

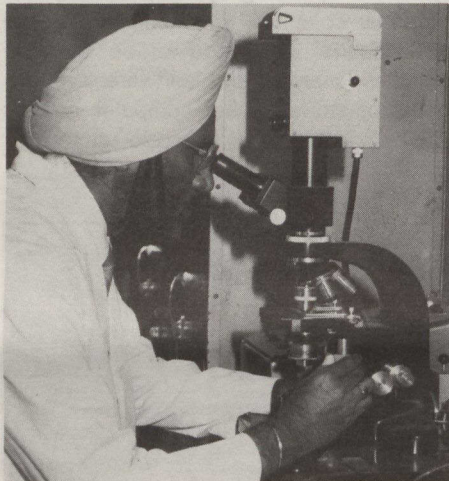
## Proteins from wood

Dr. Devinder Sing Chahal, a scientist and teacher specializing in industrial microbiology at Montreal's Armand Frappier Institute, is currently working on a project to develop an improved process for converting forest biomass into protein feed for cattle. The process yields a feed containing nearly 49 per cent proteins, compared with the feed now produced commercially from soybeans that contains approximately 45 per cent proteins.

In the process, wood pulp is first made from particles of poplar trees with nitrogen, phosphorus and sulfur. This compound is then fed to a mycelium which, over a 24-hour fermentation period, uses two enzymes (hemicellulase and cellulase) to convert the cellulose into products that can be assimilated by an organism.

The fungus that is formed has considerably increased in volume. It is dried and then fed to the cattle.

In order to produce the raw material on a larger scale so that it can be used as feed for various animal species, Dr. Sing Chahal is building a fermenter with a larger capacity than the one now being used. It is expected to take about 16 months to produce.



Dr. Devinder Sing Chahal, uses poplar pulp to produce proteins that can be assimilated by animals. A mycelium (fungus) is used to convert the ligneous matter into carbohydrates.

Bioconversion of wood carbohydrates to animal feed is expected to save millions of dollars that are now spent to import soybeans. The project could also help to increase the cost-effectiveness of the forest industry by using the waste from logging and plant operations. Five kilograms of wood produce about one kilogram of raw protein.

The project is being financially supported by the government of Quebec in a \$467 000 grant.

## Chinese enjoy Homestay program in Canada

The Homestay program of the World University Service of Canada (WUSC) began in January this year when the first of 300 Chinese professionals taking part in the project arrived in Canada.

The purpose of the program is to give the people involved an insight into the perspectives of the other culture and to help them avoid confusion in situations that may be new and confusing.

Under this knowledge exchange project, some 75 Chinese a year will spend 12 months in provinces across Canada in the next four years, updating their skills in a variety of specialized fields, ranging from agriculture to telecommunications, medicine and urban planning.

### Interaction important

During their stay, the Chinese participants will not live with their Canadian hosts but will spend a great deal of time in each other's company, socially and often at work. The program stresses interaction between people with different interests and backgrounds.

Paul Brennan, WUSC's China program manager, who spent two years in China in the Seventies on a Canadian government language and history scholarship, says "it gives the Chinese a headstart on feeling at home in a new country, for which there is no substitute". For the Canadians there are also added benefits. "Canadians who have visited China since the program began find the families of Homestay participants welcome them warmly into their homes, sharing experiences they'd never have had as mere tourists," says Mr. Brennan.

The professionals who are selected by various ministries in the Chinese government, take part in a Canada-China Human Development Training Program administered



Robert Hurst (holding his son) with Chinese satellite expert Li Jinxing, sponsored by Mr. Hurst and his wife Cathy in the Homestay program.

by WUSC at the request of the Canadian International Development Agency (CIDA).

Before leaving for Canada, each Chinese professional spends three to six months in a CIDA language training centre in Beijing, and on arrival in Canada, attends an additional six weeks at one of five regional language and orientation centres located in Vancouver, Edmonton, Toronto, Montreal and Halifax.

WUSC pays each trainee a monthly stipend to cover food, transportation and accommodation, tuition fees and medical and dental insurance.

## Computrip service for motoring vacations

A special computerized travel service, Computrip, for motorists travelling in North and Central America, has been developed by Calgary businessman Thomas Potter.

Using the service, a tourist can feed into the computer information about the size of vehicle being driven, the starting location, destination and whether the motorist prefers to travel by the shortest route or pick a scenic route.

The motorist receives a computerized printout showing the route in miles and kilometers, including designated highways, route changes and rest areas.

In addition the service provides a computerized summary of total distance to be travelled, estimated driving time and approximate gas costs. It can also include locations of hotels, motels, car rental agencies and service stations.

Mr. Potter says the program is ideal for state and provincial travel information centres, as well as hotel and motel chains and major service stations.

The program operates on IBM or IBM-compatible personal computers, but can be transferred to a mainframe computer or adapted for other systems.