

RESEARCH

Two factors this past year have disturbed the normal program of the Laboratory. The outfitting of new laboratories and the refitting of some older ones has caused some disruption in the flow of work although no essential operations have been affected. In addition, the Basic Wheat Research section has been rather short staffed, with Dr. Bushuk and Mr. Birnboim absent on academic leave, and with Dr. Cunningham resigning in August. By the end of the year, however, most of the changes were completed and with the new facilities, the program of routine testing, applied research and basic research is once again functioning smoothly and efficiently.

In applied research on wheat, systematic studies of bread wheats and durum wheats competing with Canadian wheats in the European market have been started. Research into better testing methods is continuing, and an improved baking method has been developed and is now in use. Improvements have been made in our milling equipment and our results now closely resemble those of commercial mills; work with the Experimental Wheat Conditioner has been started. A number of quality tests, used in countries which import Canadian wheat but not used on this continent, are being studied and evaluated.

The applied research project on the quality of stored flour is continuing and a constant check is being maintained on the quality of wheat in store in Western Canada.

In applied research on wheat, systematic studies of bread wheats and absorption is being studied to provide a basis for fundamental studies of dough rheology using the Farinograph. A new technique, light scattering, has been applied to studies of flour constituents and the recently developed amperometric titration technique has been utilized in extensive studies of the sulfhydryl group in flour. A quantitative relationship has been established between bromate concentration in dough and the relaxation constant, while other aspects of the general study of physical properties of dough are being developed.

In barley research, more units of the new-type malting equipment are being assembled, following the success of the initial installation. Pilot brews have been prepared by the Brewing and Malting Barley Research Institute from malts made in the new equipment. The compounds responsible for wort nitrogen are being separated by electrophoresis and malting studies of low, medium and high wort nitrogen varieties are being made. The cytolytic enzymes continue to receive attention and some success has been achieved in separating this enzyme system into several components.

STAFF AND FACILITIES

The second award of the National Research Council Postdoctorate Fellowship tenable in the Board's Laboratory, was made to Dr. A. H. Bloksma of the Institute for Cereals, Flour and Bread, T.N.O., Netherlands who arrived in August. Professor Matsumoto, the first Fellow to come, returned to Japan in July. Dr. Bloksma is working with Dr. Hlynka in dough rheology. Mr. G. S. Bains of the Central Food Technological Research Institute, Mysore, India, is a Colombo Plan Fellow who is spending a year in the Laboratory working in the Applied Wheat Research section with Dr. Irvine.

Dr. W. Bushuk has returned to the Laboratory after a year's postdoctoral study at Strasbourg, France. Mr. M. H. Birnboim is now in his last year of study for a Ph.D. degree at the University of Wisconsin.

One addition has been made to the professional staff during the year, Mr. E. Aston, who is working in the Applied Wheat Research section, and one addition has been made to the subprofessional staff. With regret the Basic