

Preservative Treatment by Pressure

Investigations are being carried out on effects of different initial pressures and temperatures on absorption of aqueous solutions into tawa.

Preservative Treatment by Diffusion

Several preliminary diffusion treatments were made, and the information secured has been used in planning a trial to ascertain influence of a number of factors on treatment of tawa.

Leaching of Water-soluble Preservatives

Over 200 lengths of timber, treated with three water-soluble materials, have been exposed to weathering for periods up to six months. Losses of chemicals and changes in distribution are being measured periodically.

HOP RESEARCH

Director : Mr. A. S. NASH

On the recommendation of the Hop Research Committee, an appointment to the post of Director of the Hop Research Station was made at the beginning of the year. The Director was sent to England to study hop-growing in that country, and he investigated cultural methods, varietal and breeding work, disease and insect control, harvesting, drying, and grading. He also paid a short visit to Czechoslovakia, where hops have been grown for over one thousand years. A member of the Chemical Engineering Section of the Dominion Laboratory paid a short visit to Tasmania to study the hop-drying methods practised there. Great difficulty has been experienced in obtaining a suitable area of land for a research station, but recent negotiations appear to hold out some hope that this difficulty will soon be overcome and that a more adequate research programme can be commenced this coming spring. The research programme, yet in its infancy, is being carried out partly by the Department, and partly by the Cawthron Institute with the aid of a special grant from the Department.

DEPARTMENTAL INVESTIGATIONS

Disease-free cuttings of promising new varieties developed by the South-eastern Agricultural College, Wye, England, were brought back by the Director and have been planted in an isolation area at Havelock North. These varieties are characterized by high yielding-capacity, and from the brewing standpoint they have a high preservative value.

A preliminary aerial survey of hop-gardens was carried out in February and gave many valuable indications, which were followed up by examinations on the ground.

Preliminary experiments on hop-drying were carried out at the Dominion Laboratory, Wellington, by the Chemical Engineering Section, and useful basic data on the drying characteristics of hops have been obtained. Progress has been made in designing a suitable type of small experimental hop-drying unit that will give precise control of temperature, humidity, and air flow over a wide range.

CAWTHRON INSTITUTE INVESTIGATIONS

Disease Survey in Hop-gardens.—Some twenty representative hop-gardens have been examined for the presence of disease. Ten gardens in Upper Moutere and Wai-iti appeared free from disease, but black root-rot (*Phytophthora* sp.) was identified in eight other gardens. Canker (*Gibberella* sp., *Fusarium* sp.) was found in several gardens, and leaf symptoms suggestive of virus disease—chiefly mosaic or nettlehead—were observed in eight widely scattered gardens. No case of wilt (*Verticillium albo-atrum*) was found during the survey.