The nature of the effect made remedial measures in the bakeries difficult, but a bulletin giving suitable advice was sent to all bakers, and, it is believed, was of assistance.

In order to keep the incidence of the damage to flour at a uniform and manageable level, millers made extensive use of the Institute's wheat and flour testing services. This and the use of imported wheat and flour were the measures which were mainly responsible for minimizing the amount of damaged flour produced.

Whenever any baker experienced serious difficulty the Institute arranged with the Wheat and Flour Controller for sound flour to be supplied for blending purposes. The excellent co-operation existing between the Controller and the Institute was in this way an important factor in limiting consumer complaints.

Chemical and Research Work.—The chief activities of the chemical staff were on the chemical aspects of sprout damage in wheat and flour and on the determination of vitamin B_1 in cereal products.

Milling of High-vitamin Flour.—This work was held up for some time because the staff was busy with work connected with sprouted wheat. The new milling-machine mentioned in the last report was duly installed in a commercial mill and, after a number of practical difficulties had been overcome, has worked satisfactorily for many months. The vitamin B_1 content of the white flour produced was raised to about 2·5 μg per gram. This is a satisfactory level and compares well with the average of about 1·7μg per gram for other mills. The method has been demonstrated to millers, and many have stated that they will use the new machine as soon as it is available. This is being arranged.

Extension Work

As in previous years, the Institute has continued to collaborate with the Wheat Committee, with the organizations of farmers, millers, and bakers, and with many individuals and firms in the industry. A number of addresses was given to various organizations. The travelling baker continued to visit numerous bakers throughout the Dominion. Exhibits were arranged for agricultural shows at Christchurch, Timaru, and Methven.

CAWTHRON INSTITUTE

Director: Sir Theodore Rigg

Assisted by grants from the Department of Scientific and Industrial Research, the Cawthron Institute has carried out a wide scope of investigational work connected with soil survey, mineral deficiency problems, fruit and tomato research.

In addition, the Institute has co-operated in the work of the Entomology Division of the Plant Research Bureau, which is located at the Cawthron Institute and has collaborated with the Tobacco Research Station in the conduct of soil, plant, and disease investigations relating to the improvement and development of the tobacco industry. An account of the tobacco and fruit investigations handled by the Institute appears in the annual report of the Department under the headings of "Tobacco Research" (see p. 54), and "Fruit Research" (see p. 20), respectively, and the report of the Entomology Division is included in that of the Plant Research Bureau (see p. 38). Other research work carried out with the assistance of grants from the Department is reported below under the headings of "Soil Survey," "Mineral Deficiency Investigations," and "Tomato Investigations."

Soil Survey

During the past year detailed soil mapping has been continued on the alluvial soils of the Waimea and Wai-iti Rivers. The Brightwater - Spring Grove sector of the Wai-iti Valley was completed, and tobacco soil maps covering this locality have been prepared and made available to the Tobacco Research Station, the tobacco-manufacturers, and Tobacco Growers' Federation. The last section of the Wai-iti Valley, covering Wakefield-Belgrove, with the adjoining valleys of 88 and Pigeon, has been mapped, but the final classification of the soils cannot be completed until mechanical analyses of samples