

REPORT ON COMMERCIAL SUNFLOWER PRODUCTION
AND PROCESSING IN MINNESOTA AND NORTH DAKOTA

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It gives me a great deal of pleasure to be here so that I might elaborate to some extent on the activities of the growers and processors of sunflower seed in the area which I am most familiar with, that is, namely, northwestern Minnesota and northeastern North Dakota.

First, it might be somewhat interesting to give you a brief description as to the characteristics of the Red River Valley of the north which is the basic area where our production is.

The area consists primarily of a flat residual lake bed actually a prehistoric glacial lake (called Lake Agassiz) which is approximately 320 miles in length. The Red River Valley extends from Lake Traverse in central Minnesota northward to Lake Winnepeg in Manitoba, Canada. The soil is a silt clay loam, rich in mineral deposits because of its peculiar origin.

An interesting area characteristic, and quite natural, is that we have a growing season of 120 frost-free days. The last killing frost in the spring averages May 21, whereas the first killing frost in the fall is September 20. For this reason it makes it quite impractical for the raising of substantial acreages of corn and soybeans. The area that I have indicated is characterized by flatness and, except for a somewhat modest amount of man-planted tree growth, it is largely treeless. This is, of course, a great advantage to our growers in that there is no natural habitat for large migration of black birds or other species that may invade sunflower fields and practically strip the heads of seed, as happens in some areas that are heavily wooded.

The major source of income to the farmers in the valley is small grain, sugar beets, and potatoes. Lately there has been a large expansion of acreage into special crops, primarily mustard seed, varieties of field peas, edible beans, grass seeds, sunflower seeds, and canary seed.

The sunflower has been grown in the valley area for many years, starting with production in Manitoba, Canada, moving across the Canadian line into the areas of Minnesota and North Dakota some 20 years ago. But due to the problem of volunteer sunflowers in succeeding crops, they never gained acceptance until the discovery of 2,4-D. With this chemical, the volunteer sunflower could be killed very easily and growers began to grow sunflowers as a cash crop. However, due to the fluctuations in markets and the uncertainty of getting rid of the crop, it never really became a crop of any economic value until the late 1950's and early 1960's. The acreage expansion in those years was due to the demand for wild bird feed; the

volume of this has been such that a dependable outlet for sunflower seed has been developed. The sunflower crop in the valley saw a phenomenal increase during the past two years. The acreage in the valley in the past year was approximately 53,000 acres; this is on either side of the Red River which separates Minnesota and North Dakota. We, ourselves at Dahlgren & Company, process seed from 15,000 acres of sunflower per year. Ten thousand of this is contracted and the remainder is generally bought on an open-market basis.

The contract method of sunflower production is gaining great acceptance in the area because nearly two-thirds of all the sunflower acreage produced is grown on contract by one of several firms that operate in the valley. Sunflowers fit quite well into the crop, and also that they have a return in the neighborhood of \$50.00 gross income per acre.

The production of sunflowers starts with the preparation of the seed in the same form that corn or other crops are produced. They do well in a firm seedbed and in our area are usually put in a 22-inch row with a conventional sugar beet drill. We strive to get about 16,000 to 18,000 plants per acre. Weed control is somewhat of a problem due to the fact that no herbicides have been cleared for use on the crop.

The flowers are planted in late May when the soil temperature reaches about 68 degrees. They emerge in about a week or ten days if moisture is adequate. From emergence they grow very rapidly so that they shade the ground well and weeds that emerge late in the season do not present much of a problem. We have found sunflowers to be very versatile in adapting to weather conditions of all extremes as they seem to do well in dry weather and also are able to stand a lot of moisture in comparison to other small grain grown in our area.

The average farm is approximately 800 acres in size; therefore, all of the sunflowers are harvested with a self-propelled combine with a special header attachment.

The farmers do a very good job of field cleaning the seed if the combine is properly adjusted. Most of the sunflowers are harvested about the first of October which is about 10 days past the first killing frost.

We have problems with our sunflowers as with every other crop. The most prominent one is the fact that we have trained the birds so well to eat sunflowers in the winter time that some of them come to help us with the harvest. However, as I mentioned before, we do not have the problem in the valley proper, as some areas of Minnesota; whereby, there is extensive stands of timber making a roosting place for millions of black birds waiting to take advantage of this fall smorgasbord of sunflower seed.

We also have some damage each year from insects such as the sunflower moth. Again there is not much we can do to alleviate this problem

because of the fact that there are no insecticides cleared for use on sunflower. We also believe that pollinating insects, such as wild bees and honey bees, play an important part in pollination of sunflowers. Therefore, selection of a chemical for use in controlling harmful insects might be very difficult even if chemicals were cleared for its use. Even with these problems, growers seem to be able to come up with good yields. Our contract growers averaged 1200 pounds per acre in 1963 growing the Menmonite variety. We feel that with research that is now underway and with work that will be done in the near future, growers will be able to average 2000 pounds per acre or more. If we are able to get these yields up into that of production, there will be an added grower interest in raising this crop.

The actual handling and cleaning of sunflower seed is not too different from other grains except for the fact that it is an oil crop and it leaves a coating on all equipment, causing many problems. We at Dahlgrens in our cleaning process break the seed down into many categories. The small seed is used primarily in the bird feed trade. It is packaged from two-pound to 100-pound packages, some of it goes into wild bird feed mixtures and so forth. We also are a supplier of edible sunflower seed to the health and nut trade. Some of these are shipped in the shell and some of these are shipped shelled of what we call sunflower nut meats. We feel there is a tremendous potential in the nut meat market, also the confection and the baking industry as a nut substitute.

The day will come in the United States when sunflower seed will be used for oil production as they are today in some of our neighboring countries. However, it would seem that in the United States we have to increase the oil yields per acre before we will be able to compete successfully with soybeans for the oil market.

I would like to conclude my presentation by saying that we at Dahlgrens are very enthused and excited about the prospects of sunflower in our area, and we are sure that this giant yellow flower deserves a spot in the future of our northern community and possibly over a good part of the country and the world. I want to thank you very much for the invitation to make these remarks. I hope I have given you some insight as to how sunflowers are produced in the Red River Valley of Minnesota and North Dakota.

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