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SUNFLOWER PRODUCTION RESPONSE IN CANADA

Canadian sunflower production is concentrated primarily in Manitoba. Between 1954 and 1974 the average production in Canada was 19,900 kilograms, of which Manitoba production was 17,100 kilograms (Table 1). There is however, substantial scope for the increased production of sunflowers from both the area seeded and increased yields. It has been stated that from an agronomic point of view, Western Canada could accommodate 202,350 to 404, 690 hectares and still maintain an adequate rotation. Most of this potential land use for sunflower production is in Manitoba. Also, increased yields would have a major impact not only on the total production levels but also on the number of hectares seeded in subsequent years. Average yields in Canada have varied from a low of 179 kilograms per hectare to a high of 393 kilograms per hectare. The variability and uncertainty of yield levels have resulted in producers being apprehensive about the sunflower crop and therefore limiting the seeded area.

The production of sunflowers in Western Canada has been affected by both diseases and pests. Some of the more important diseases are rust, due to Puccinia helianthi Schw., verticillium wilt, V. dahliae Kleb., and sclerotina, Sclerotinia sclerotiorum. The main leaf-feeding insect pests of sunflowers are the sunflower beetle, Zygogramma eclamationis (F.) and the painted lady butterfly, Cynthia cardui (L.). Cutworms, Agrotis orthogonia, are the most important stem or stalk pests.

The features of the southern portion of Manitoba which support the production of sunflowers include the land base and climatic conditions. One favourable climatic condition which directly

Table 1

Sunflower Area, Production, and Perspective

Year	Area			Production		
	Canada	Manitoba	%	Canada	Manitoba	%
	- thousands of hectares -			- thousands of kilograms -		
1974	12.1	12.1	100	11.8	11.8	100
1973	52.2	50.6	97	41.2	39.7	96
1972	87.8	76.9	88	77.1	68.9	89
1971	96.7	62.7	65	76.6	52.6	69
1970	28.5	26.3	92	25.1	23.4	93
1969	19.4	19.4	100	15.4	15.4	100
1968	16.2	14.9	92	11.2	10.9	97
1967	18.5	17.8	96	16.3	15.9	98
1966	21.4	17.4	81	17.8	15.6	88
1965	27.5	19.4	71	13.2	11.9	90
1964	31.7	19.4	61	14.0	11.4	81

Table 1 (cont.)

Year	Area			Production		
	Canada	Manitoba	%	Canada	Manitoba	%
1963	15.4	13.4	87	16.3	14.2	87
1962	9.3	8.3	89	7.9	6.9	87
1961	10.1	8.5	84	9.1	7.6	84
1960	10.3	7.7	75	9.9	6.9	70
1959	16.9	10.1	60	16.8	9.1	54
1958	19.7	18.2	92	10.0	8.8	88
1957	14.2	14.2	100	8.8	8.8	100
1956	13.4	13.4	100	7.5	7.5	100
1955	8.1	8.1	100	6.5	6.5	100
1954	8.1	8.1	100	6.3	6.3	100

Source: Statistics Canada. Quarterly Bulletin of Agricultural Statistics. Catalogue Number 21-003, Ottawa, 1954 to 1974.

influences plant growth and yield potential is temperature. One facet of temperature's influence is the frost free period which in this region ranges from 130 to 140 days, sufficiently long to allow the sunflowers to mature. Another vitally important factor affecting the physiological development of the plant is the accumulation of heat units over the growing period. The region which produces most of Canada's sunflowers coincides with the area which receives the most heat units in Manitoba, favourably affecting the development of the crop.

Sunflowers, however, are not the dominant crop in this region and play a subsidiary role to the major Board grains. Based on the 1971 Census figures, the Board grains of wheat, oats, and barley accounted for 60% of the total cropped area. Sunflowers in this same period, accounted for just over 7% of the cropped area.

The main sunflower varieties grown in Manitoba for oil extraction are Krasnodarets and Peredovik. Krasnodarets is the most widely recommended variety in Canada because of its early maturity. The two confectionary types of varieties which are recommended are Commander and Sundak. Sundak is a large-seeded, open-pollinated confectionary sunflower which originated from selected rust-resistant Commander plants and was first licensed in 1975.

There are numerous major benefits of including sunflowers in the farm plan. Sunflowers increase the diversification of the cropping pattern and reduce the risk to the farm operator from price and weather uncertainties. Sunflowers extend the crop rotation, are grown on a wide range of soil types, are comparatively drought resistant, and require relatively less nitrogen and phosphates than cereals. Soil moisture is conserved in the summer through the practice of row planting, and in the winter by the high stubble which reduces wind erosion and holds snow on the fields. Another benefit of incorporating sunflowers in the farm plan is that they

complement other farm operations. The crop is usually sown early in the spring and is harvested in late September and October, helping to distribute demand on farm labour and machinery over a longer period of time.

In addition to the agronomic benefits of diversification and conservation, sunflowers have contributed to the financial viability of the farming operation. The average gross returns in Manitoba from sunflowers for the period 1955 to 1973 were $90.35 per hectare. The comparable returns for the major crops were as follows: wheat $98.73, oats $67. 41, barley $76.66, flaxseed $ 78.30, and rapeseed $94.68. Sunflower production does not require a large investment in specialized equipment; therefore the costs are similar to other grain crops. Also, the marketing arrangements within Western Canada favour the production of sunflowers because producers can realistically expect to market their total production.

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