

§ 16. Department of Chemistry, South Australia.*

In South Australia, a Department of Chemistry was formed in 1915. The Department is principally engaged in general routine chemical examinations and analyses in pursuance of various Acts of Parliament and for Government Departments, but the chemical investigation of local products and industries forms an important branch of its work. In this connexion a series of Bulletins is in course of preparation. Up to July, 1918, nine Bulletins have been issued, as indicated below. Although publication of Bulletins had to be suspended for a time, it is hoped to continue the series as soon as possible.

No. 1.—*Paper Making*: An investigation into the prospects of establishing a paper-making industry in South Australia. A number of local materials have been investigated, and special attention is directed to straw as the most valuable available material, owing to the very large supply obtainable at a low price and near to the principal sea-ports. No. 2.—*Polash*: Its economic sources in South Australia. Many local sources have been investigated, and wool scour is indicated as especially worthy of attention. *Lanoline*: A process for obtaining wool fat from locally scoured wool is described. No. 3.—*Cream of Tartar*: An examination of local grape products as sources of cream of tartar. No. 4.—*Marine Fibre*: The fibrous portion of the leaf sheath of the sea plant *Posidonia Australis* grows abundantly in the shallow waters around the coasts of South Australia, and on other parts of the Australian Coast. This Bulletin has been written to gather together and publish all the available information respecting it. The sum of £220,000 has already been spent in this industry, and a large amount of experimental work has been done in finding methods of collection and purification and market uses. No. 5.—*Boiler Waters*: Foaming and priming of boiler waters have been studied with a view to the suggestion of a remedy for these faults. No. 6.—*Grass Tree*: An investigation of the economic products of the species *Xanthorrhœa*. The trunk, leaves, and resin were examined. Special attention is drawn to the resin as similar to the high-priced resins, such as dragon's blood, benzoin, etc. It was found that 8 per cent. of para-oxy-benzoic acid was readily obtained from the gum. No. 7.—*Gypsum and Plaster of Paris*: An investigation of the gypsum deposits in South Australia and their uses, with special reference to the manufacture of plaster of paris. No. 8.—*Alcohol as a Source of Power*: This Bulletin discusses the use of alcohol as a motor fuel, details tests carried out under practical conditions, and indicates sources from which alcohol can be obtained. No. 9.—*Bonedust*: Its adulteration with Phosphate Rock. The results of this particular form of adulteration are dealt with, and a method of detection described.

Work in connexion with the wheat pest problem was carried out by the Department of Chemistry for the Wheat Weevil Committee, of which the Director of the Department was Chairman. An outline of the results achieved by the Committee is set out in Report No. 2 of the State Advisory Council of Science and Industry of South Australia, 1920. It is estimated that at least £1,500,000 worth of wheat valued at 4s. 9d. per bushel was saved as the direct result of this research work.

NOTE.—In previous editions of the Year Book various other matters of special importance have been dealt with in this section. For a list of these, see Index to Special Articles on page vii.

* Information supplied by the Director, Dr. W. A. Hargreaves, D.Sc., M.A., F.I.C.