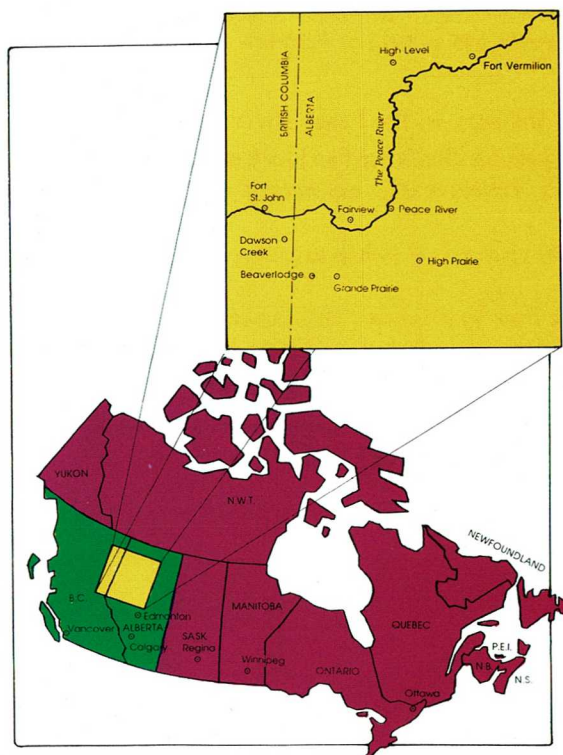


ALFALFA SEED IN THE PEACE



Alfalfa (*Medicago sativa*)

The Peace River region of northwest Canada spans across the provinces of British Columbia and Alberta between 50° and 60° N latitude. This area covers over 16 million ha, of which approximately 8 million ha are arable. Less than 2 million ha are cultivated. The vegetation of the area is predominantly Boreal Forest with some Parkland. Most of the soils in the region are Grey Wooded, and there are only 0.4 million ha with Black soils. This region is noted for forage seed production. About 33 percent of the total production of Canadian forage seed is grown in the Peace. On a provincial basis, this represents about 95 percent and 75 percent of the forage seed produced in British Columbia and Alberta, respectively.

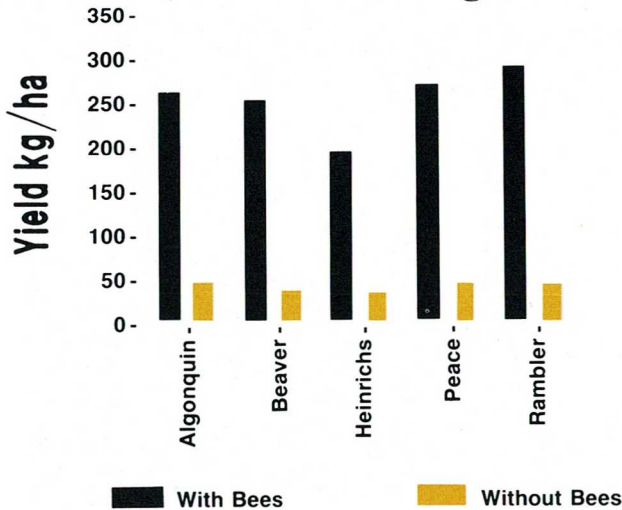


Alfalfa has been grown for seed in the Peace for a number of years, and records of production date back to 1935. To produce seed, alfalfa like other forage legumes requires an insect for pollination. Alfalfa seed fields in the Peace were traditionally surrounded by uncleared land — the natural habitat for insect pollinators. Large acreages of bush were cleared for cultivation in the mid 1950's resulting in the depletion of the natural habitat for insect pollinators. This coincided with a decrease in alfalfa seed production. The average annual production was 1,500 tonnes for the period 1935-1955, but declined to 50 tonnes by 1955-1958. The introduction of the leafcutting bee, *Megachile rotundata* (Fab.) into the region in the early 1970's, and the development of a successful management system for the bee in the north by scientists at Agriculture Canada's Beaverlodge Research Station and Fort Vermilion Sub-Station, resulted in the successful re-establishment of the alfalfa seed industry in the Peace. Today, there are approximately 3,200 ha in the Peace devoted to alfalfa seed production. A majority of this production is non-pedigreed or common seed. Most of the cultivars grown are winter hardy types, although a few contracts for some non-hardy types have been acquired recently.



There are a number of species of native leafcutting bees in the Peace region. However, these native bees are not gregarious — i.e., large numbers of bees do not nest in the same area. They tend to drift to other areas and are therefore not reliable pollinators. **Megachile rotundata** (Fab.) is the species of leafcutting bee that has been successfully domesticated for use as a pollinator of alfalfa. This bee, a native of Eurasia, was first introduced to the Peace in 1966. Today, there is a thriving industry with an estimated 80 million cells utilized annually in the region. To date, the cells produced in the Peace are chalkbrood free, and this has assisted in making sales to both domestic and international markets.

ALFALFA SEED YIELD (4 - Year Average)



Optimum and consistent seed yields can only be obtained when leafcutting bees are provided.

The leafcutting bee, the recommended pollinator for alfalfa. The female (top) is the predominant pollinator and is larger than the male (bottom).

The alfalfa seed producers in the Peace play an active part with the seed trade, research and extension personnel in shaping the seed industry in the region. The Alberta Alfalfa Seed Producers' Association (AASPA), Peace Branch is actively involved in a number of initiatives. A survey on the quality of leafcutting bee cells produced in the region with a directory of producers who own these stocks of cells is published annually. In 1981, the first annual seminar on alfalfa seed production in the Peace was organized by the AASPA, Peace Branch in conjunction with Fairview College, Agriculture Canada at Beaverlodge and Alberta Agriculture. This seminar has continued as an annual two-day event and is held at Fairview College in mid-March each year.

How can continuing improvement be assured for the alfalfa seed industry in the Peace River region?

Too much emphasis cannot be placed on the importance of finding markets for alfalfa seed and leafcutting bees, establishing the necessary contacts, and being able to meet the requirements of buyers. Timely market information is essential for the survival of the industry.

The present trend of producing large volumes of common seed has to be changed. A switch to pedigreed production to meet marketing requirements should be made.

To meet market obligations, production must be consistent, i.e., reliable from year to year. This can only be achieved through a strong infrastructure of research and extension. Updated management practices, tailor-made for the Peace, are required for both crop and pollinator. The success of these practices will be assured if they are based on sound scientific experimentation.



For further information contact:

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