

TUNG-OIL TREE CULTIVATION IN INDIA

THIS tree (*Aleurites fordii* Hemsl.), an inhabitant of China, produces the Chinese wood oil of commerce, the oil being used in the manufacture of paints and varnishes owing to its rapid drying qualities. It came into prominence during the War of 1914-18 when it was extensively used in the treatment of aeroplane fabrics as a water-resisting varnish. China is the chief source of production of tung oil, and the United States the principal consumer. In 1936 the United States imported more than 600,000 tons, and large quantities are annually imported by Great Britain and India.

In China the tree grows in profusion in the mountainous tropical and sub-tropical regions. The United States commenced to form plantations of the species early in the present century, and there are now about 175,000 acres, chiefly in Mississippi and other southern States. Experiments in its cultivation in the British Empire were first initiated by the Imperial Institute in 1917 in India and a number of Colonies, but they were inconclusive. The matter was taken up in 1927 by the Advisory Committee of the Institute in collaboration with the Director of Kew and the Director of the Research Association of British Paint, Colour and Varnish Manufacturers, seed obtained from China and Florida being distributed to various countries of the Empire.

It is said that there are now grounds for considering that, so far as India and Burma are concerned, the industry can be developed either as a self-supporting one, in view of the growing commercial importance of tung oil, or as a cottage industry in places where the plants can be easily grown and seeds marketed, or in tea-gardens as a subsidiary industry. This opinion is based on the fact that experiments have now been carried out for two decades with varying measures of success in localities in India and Burma and in Ceylon, Malaya and East and South Africa. The question is dealt with in *Indian Forest Records* (New Series) Sylviculture, "Note on the Cultivation of the Tung-oil Tree (*Aleurites* spp) in India", by M. V. Laurie and J. N. Sen Gupta, both of the Forest Research Institute, Dehra Dun, India, 4, No. 3 (Manager, Govt. of India Press, Delhi, 1941). Artificial regeneration, nursery practice, manures, planting sites, tending, dangers, costs and growth and yield are discussed.

A hint is given that there are market competitors in drying oils such as Perilla oil, Viticica oil and Po-yok oil, although they are inferior, while recently synthetic resins have been developed which may reduce the use of tung oil in process work, one of the latest developments being a castor oil derivative.

REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

University of Reading: National Institute for Research in Dairying. Annual Report for the Year ending 30th September 1940. Pp. 52. (Reading: National Institute for Research in Dairying.) [2411]

University of Sheffield. Thirty-sixth Annual Report of the Senate to the Court of Governors. Pp. 13. (Sheffield: The University.) [512]

Royal College of Surgeons of England. Scientific Report for the Year 1940-1941. Pp. 28. (London: Royal College of Surgeons of England.) [1012]

Other Countries

Carnegie Institution of Washington. Publication 532: Magnitudes and Colors of Stars North of +80°. By Frederick H. Seares, Frank E. Ross and Mary C. Joyner. Pp. iii+89. (Washington, D.C.: Carnegie Institution.) 1.50 dollars. [1311]

India Meteorological Department. Scientific Notes, Vol. 8, No. 94: Photographic Studies of some Cloud Forms and their Changes with Time. By M. W. Chipionkar. Pp. 113-116+7 plates. 1.8 rupees; 2s. 3d. Scientific Notes, Vol. 8, No. 96: Frequency of Thundery Conditions at Bombay compared with those at some other Stations in India. By M. W. Chipionkar. Pp. 131-135+2 plates. 8 annas; 9d. (Delhi: Manager of Publications.) [1711]

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures and Conditions of the Institution for the Year ended June 30, 1940. (Publication 3606.) Pp. xiii+512+107 plates. (Washington, D.C.: Government Printing Office.) 1.50 dollars. [1911]

