (used raw material)	0.577	orange-red semi-solid	chocolate like	red brown
2.	Petroleum ether (40–60°C)	3.106	lemon yellow viscous liquid	faint sweet	yellow
	(a) Diethyl ether (used raw material)	0.350	dark yellow viscous liquid	sweet	creamish yellow
3.	*n*-Hexane	4.023	mustard yellow less visocus liquid	strong sweet	light yellow
	(a) Methanol (used raw material)	2.696	pale yellow viscous liquid	linseed oil like	canary yellow

It is evident that a change in solvent leads to a change in characteristics of the oil that points out towards the possible varied medicinal value. Purushothaman *et al.*[5] performed the solvent extraction of crushed seeds in *n*-hexane as well as in chloroform and reported identical product consisting of salanin having anthelmintic properties and compositolide (a tetranortriterpenoid) while Silva *et al.*[1] performed petroleum ether extraction and isolated salanin. Agrawal *et al.*[6] have reported leukemia specific agglutininus from the seed extract. Material from seeds is reported to be useful in malaria fever and for skin diseases.

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