

FERTILIZER TRIALS - 1952

Fertilizer trials conducted at the Dickinson Experiment Station in 1952 included:

1. Rate of P and NP on wheat.
2. Rate trial of P and NP on oats.
3. Rate and method of application trial on corn for silage.
4. Rate and method of application on corn for grain.
5. Cereal fertilization to determine effects of phosphating small grains upon soil moisture content of the soil profile.
6. Effects of nitrogen on seed germination.
7. Radioactive fertilizer trial.

Trials 5, 6 and 7 were conducted by the Soils Department, North Dakota Agricultural College, with Dickinson Experiment Station personnel aiding in collection of data from trial five. Trials 5, 6 and 7 will be reported on by the Soils Department, N.D.A.C.

In addition to the above listed trials, the Series V fertilizer trial was revised according to plan and uniformly cropped in preparation for 1953.

| Table 8 - Rate Trial of P and NP on Wheat - 1952 | | | |
|--|-----------------|----------------|----------|
| Date Seeded - 5-30 | | | |
| Date Emerged - 6-14 | | | |
| Rate - 1 bpa | | | |
| Treatment | Rate # per acre | Yield - b.p.a. | Test Wt. |

| | | 1 | 2 | 3 | 4 | Average | |
|--------|----|------|------|------|------|---------|------|
| Check | | 18.2 | 20.9 | 18.2 | 16.5 | 18.5 | 59.5 |
| 0-43-0 | 25 | 18.7 | 22.0 | 20.1 | 18.2 | 19.8 | 59.5 |
| 0-43-0 | 50 | 15.4 | 23.1 | 19.8 | 14.9 | 18.3 | 59.5 |
| 0-43-0 | 75 | 18.7 | 18.7 | 19.8 | 18.7 | 19.0 | 59.5 |
| 8-32-0 | 25 | 18.2 | 18.7 | 18.2 | 15.4 | 17.7 | 59.5 |
| 8-32-0 | 50 | 19.8 | 18.7 | 18.7 | 14.3 | 17.9 | 59.5 |
| 8-32-0 | 75 | 17.6 | 18.7 | 18.7 | 15.4 | 17.6 | 59.5 |

Table 9 - Rate Trial of P and NP on Oats - 1952
Date Seeded - 5-30
Date Emerged - 6-14
Rate - 6 pecks per acre

| Treatment | Rate # per acre | Yield - b.p.a. | | | | | Test Wt. |
|-----------|-----------------|----------------|------|------|------|---------|----------|
| | | 1 | 2 | 3 | 4 | Average | |
| Check | 22 | 22.7 | 40.2 | 26.8 | 37.1 | 31.7 | 34.5 |
| 0-43-0 | 25 | 28.8 | 42.2 | 33.0 | 42.2 | 36.6 | 34.5 |
| 0-43-0 | 50 | 35.0 | 45.3 | 18.5 | 37.1 | 34.0 | 34.5 |
| 0-43-0 | 75 | 34.0 | 38.1 | 26.8 | 41.2 | 35.0 | 34.5 |
| 8-32-0 | 25 | 33.0 | 41.2 | 30.9 | 43.3 | 37.1 | 34.5 |

| | | | | | | | |
|--------|----|------|------|------|------|------|------|
| 8-32-0 | 50 | 37.1 | 38.1 | 26.8 | 41.2 | 35.8 | 34.5 |
| 8-32-0 | 75 | 37.1 | 36.1 | 30.9 | 41.2 | 36.3 | 34.5 |

| Table 10 - Fertilizer Rate and Method of Application Trial- Corn for Silage - 1952 | | | | | |
|--|--------------------|------|------|------|---------|
| Treatment | Yield - # per acre | | | | |
| | 1 | 2 | 3 | 4 | Average |
| Check | 4500 | 4050 | 3375 | 3690 | 3904 |
| 60# 8-32-0 at seeding | 4140 | 3825 | 4500 | 4185 | 4162 |
| 90# 8-32-0 at seeding | 3735 | 4050 | 4050 | 4185 | 4005 |
| 120# 8-32-0 at seeding | 4500 | 3150 | 4500 | 4185 | 4085 |
| 60# 8-32-0 at seeding plus one side if dressing of 30# | 4500 | 4500 | 4095 | 5625 | 4678 |

| Table 11 - Fertilizer Rate and Method of Application Trial - Corn for Grain - 1952 | | | | | |
|--|--------------------------|---|---|---|---------|
| Treatment | Yield - Bushels per acre | | | | |
| | 1 | 2 | 3 | 4 | Average |

| | | | | | |
|--|-------|-------|-------|-------|-----|
| Check | ----- | ----- | ----- | ----- | 2.3 |
| 40# 0-43-0 at seeding | ----- | ----- | ----- | ----- | 2.0 |
| 60# 0-43-0 at seeding | ----- | ----- | ----- | ----- | 3.2 |
| 80# 0-43-0 at seeding | ----- | ----- | ----- | ----- | 2.9 |
| 40# 0-43-0 at seeding plus one side of dressing of 20# | ----- | ----- | ----- | ----- | 2.3 |

No spectacular differences due to fertilizer application were recorded in the Dickinson trials in 1952. Droughty seasonal conditions were undoubtedly responsible in a large measure for the lack of response from fertilizer application. Data from these four trials is insufficient to draw conclusions from. Results from this years fertilizer trials as well as from previous trials do point up the need for long term fertilizer rate work at the Dickinson Experiment Station to aid in determining whether or not the use of fertilizer is an economically sound farming practice under dry land farming conditions such as those represented by the Dickinson Experiment Station.

Present plans are to continue these trials for several years, and expand the fertilizer work to embrace new developments applicable to the farming system of western North Dakota.

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