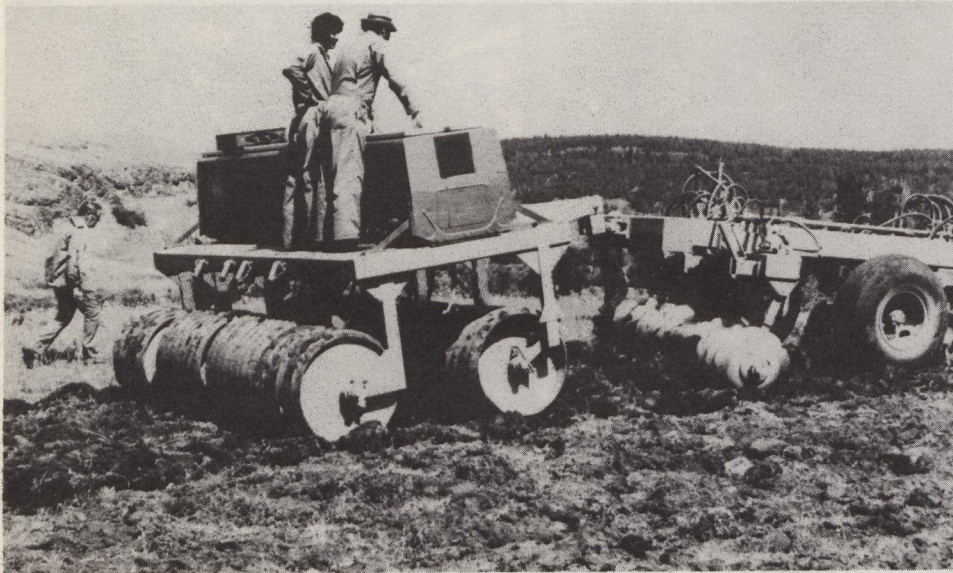


Rough terrain no competition for tough new seeder



A prototype seeder, developed by Agriculture Canada and the British Columbia Ministry of Agriculture, is overcoming seeding problems on rangeland.

A joint federal-provincial agricultural research project has developed an improved seeder for British Columbia's rugged and plant-covered rangelands.

With funding from Agriculture Canada's Development, Research and Evaluation of Agricultural Machinery Program (DREAM), engineers at the provincial Ministry of Agriculture have designed a seeder that is able to till the steep, often

gullied terrain and place and cover the seeds adequately for germination.

Two basic units — an offset disc for control of vegetation and soil tillage, and a free-floating packer-seeder to compact the soil and place the seed accurately, are pulled in tandem by a crawler tractor for a one-pass operation. Each 3.6-metre gang unit of the offset disc is made up of four individually suspended sub-gangs control-

led and loaded by a hydraulically operated cylinder.

The individual suspension and hydraulic loading of the sub-gang allow: infinitely variable loading — 0 to 378 kilograms *per disc* — controlled from the tractor seat; good flexibility for riding over uneven ground and obstacles; extended flexibility for following severe contours; increased durability because individual sub-gangs absorb the impact when an obstacle is hit; relative motion between adjacent sub-gangs reduces interference from sagebrush.

The seeder-packer consists of front and rear roller assemblies that are made up of four packer sections, each individually suspended from the frame to provide a plus or minus 0.3-metre vertical displacement. Seed is broadcast between the rollers from a standard seed box. The second set of rollers is positioned so that the shallow ridges formed by the front rollers are split and the soil firmed around the seed for maximum soil-seed contact.

The cost of seeding with the new seeder is estimated to run from \$75 to \$100 *per hectare* depending on tillage requirements.

The unit is now being contracted to other government agencies, companies and ranchers for range seeding and a smaller, more maneuverable 2.4-metre model will be ready for testing this autumn.

Vocational training

Three-year adult occupational training agreements have been signed by the federal Employment and Immigration Minister, Bud Cullen, and the provincial Ministers of Labour of Newfoundland, Prince Edward Island and New Brunswick.

During the fiscal year 1978-79, the Federal Government will contribute \$13,452,000 to purchase courses from Newfoundland's training institutions; another \$2.5 million will be used to encourage employers to provide training which will help alleviate skill shortages in various industries. An additional \$225,000 will fund the continued updating and improvement of vocational training courses.

The remaining funding will be made available over the second and third years of the agreement, based on a minimum guarantee and considering such factors in

the province as economic growth during the tenure of the agreement, changes in the consumer price index and the size of the labour force.

In addition to the \$50 million for training, allowances will be provided for trainees who are not eligible for unemployment insurance benefits.

Other eastern provinces

In Prince Edward Island the Federal Government will provide some \$10 million to purchase adult occupational training courses from the province's training centres and a further \$8 million to provide Islanders with income support while undergoing training.

In addition, over \$1 million has been allocated for the fiscal year 1978-79 to support industry-based training for approximately 1,500 people. Funding levels for this program in the remaining two years of the pact will be determined later.

Employment and Immigration Canada will provide a minimum of \$34,063,000 to purchase adult occupational training courses from New Brunswick's community colleges and other training centres.

Under the three-year pact, the Federal Government will make available an amount of \$11,511,000 for the fiscal year 1978-79, the remainder to be made available over the second and third years of the agreement.

Industrial training in New Brunswick will also benefit under the agreement, with \$4,558,000 allotted for the fiscal year 1978-79, and unspecified amounts to become available in the following two fiscal years.

Although the general policy remains that training-in-industry is primarily a responsibility of the employer, contracts with employers may be undertaken in cases of skill shortages where it would be in Canada's interest to encourage training.