

What Are the Important North Dakota Crops?

By

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THE question is often asked, "What are the most important crops that are produced in North Dakota?" Sometimes in connection with that question, the question is asked, "What is the order of their importance?" To a person who is acquainted with North Dakota agriculture, the answers may seem easy—but are they? Everyone will agree that wheat comes first and will agree, perhaps, that rye is the least important of the major North Dakota crops; but what are the other major crops and how will you rank them?

Recently a letter came to the desk of the Director of the North Dakota Agricultural Experiment Station which stated "we would appreciate your furnishing us with:

- (1) The five most important crops produced in the state of North Dakota, and the order of their importance.
- (2) The volume of each crop produced, both in quantity and in dollar value."

The letter came from one of the southern states so it may be assumed that the writer is not acquainted with North Dakota agriculture.

In answering these questions, at least two problems immediately present themselves: from what standpoint or viewpoint is the information desired, and what year should be used, or should a series of years be used. There seem to be several viewpoints that may be considered: from the standpoint of the farm cash income from the crops (value of sales), from the standpoint of the total farm value of the crops (value of production), or from the standpoint of the total farm economy of North Dakota. Because of a rather wide variation in the volume of production of North Dakota crops from year to year and because this variation changes the ranking of crops from year to year, it is rather impractical to use any one year when attempting to give a true picture with respect to the important crops

and their order of importance. As a matter of fact, there is a difference even when two ten-year periods are selected even though the two ten-year series are different by only two years. This will be pointed out later.

The ten crop years of 1934-35 to 1943-44 have been used in determining the order of importance of the major North Dakota crops. While this period includes several years of low production and low prices, it also includes three years of high production and good prices so that it should represent a fairly average picture. The crop values for the crop year of 1943-44 are also included in the following tables for the sake of comparison.

Table 1 may be of interest to anyone whose prime interest is in farm cash income or in transportation (as farm cash income may reflect the commodities to be transported). The total farm cash income in a livestock state such as North Dakota does not tell the whole story, however.

In this table the rank of the crops are the same in the crop year of 1943-44 as for the ten-year period of 1934-35 to 1943-44. It would seem, however, that flaxseed is out of its normal place due to the war-time emphasis which has been put on this crop, coupled with good yields and good prices. Normally, flaxseed probably should be in fifth place, below potatoes. It is interesting to note that the

Table 1.—Farm Cash Value of North Dakota Crops.

| Crop | 1934-43 Average | 1943-44 Crop Year |
|----------------|--------------------------|-------------------|
| | Dollars, crop year basis | Dollars |
| Wheat | 67,017,000 | 179,884,000 |
| Flaxseed | 8,796,000 | 40,190,000 |
| Barley | 7,105,000 | 32,384,000 |
| Potatoes | 5,967,000 | 18,433,000 |
| Oats | 2,821,000 | 12,546,000 |
| Rye | 2,592,000 | 2,352,000 |

farm cash income for the 1943 flaxseed crop was 45 per cent of the total farm cash income from flaxseed for the entire ten-year period.

If a person were to use the figures in Table 1 as a basis for selecting the five most important crops in North Dakota from a farm cash income standpoint, rye would be omitted entirely. Yet rye is usually considered as an important cash crop. Hay and corn, important North Dakota crops, do not

appear in the table because their farm cash income is insignificant in comparison with that of the other major crops.

It is obvious that it is not entirely satisfactory to select the five most important North Dakota crops on the basis of the farm cash income. Table 2 gives the rank of the principal crops according to the average total farm value for the period 1934-34 to 1943-44.

Table 2.— Total Farm Value of North Dakota Crops.

| Crop | 1934-43 Average | 1943 Crop | 1943 |
|----------------|---------------------------|-------------|------|
| | Dollars, crop year values | Dollars | Rank |
| Wheat | 78,879,000 | 201,944,000 | (1) |
| Barley | 16,668,000 | 61,102,000 | (2) |
| Oats | 13,238,000 | 43,264,000 | (3) |
| Hay | 11,703,000 | 17,687,000 | (7) |
| Corn | 11,150,000 | 23,562,000 | (5) |
| Flaxseed | 9,296,000 | 41,694,000 | (4) |
| Potatoes | 8,482,000 | 22,763,000 | (6) |
| Rye | 3,544,000 | 3,452,000 | (8) |

Flaxseed is again shown above potatoes but normally, for reasons already stated, flaxseed should be below potatoes. Incidentally, it is again interesting to note that the total farm value for the 1943 flaxseed crop was 44 per cent of the total farm value of flaxseed for the entire ten-year period. Thirty-four per cent of the total production for the ten years of 1934 to 1943 was produced in 1943.

