

Yield Report on Oilseed Crops at the Minot Experiment Station

Ben K. Hoag and G. N. Geiszler

Because of acreage restrictions on cereal grain crops, farmers are looking for other crops to use on some of their crop land. To determine what other crops could be produced under the environmental conditions in north central North Dakota, a number of trials have been conducted with crops for which contract markets have at times been available. All crops tested, except sunflowers, can be planted, cared for and harvested with equipment used for cereal grains.

Experience with cultural practices have been reported earlier (1, 2, 3, 4, 5, 6). This report involves relative productivity of the various crops when grown under comparable conditions over a three-year period.

Procedure

The crops were planted at normal planting time on summer-fallow land in plots of approximately one-twentieth acre. When insect infestations threatened, the plots were sprayed with proper control insecticides and control was effective. Hand harvesting was necessary. Threshing was done with a nursery thresher.

Yields reported in Table 1 are an average of the six areas harvested. Procedures for sunflowers and flax varied from the above but were standard procedures for seeding, caring for and harvesting these crops. Flax yields are included to compare with a similar crop for which a market exists.

Discussion

Yields of rapeseeds and yellow mustard were lower than for the other crops (Table 1). The mustards and rapeseed plants were subject to injury by the flea beetle and diamond-back moth. Crambe was not infested by these insects. Spraying with malathion at rates recommended by the manufacturer prevented serious insect losses. Some years lodging was a problem with mustard and rapeseed. All of the crops grown except sunflowers, safflower and flax shatter easily. To keep shattering losses as low as possible they were harvested before the

seed pods were fully mature, and in the morning when the plants were more pliable than later in the day.

Sunflowers are subject to losses by birds which pick the ripe seeds out of the heads. The sunflower moth can cause damage to the developing kernels and is difficult to control.

Table 1. Yield of oilseed crops at Minot.

Variety	Yield in pounds per acre			
	1968	1969	1970 ¹	3-yr. av.
Polish rape (Echo)	513	1160	243	639
Argentine rape (Tanka)	483	1393	287	721
Crambe	1384	2315	1767	1822
Yellow mustard	725	665	478	622
Brown mustard	810	1539	1077	1142
Oriental mustard	805	1460	739	1001
Safflower (US 10)	974	2246	1273	1505
Sunflowers (Peredovik)	1470	958	1665	1364
Flax (Nored)	991	1182	1148	1107

¹Serious weed infestation in rape and mustard species.

Conclusions

Any of the crops reported can be grown satisfactorily in this area when contract markets are available. Whether or not they will produce income comparable to flax depends on the prices paid for them. Production costs for all except sunflowers are about like those for flax. Costs would be somewhat higher for sunflowers, as indicated in Schaffner's report (7).

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Hoag is superintendent and Geiszler is agronomist, North Central Agricultural Experiment Station, Minot.

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