National Research Council. American Geophysical Union Transactions of 1940. Part 1: Reports and Papers, Joint Regional Meeting, Section of Hydrology and Western Interstate Snow-Survey Conference, South Pacific Coast Area, Stanford University, California, January 12-13, 1940. Pp. 144. 1.25 dollars. Part 2: Twenty-first Annual Meeting, April 24 to 27, 1940, Washington, D.C.; Reports and Papers, General Assembly and Sections of Geodesy, Seismology, Meteorology, Terrestrial Magnetism and Electricity, Oceanography, Volcanology, Hydrology, and Tectonophysics. Pp. 145-780+6. 3.75 dollars. Part 3: Regional Meetings (a) Richmond, Virginia, December 1938; (b and c) Seattle, Washington, June 1940; (a) Symposium with American Association for the Advancement of Science (b and c) Reports and Papers, Western Interstate Snow-Survey Conference and Section of Hydrology (North Pacific Coast and North Continental Divide Areas). Pp. 779-1062. 1.75 dollars. Part 4: Regional Meeting, Columbus, Ohio, December 1939; Symposia under auspices of the American Association for the Advancement of Science (a) Applications of Mathematics in the Earth-Sciences (b) Hydrologic Problems in the Ohio and Michigan Basins. Pp. 1063-1148. 1 dollar. (Washington, D.C.: National Academy of Sciences.) [1911]

National Research Council. American Geophysical Union Transactions of 1941. Part 1: Joint Regional Meeting, South Pacific Coast Area, Sacramento, California, January 1941; Reports and Papers (a) Section of Hydrology (b) Western Interstate Snow-Survey Conference. Pp. 216. 1.50 dollars. Part 2: Twenty-second Annual Meeting, April 30 to May 3, 1941, Washington, D.C.; Reports and Papers, General Assemblies and Sections of Geodesy, Seismology, Meteorology, Terrestrial Magnetism and Electricity, Oceanography, Volcanology, and Tectonophysics. Pp. 217-584. 2.50 dollars. Part 3: Twenty-second Annual Meeting, April 30 to May 3, 1941, Washington, D.C.; Reports and Papers, Section of Hydrology. Pp. 585-1036. 3 dollars. (Washington, D.C.: National Academy of Sciences.) [1911]

U.S. Department of Agriculture. Miscellaneous Publication No. 433: Eradication of the Parlatoria Date Scale in the United States. By B. L. Boyden. Pp. 62. (Washington, D.C.: Government Printing Office.) 10 cents. [1911]

Field Museum of Natural History. Geological Series, Vol. 8, No. 5: New Procyonid from the Miocene of Nebraska. By Paul O. McGrew. Pp. 33-36. 10 cents. Geological Series, Vol. 8, No. 6: A New Miocene Lagomorph. By Paul O. McGrew. Pp. 37-42. 10 cents. Geological Series, Vol. 8, No. 7: A New Erinaceid from the Lower Miocene. By Grayson E. Meade. Pp. 43-48. 10 cents. (Chicago: Field Museum of Natural History.) [2011]

Proceedings of the American Academy of Arts and Sciences. Vol. 74, No. 8: Photographic Evidence on the Visibility of Color Patterns in Butterflies to the Human and Insect Eye. By Charles T. Brues. Pp. 281-286+2 plates. (Boston, Mass.: American Academy of Arts and Sciences.) [2011]

U.S. Department of Agriculture. Technical Bulletin No. 766: The European Earwig. By S. E. Crumb, P. M. Eide and A. E. Bonn. Pp. 76. (Washington, D.C.: Government Printing Office.) 5 cents. [2111]

Annual Review of Biochemical and Allied Research in India. Vol. 11 for 1940. Pp. iv+173. (Bangalore: Society of Biological Chemists, India.) 3 rupees; 6s. [2111]

Indian Forest Records (New Series). Botany, Vol. 2, No. 1: Common Grasses of the United Provinces. By Dr. N. L. Bor. Pp. vii+222+64 plates. (Delhi: Manager of Publications.) 9.14 rupees; 15s. 6d. [2411]

FORTHCOMING EVENTS

SATURDAY, JANUARY 3

JOINT MEETING OF TECHNICAL INSTITUTIONS arranged at the request of the Mines Department (in the H. H. Wills Laboratory, Royal Fort, Bristol), at 2.30 p.m.—Discussion on the Best Ways and Means of Improving the Efficient Use of Fuel and Power in Existing Industrial Plants, under Present Conditions, and to Invite Constructive Suggestions. (To be opened by Mr. J. G. Bennett.)

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