Department is also developing a milk-shake-type beverage in which protein is provided by pea protein concentrate.

Soybean "meats" already are in existence. Vegetable protein has been spun into bundles of fibers, then fabricated into simulated meat products resembling poultry, seafood, or ham. Flavor, texture, calories and protein all compare favorably with traditional meats.

"What can be done with soybean protein probably can be done with pea protein," says Dr. Youngs. "Our approach to meat analogs, however, is to use sheets of protein concentrate rather than spun fibers."

Canadian Patents and Development Limited, a subsidiary of NRC, is proceeding with a joint patent application by the Prairie Regional Laboratory and the University of Saskatchewan on the preparation of meat analogs from pea protein concentrate. Flavoring of meat analogs and the other food products is done artificially.

Will these analogs cut into meat sales or production?

"The demand," says Mr. Sumner, "is for increased sources of protein, not replacement of existing sources. Meat consumption will probably continue to increase, with analogs contributing complementary dishes."

It is projected that these "complementary dishes" will provide a two million dollar market for meat analogs within 10 years.

Allan Potash Mines have tested pea starch on a pilot scale as a desliming agent in potash refining and have found it satisfactory for this purpose. The starch has also been tested on a pilot scale as a brewing adjunct by Canadian Breweries Limited and found satisfactory.

The Prairie Regional Laboratory has completed a test on fine grinding and air classification at the test station of Alpine American Corporation. Although a very significant separation of starch and protein was obtained, the samples have yet to be analyzed to give detailed information.

The Federal Department of Industry, Trade and Commerce has begun a detailed survey of the trade and consumption of grain legumes in all countries where commercial counsellors are maintained. This will include samples of various grain legumes and the form in which they are consumed.

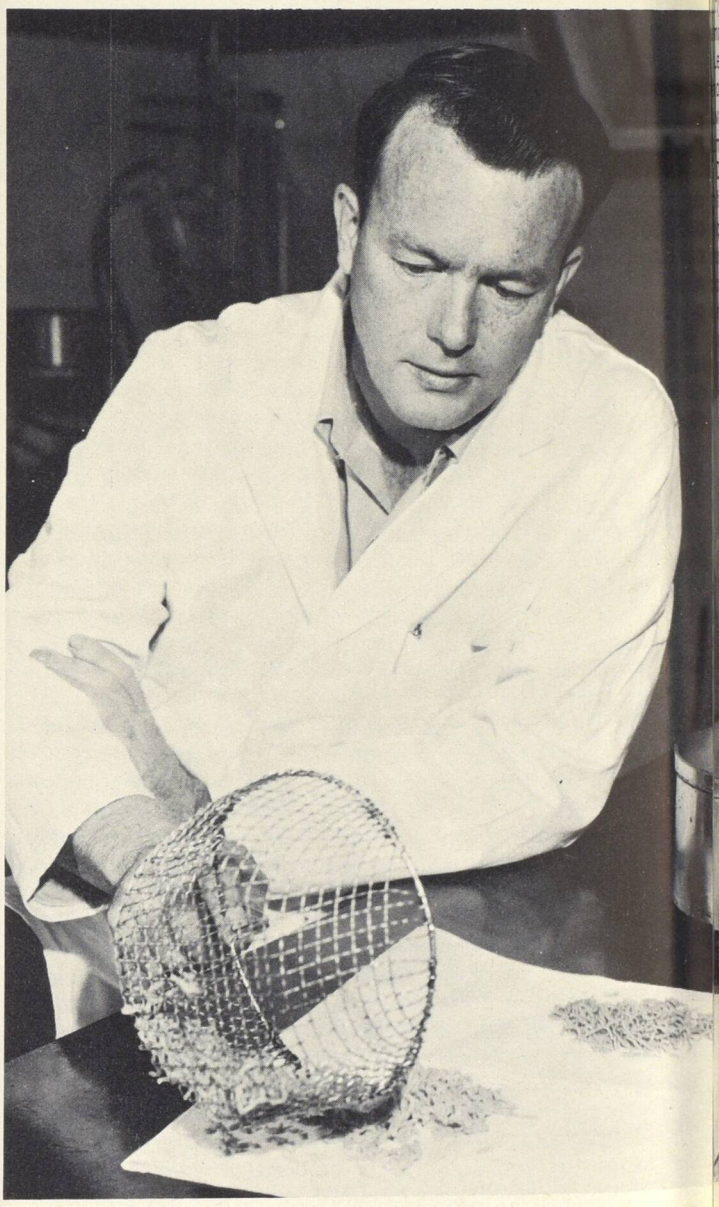
"It is quite possible that field peas could be used economically in many of these areas, particularly where the legumes are being processed prior to consumption," Dr. Youngs says. "There is a tremendous potential for the production of high-protein foods from grain legumes on a world wide basis, but it has been a neglected type of crop particularly in the developed countries that have the technology to forward its development."

Although there is still a great deal of work to be done, the Laboratory has now reached the point where preliminary feasibility studies on processing and marketing of pea flour, protein concentrate and starch can be done.

"This of necessity involves a great deal of input from industry," points out Dr. Youngs. "But the cooperation obtained and the interest shown to date suggests that a realistic appraisal should be possible in the near future. If we can establish even a modest use of field peas in food products in Canada, it could spur a renewed world-wide interest in this type of material."

"But," says Dr. B.M. Graig, Director of PRL, "you can't interest Canadian industry in taking something new up, such as rapeseed, until you can guarantee a source of supply."

The program is to first convince growers that on-the-farm use of field peas for animal feed is economically attractive and scale production up for other uses. □



*Dave McPhee prepares deep fried snacks from pea flour. ● M. Dave McPhee prépare une friture dont l'élément est tiré de la farine de pois.*