

A beginning has been made on the chemical analysis of hop-plant tissues to determine the distribution of minerals within the plant and the hop cone, the effect of standard fertilizer at different rates on the nitrogen and mineral content of the plant, and the correlation of the mineral content of the plant with the mineral status of the soil.

#### DOMINION LABORATORY

The Chemical Engineering Section has constructed a small experimental drying-kiln capable of giving excellent control over air flow and temperature. A design has been prepared for an up-to-date kiln for the Hop Research Station based on a forced-draught system. It incorporates ideas gathered by the Director of the Station while in England and by the Senior Engineer of the Laboratory while in Tasmania.

### MANUFACTURERS' RESEARCH COMMITTEE

Secretary-Executive Officer: Mr. C. P. McEVEDY

Throughout the year the Committee has continued its policy of encouraging and assisting industrialists to apply the results of scientific research to the processes and problems of manufacturing industries, and also to utilize the special facilities available through the Department. The Committee is convinced that the fuller utilization of the results of research is contributing substantially towards achieving greater efficiency in methods of production.

A close relationship has been maintained with the New Zealand Manufacturers' Federation and its district and trade associations, by providing liaison with the Department.

*Research Associations.*—The activities of the five industrial research associations, which are financed by equal contributions from Government and industry, have been reviewed at regular intervals, and their success is largely due to the interest and enthusiasm of manufacturers who carry the responsibility on behalf of industry by sharing in the management of the organizations. In view of the progress achieved, the Committee considers that the establishment of such associations is one of the best means of bringing the benefits of science to manufacturers. Even so, shortages of scientific personnel and laboratory accommodation have restrained the Committee from actively encouraging the establishment of additional associations in the meantime. For the same reasons, the plan to inaugurate industrial research fellowships on similar lines to research associations has been deferred. Instead, attention has been concentrated on the consolidation of existing associations.

*Service to Industry.*—Valuable assistance on scientific and technological matters has been rendered to industry by the Dominion Laboratory and other branches of the Department. The needs of industry for special laboratory and workshop services that are not available elsewhere in New Zealand have been provided by the Dominion Physical Laboratory, the Auckland Industrial Development Laboratories, and the Industrial Development Department of Canterbury University College, on the advisory bodies of which the Committee is represented.

The Industrial Liaison Officers continue to serve manufacturers by acquainting them with scientific developments, and also by making the facilities of the Department known and available to industry.

Many other matters of a more general nature have received the attention of the Committee in the course of their advisory work on how the resources of the Department can best be directed for the assistance and development of the manufacturing industries.