ners who are attempting to improve the efficiency of land use. Only 5 per cent of Canada is improved farm land, and only about 2 per cent, or 20 million hectares, is available for future expansion, much of it marginal or located in less desirable climatic areas. In fact, the arable land of the Canadian north is one of the last agricultural resources still awaiting development. The department's staff is studying northern soil capacity, climate and crops.

Also being investigated are more efficient ways to use energy in agricultural operations and the possibility of saving energy by modifying cultural practices, even though at the farm level the industry is not a major user of gasoline.

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In addition, research is being done on the use of waste products for methane production and the use of biological materials—biomass—as an energy source. Another program is to study the conversion of agricultural waste into animal feed.

Science activities in the Department of Agriculture include the activities of the economics branch which conducts research into the behaviour of economic and social variables affecting the agricultural industry, with particular emphasis on issues affecting policy development and implementation.

Research on animal diseases is carried on by the animal pathology division of the health of animals branch in Ottawa and at eight regional laboratories. In addition to studying the causative agents of animal diseases and methods of transmission, the division develops and improves tests for detecting diseases as well as producing diagnostic reagents and biological products for halting outbreaks of disease. Tests are also developed to qualify breeding stock and meats for export and to prevent the entry of foreign animal diseases into Canada.

The grain research laboratory at Winnipeg monitors and assesses the quality of cereal grains and oil seeds grown and marketed in Canada and also conducts research on quality related to the end-usage of these crops.

The production and marketing branch expects to continue its contributions at about $1 million in 1978-79 to provincial agencies, industry and universities to stimulate, develop, and adapt new agricultural crops and varieties for commercial production.

I should like to conclude by reference to some figures for the research program of the Department of Agriculture. In 1971 total expenditures were $50 million and for 1978-79 they will be $121.5 million. Of course, there is always room for disagreement on priorities. However, this must remain a matter of disagreement since we have not heard this evening the precise proportion the opposition recommends for agricultural research.

Mr. Bert Hargrave (Medicine Hat): Mr. Speaker, it is a full year since the government's new restrictive policy on research and development was initiated. Tonight I wish to make a few personal and quite specific remarks about the effects of this policy, especially in the field of Canadian agriculture.

Research and Development

In the opening speech of this debate by my leader this afternoon he quite properly pointed out that agricultural research and development must have a much higher priority if only because of the obvious and very necessary association with human food production. He pointed out that Canada's capacity to produce food is one that will not run out but is truly a renewable resource. Those are facts that we should always remember.

At the food strategy conference in Ottawa last month, the agricultural producers took some obvious satisfaction out of one of the stated objectives of this much publicized conference which said that the conference was aimed at improving farmers' incomes and lowering food prices.

Peter Hannam of the Ontario Federation of Agriculture and Dobson Lea, the new president of the Canadian Federation of Agriculture, were quick to point out the disparity or dilemma in this statement about improving farmers' incomes and lowering food prices. This is impossible, of course. One might argue that there is a very slim possibility of some improved efficiency, but farmers are getting sick and tired of being told to be more efficient. If you tried that approach on a cattleman who survived last summer's drought and who is not yet through a severe winter, you would get a very frosty and sarcastic answer. Nevertheless, it is possible to improve farmers' incomes and lower food prices through adequate research and development. This is really the only way it can be done.

While there is a definite place for contracting out some research occasionally at the expense of some in-house research, I make a plea tonight for a continuation of, and even stepped up support for, the research branch of our federal Department of Agriculture. I have been pretty well in touch with the Department of Agriculture's research activities in western Canada, especially for many years beginning in 1938 when I was a student at the Swift Current research station or, as we called it in those days, the experimental farm. Later the Lethbridge station became a favourite place to meet and visit, as well as the Manyberries sub-station, the only truly short grass cattle research station in Canada.

The new research building in Lethbridge must be the foremost of its kind in the world. It was jointly planned, financed and operated by the federal Department of Agriculture and the Alberta agriculture department, and, of course, it was officially opened last summer. It is a good example of federal and provincial agricultural forces working together.

The Lethbridge research station is ideally suited to cattle breeding research along with the Manyberries sub-station. This type of livestock research does not lend itself to contracting out to the private sector, essentially because its research projects take so many years to complete properly.

Southern Alberta now has approximately 500,000 acres of irrigation and more is being added every year as a result of the sprinkler techniques. The Lethbridge station has become the headquarters for all western research related to irrigated crops and the techniques of irrigating. In many respects this aspect of research and development is in its infancy—that is, dealing with irrigated crops and the technique of irrigating them.