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International Development Research Centre seeks new ways to make bread

The International Development Research Centre (IDRC) is supporting research aimed at making nutritious bread by methods easily used by people in developing countries, with ingredients grown in these countries.

Apart from rice grown in Southeast Asia, cereal grains and grain legumes constitute 75 to 80 per cent of the calories and proteins consumed in developing countries. But bread and bread products, as distinct from coarser homemade products such as the Indian chapati, are increasingly popular.

Joseph H. Hulse, Director of IDRC's Division of Agriculture, Food and Nutrition Sciences, says that bread consumption in Africa is up by 10 per cent each year. He points out: "At a certain stage people move toward bread but wheat often has to be imported because wheat just doesn't grow well in some tropical countries."

In a laboratory at the University of Manitoba, outside Winnipeg, flour from Canadian wheat is mixed and baked in varying proportions with flour from corn, sorghum or millets grown in developing countries. Experiments are starting on composite flours of wheat and high-protein legumes such as African faba beans and chick peas harvested in Asia.

This two-year IDRC project, involving a grant of \$20,000, will be extended six months to the end of 1973 so technicians from developing countries can start to be familiar with making bread from composite flours.

In related IDRC-aided projects, a special grain mill invented by a Canadian engineer was recently developed at the University of Guelph, Ontario, and it is being tested in Maiduguri in northeast Nigeria, turning out bread products for marketing in this rural area under a \$132,250-grant over two years.

"We had to find a method to make bread by hand or human power instead of machine power," says Mr. Hulse.

"The bread-making process is still in the laboratory stage and we're looking at application of it in developing countries."

He explains: "We use Canadian expertise to develop the underlying techniques but applying them takes place in developing countries. The old idea was to lift the complete technology one finds in a North American bakery and drop it into a developing country with all the North American recipes. Now we're trying to help the less-developed countries to produce new technologies — technologies better suited in scale and mode of operation to their own needs and resources."

Request from Nigeria

In 1967, when he was working for FAO, the Nigerian Government approached him with a request for a Canadian-developed mill that could be used for a variety of grains. Most mills in developing countries are designed for wheat only.

Also in 1967, Maurice Strong, then head of the Canadian International Development Agency, showed Mr. Hulse the blueprint of a machine designed by Leslie Palyi, an engineer who had immigrated to Canada from Hungary. The mill employed two counter-rotating disks to take seed coats off grain by abrasive action without grinding up the germ and endosperm (protein and starch) inside. It could be used for several kinds of grain.

In the past year at Guelph, good flour was made by the Palyi mill using millet, sorghum, corn and legumes, including soybeans, grown in developing countries.

While working for the Food and Agriculture Organization, Mr. Hulse, in co-operation with a British group of scientists, had demonstrated that the "Chorleywood breadmaking process" could be adapted to produce bread from mixtures of Canadian wheat flour and

Death of Mr. Louis St. Laurent

Louis Stephen St. Laurent, Prime Minister of Canada from 1948 to 1957, died at his home in Grande-Allée, Quebec on July 25 at the age of 91.

See tribute to Mr. St. Laurent in next week's issue.