It will be noted that the rank of the crops in 1943 was not the same as that of the ten-year period. As a matter of fact, if a ten-year period is selected which is only two years different from the ten-year period used in Table 2—that is,

using the crops of 1932 and 1933 in place of 1942 and 1943—the order of importance of North Dakota crops would be: (1) wheat, (2) hay, (3) corn, (4) barley, (5) oats, (6) potatoes, (7) flaxseed, (8) rye. A selection of the five most important North Dakota crops from the 1932-41 ten-year period, or from the 1934-43 ten-year period as used in Table 2, would leave out potatoes, flaxseed and rye, three North Dakota cash crops. What, then, are the five most important crops produced in North Dakota?

The only way that seems to answer the question properly is to combine the feed grains and consider them as one crop. This has

Table 3.—Principal North Dakota Crops.
(Ranked in order of importance to Total Farm Economy)

| Crop | 1934-43 Average | 1943-44 Total |
|--------------------------------------|-----------------|---------------|
| | Dollars | Dollars |
| Wheat | 78,879,000 | 201,944,000 |
| Feed Grains (barley, corn, oats).... | 41,056,000 | 127,928,000 |
| Hay | 11,703,000 | 17,687,000 |
| Potatoes | 8,482,000 | 22,763,000 |
| Flaxseed | 9,296,000 | 41,694,000 |
| Rye | 3,544,000 | 3,452,000 |

been done in Table 3 with the crops ranked according to what seems to be their normal or long-time relationships.

This still leaves out rye as one of the five important crops. Rye might also be considered as a feed crop although a relatively smaller proportion of it is used as feed in North Dakota as compared with the other three feed grains. The five most important crops produced in the state of North Dakota, and the order of their importance then would be: (1) wheat, (2) feed grains, (3) hay, (4) potatoes, (5) flaxseed.

It may be somewhat difficult to understand why flaxseed is ranked fifth when the ten year average in Table 3 would seem to indicate that

it should be ranked fourth. This comes about solely because of the abnormally large acreage and production of the 1943 flaxseed crop. Taking the same figures that were used in determining the 10-year average of 1934-43 in Table 3 and eliminating the values of the 1943 crop for both flaxseed and potatoes results in a 9-year average value (1934-42) of \$6,895,000 for potatoes and \$5,696,000 for flaxseed. Or if the 10-year period of 1932-41, which is only two years different from that used in Table 3, is used the average value of potatoes is \$5,450,000 and that of flaxseed is \$3,568,000. This clearly shows that the normal or long-time rank of flaxseed should be below rather than above potatoes.

SEED TREATMENT Increases Yield From Light Weight Barley Seed

That the yield of barley can be substantially increased by seed treatment with ethyl mercury phosphate is evident from experiments conducted in 1944 by W. E. Brentzel, Plant Pathologist. A lot of rather low test weight Wisconsin 38 barley was separated into three grades by the use of a grading machine; namely, a heavy grade weighing 43 pounds to the bushel, a medium grade weighing 39 pounds to the bushel, and a light grade weighing 34 pounds to the bushel. The heavy grade contained 10.7 percent blighted seeds, the medium grade 9.8 percent and the light grade 4.3 percent. Seed treatment had an insignificant effect upon the percent of emergence, although there was in general a slight improvement in the percentage of emergence.

Treating light weight barley seed with ethyl mercury phosphate returned a 25.8 percent increase in grain yield as compared with the yield from untreated seed whereas treating the heavy weight seed returned an increase in yield of only 4.5 percent. Treating the medium weight seed returned an increase in yield of 15.3 percent over untreated seed.