

The results summarised above show that dry plant materials exchange moisture with the air layers surrounding them just as the soils do.

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February 6, 1938.

¹ Ramdas, L. A., *Curr. Sci.*, 1934.

² — and Katti, M. S., *Ind. Jour. Agric. Sci.*, 1934 (1), 4, 923.

³ — —, *Curr. Sci.*, 1934, 3, 24.

⁴ — —, *ibid.*, 1935, 3, 612-13.

⁵ Katti, M. S., *ibid.*, 1935, 4, 419.

⁶ Ramdas, L. A., and Katti, M. S., *Ind. Jour. Agric. Sci.*, 1936, 6, 1163.

Indian *Tephrosia* sp. as a Source of Rotenone.

It is a matter of satisfaction to put on record, the occurrence of rotenone in *Tephrosia candida* DC.; and following the usual method of extraction we have been able to isolate 0.35 per cent. from root bark and 0.5 per cent. from the seeds. The leaves also contain rotenone or allied bodies and give the usual colour reaction,¹ though we have not been able to isolate rotenone in pure state. The root bark extract of *Tephrosia purpurea* also has given the rotenone colour reaction but the amount of rotenone per cent. is perhaps much less than 0.3 and hence our inability to isolate it.

Some of the foreign species, *Caracca* (*Tephrosia*) *Virginiana*² of U. S. America and the East African *T. macropoda*³ have been reported to contain rotenone and have been declared as insecticide. Indian *Tephrosia* occur in great abundance, as a common weed in some of our forests and the fact that such plants of uncertain age contain 0.3-0.5 per cent. rotenone is a matter of considerable importance and economic value.

Rotenone in the seeds is extracted along with the fatty oil with sulphuric ether and from the ether-free residue rotenone resins are precipitated by repeated washings with cold petroleum ether. The rotenone resins are then worked up in the usual manner. It appears that rotenone is concentrated in the root bark and seeds and is practically absent in the stem or debarked root which

explains our failure to isolate it on previous occasion.⁴

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March 3, 1938.

¹ Rogers and Calamari, *Ind. Eng. Chem. Anal. Edition*, 1936, 8, 135.

² *Scientific American*, 1933, p. 231.

³ *Nature*, 1936, vol. 1075.

⁴ *Forest Research in India*, 1934-35, Part I.

A White Flowered Type of *Arachis* *hypogaea* Lin.

In 1934 a single plant, bearing flowers almost white in colour, appeared in the control line in an experimental culture of the local groundnut variety the seed of which was obtained from the market. The plant was a weakling due to attack by cut worms. With great care and by enclosing the plant in a muslin cage a few self-fertilized pods were obtained. In 1935 sixteen plants were raised from the selfed seeds. Out of these 14 had white flowers like their parent's and two bore orange-yellow flowers characteristic of the local variety. All the sixteen plants were selfed by enclosing the entire plant in muslin cages. In the following year (1936) the progeny were grown in plant to row cultures and it was observed that they behaved true to their parental character for flower colour. The white flowered plants giving rise to white flowered progeny and the yellow flowered plants to yellow flowered progeny (Figs. 1 and 2).

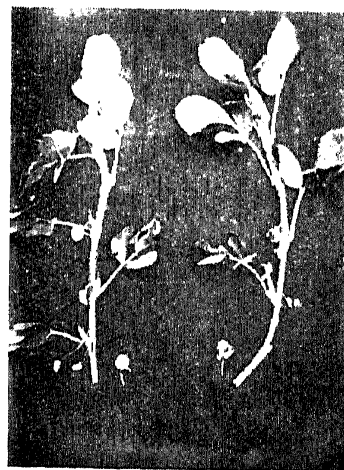


Fig. 1.

Branches with Flowers, left: white flowered type,
right: orange-yellow flowered local variety.