

Fundamental differences in the products of photosynthesis of green, red and brown algae have been established. Methods have been devised for the identification and standardization of agar, which is used by all bacteriologists in the culture of micro-organisms and which is currently manufactured from several species of red algae. Studies have continued on the use of laminarin sulphate (laminarin being readily obtained from brown seaweeds) as a blood anticoagulant.

Studies of Atlantic cod skins, and photo engraving glue manufactured from them, have been undertaken. Cod skin has been found to be rich in collagen, the mother substance of glue. Investigation of the conversion of cod collagen to gelatin is under way.

Several fungi causing the formation of slime in pulp and paper mills have been identified and some commercial fungicides tested. Studies of the deposition of pitch in the mills have continued. Optimum conditions for drying rockweed have been evolved in an experimental dryer, and are being ascertained for kelp and eel grass. Determination of the biochemical changes taking place during cool storage of different varieties of potatoes, and an assessment of chips produced from them, have been completed.

Prairie Regional Laboratory.—Research in the Prairie Regional Laboratory is designed to promote and expand industrial uses for agricultural produce of the prairie region. Together with this applied work, fundamental studies are carried out on the basic chemical structure of agricultural materials and the complicated processes associated with the growth and development of plants and micro-organisms.

A plant biochemistry annex and greenhouse have been completed, facilitating the study of plant growth and the formation of plant constituents under precisely controlled conditions. Chemical processes taking place in plants at different stages of growth will be investigated by means of radioactive compounds.

Increased yields of commercially important products from cultures of micro-organisms are being examined. Work is under way on the production of lysine and other essential amino acids of importance in human and animal nutrition, on antifungal antibiotics, and on alkaloids of value to the pharmaceutical industry.

A mechanical foam breaker has been developed which will enable assessment of the effects of chemical antifoams on industrial fermentations. Studies have also begun to produce smaller, more efficient equipment than that now required for batch type operations in the fermentation industry. A strain of mushroom with a high yield of protein solids has been isolated. Animal feed supplementation trials indicate that the yield contains antioxidant and growth factors which should prove valuable in livestock feeding.

In the field of crop utilization, co-operative studies are under way to examine potential uses of rapeseed oil in grease manufacturing and as a lubricating oil additive. Theoretical and experimental work continued on the drying of wheat. A new method for the direct separation of starch and gluten from wheat flour has been developed. The vital gluten produced contains water soluble sugars and proteins and, when added to low protein flours, produces a strong type of baking flour.

Administration.—Administration of the foregoing laboratories is organized as a Division of Administration and Awards, which exists only to serve the scientist. The five service units of this Division are: Awards and Committee Services (Awards, Committees, Publications, Research Journals); Administrative Services (General Services, Purchasing, Personnel); Information Services (Technical Information Service, Library, Public Relations Office, and Liaison Offices in Ottawa, Washington, D.C., and London, England); Plant Engineering Services; and Legal and Patent Services. The latter group works closely with Canadian Patents and Development Limited (*see* p. 107). An expert on economic research acts as special assistant to the Assistant Director, Information Services.