pinkish in shade, due to a preferential adsorption of the acidic form of the indicator. The end point is quite reversible, and after the end point has been exceeded, a drop or two of the potassium chloride solution again turns the pink precipitate blue.

Further work with the indicator is in progress.

Chemical Laboratories,
The University of Allahabad,
Allahabad,
October 14, 1947. R. C. MEHROTRA.

1. Fajans and Hassel, *Z. Elektrochem.*, 1923, **29**, 495. 2. Hodakow, *Z. Phy. Chem.*, 1927, **129**, 128. 3, Mehrotra, Tewari and Dube, *Curr. Sci.*, 1947, **16**, 119. 4.—, *Ibid.*, 1947, **16**, 254; 5.— *Proc. Nat. Acad. Sci. Ind.*, **1946, 15,** Part 4.

EFFECT OF STORAGE ON THE ALKALOIDAL CONTENT OF *STRYCHNOS NUX-VOMICA* SEEDS

THE effect of some conditions of storage on the constancy of the alkaloidal content of *Strychnos nux-vomica* was reported[1] from this laboratory in 1932. Since then the seeds (from Shrihari-kota, Nellore) stored in a gunny bag in the humid atmosphere of Dehra Dun (average annual rainfall 85", about 60" of which occur in July-August) have been tested from time to time for appearance and for total alkaloidal and strychnine content. The results are given in the following table.

Effect of storage of Nux-vomica *seeds on the Alkaloidal content*

Time of storage (months)	Total Alkaloidals (on dry basis)	Strychnine (on dry basis)
0	2·75	1·20
1·5	2·65	1·15
2·5	2·60	1·20
14·5	2·55	1·23
26·5	2·76	1·21
38·5	2·63	1·20
50·5	2·55	1·23
62·5	2·62	1·30
74·5	2·58	1·26
104	2·68	1·27
194	2·70	1·17

The above data clearly show that for the last sixteen years the total alkaloidal and strychnine contents of the seeds have remained practically unaltered. The seeds also have not so far exhibited any lessening of their bright and silky appearance. It may, therefore, be stated that, for the purpose of storage, the mature seeds should be collected and stored in gunny bags in the usual way till required for the preparation of the tincture or the manufacture of strychnine and brucine. In this connection attention may be drawn to the poor grade seeds that are occasionally met in the trade. The poor quality is due mainly to the initial low alkaloidal content of seeds from the same or closely allied species from different localities and not to any deterioration caused by long storage.

Chemistry and M.F.P. Branch,
Forest Research Institute,
Dehra Dun, S. V. PUNTAMBEKAR.
October 27, 1947.

1. Puntambekar and Krishna, *Quarterly J. Pharm. & Pharm.*, 1932, **5**, 633.

CHEMICAL EXAMINATION OF THE SEEDS OF *DERRIS SCANDENS*

CERTAIN species of Derris, especially *D. elliptica* and *D. ferruginea*, are very useful plant insecticides due to their toxic constituents, rotenone and allied compounds, known under the name Rotenoids. The roots of *Derris scandens* were first examined by Krishna and Ghose[1] while making a survey of rotenone-containing vegetable insecticides of India, and they reported the absence of rotenone in them. Clark[2] as well as Rao and Seshadri[3] came to the same conclusion, but obtained scandenin as the major component which was found to be markedly toxic to fish. The seeds of *D. elliptica*[4] and *Tephrosia candida*[5] have been reported to contain small amounts of rotenone. A sample of the seeds of *D. elliptica* from Mysore gave a positive Durham test.[6] With a view to isolating any crystalline toxic component, specially scandenin that might be present in the seeds of *D. sandens*, the present investigation was carried out.

The crushed seeds were first extracted with petroleum-ether by cold percolation, and the extract on concentration gave an oil (yield: 10·0 per cent.) having the following characteristics.

Colour: Golden yellow.
Lovibond scale through 1 *cm. cell*:
Yellow 22·0; Red 4·0.
Taste: Slightly bitter and irritant.
Specific Gravity (30° C.) 0·9125.
Refractive Index (30° C.) 1·4645.
Acid Value 0·920.
Iodine Value (Wij's) 101·50.
Sap. Value 169·20.
Unsap. Matter 1·50 per cent.

Detailed investigations regarding the glyceride structure and the fatty acid composition of the oil are in progress and will be published soon.

The unsaponifiable matter was a soft yellow mass; and it gave strong colour reactions for the presence of fairly good amounts of phytosterols. Two crystalline fractions could be obtained. *Sterol Fraction A*: Crystallized from acetone-methyl alcohol mixture in the form of small hexagonal plates, m.p. 116°-17° C.; deep blood-red colour turning to brown after standing for 4 hrs. (Salkowski reaction) and a play of colours from reddish brown, pink, blue to green (Lieberrmann-Buchard reaction); acetyl derivative crystallised from hot alcohol, m.p. 112°-13° C. *Sterol Fraction B*: Crystallised from acetone in broad rectangular plates, m.p. 137°-38°; strong colour reactions as for fraction A; acetyl derivative crystallised from hot alcohol, m.p. 133°-34° C. In addition, a