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**Improve Your Income from Oats**

Cooperative Extension South Dakota State University

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Improve Your Income From Oats

FACTORS THE FARMER CAN CONTROL

Seedbed Preparation  Type of Seed
Fertilizer  Weed Control
Harvesting  Marketing

Cooperative Extension Service
South Dakota State University
U. S. Department of Agriculture
Improve Your Income From Oats

A Summary of Recommendations

FACTORS THE FARMER CAN CONTROL

Seedbed Preparation       Type of Seed
Fertilizer                Weed Control
Harvesting                Marketing
Improve Your Income From Oats

by Elmer E. Sanderson and Lyle A. Derscheid, extension agronomists

South Dakota oats is becoming a more important factor in the over-all oat market because oat acreages have declined in the central corn belt. Oats remains one of the leading grain crops produced in South Dakota. As a result, oats should become a more lucrative crop to this state’s farmers.

South Dakota oat producers, for the five-year period of 1963-67, averaged about two and a half million acres per year. The average production was nearly 92 million bushels, so the crop is important to the state’s economy.

The average yield of oats in South Dakota is 37 bushels per acre. In eastern counties, where greater acreages of oats are raised, the average yield is slightly greater — about 40 bushels per acre.

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What Factors Can the Farmer Control in Oat Production?

A farmer cannot control the weather, the amount of moisture he receives for his crop or the time the moisture comes. Several oat production factors at his command, if managed properly, however, can result in maximum production under prevailing growing conditions. Increased yields will reduce unit cost of production.

For example, it requires only slightly more labor or expense to harvest 80 to 90 bushels of oats per acre than to harvest 40 to 50 bushels per acre.

A farmer can determine the quality of seed that he plants. The difference in cost of high quality seed and poor quality seed may be as little as $1 to $1.50 per acre but returns can be 25 per cent to 50 per cent greater with high quality seed of an adapted variety.

Fertility is a factor over which the producer has a great deal of control, and one which offers most opportunity for improved yields. An expenditure of $6 per acre on commercial fertilizer for oats in South Dakota will return $12 to $15 per acre in additional income for an average year.

Weed Control is a direct reflection of good management. In South Dakota farmers cannot afford to grow a weed crop and an oat crop on the same land at the same time, because there is not enough moisture for both crops. Presence of two Canadian thistles per square yard will reduce yield by 16 per cent. The cost involved in controlling most broadleaf weeds is about $1.25 per acre.

Practices that Return Dollars

1. Preparation of a good seedbed.

Much of the oats in South Dakota is planted on land that was previously in corn. If possible, disk in the fall immediately after corn harvest. Usually, fall disking does not create an erosion problem but it may on sandy soil subject to wind erosion. Fall disking cuts up the stalks, leaving a residue to prevent erosion and loosening the soil to improve penetration. Fall disking causes some early decomposition of cornstalks and usually allows the soil surface to dry off earlier in the spring. Another round of disking and harrowing is needed in the spring just before seeding the oats.

Shallow fall plowing is satisfactory if wind erosion is not a problem. Plowing should be followed by a harrowing in the spring to firm the seedbed and destroy small weeds.

2. Fertilizer

The best placement of fertilizer is at the same depth as the oat seed — two to three inches deep under normal moisture conditions (See Figure 1). When fertilizer and seed are at the same depth, oat seedlings make the most efficient use of plant food. The small oat plant — at the three to five leaf stage of growth — desperately needs available nitrogen, phosphorus and potash. At this early stage of growth, the size of the panicle is being determined (See Figure 2). Relatively smaller amounts of plant nutrients are released to plants by the soil during cool soil temperatures. If you starve the plant at this stage of growth it never will recover completely and maximum yield never will be reached.

South Dakota results show best response to phosphorus fertilizer when phosphorus is placed with the seed. The practice becomes a simple operation when using a grain drill with a fertilizer attachment. Nitrogen fertilizer either may be broadcast or applied with a drill attachment with nearly equal results. If the oat seed is broadcast (this is
not as satisfactory as drilling), fertilizer should be applied just prior to seeding. The oat seed and fertilizer should both be disked, and harrowed to a depth of two to three inches — no deeper.

How Much Fertilizer is Needed?

Fertility level and cropping history will influence the amount and kind of fertilizers needed. It is best to eliminate guesswork by getting a soil test. These general recommendations should be followed if you don't have a soil test.

(a) Following corn or other crops with large amounts of plant residue, use:
- 30 to 40 pounds of nitrogen per acre
- 15 to 20 pounds of phosphorus per acre
Note: Under South Dakota conditions, potash seldom provides significant yield increases. However, small amounts of available potash may hasten maturity, improved straw strength and some yield increase.

(b) Following soybeans:
Same as above with reduction of nitrogen to 10 pounds per acre.

(c) Following crops of low-plant residue, such as small grains, use the following amounts per acre:
- 15 to 20 pounds of nitrogen per acre
- 10 to 15 pounds of phosphorus per acre
- 5 to 10 pounds of potash

Note: Under South Dakota conditions, potash seldom provides significant yield increases. However, small amounts of available potash may hasten maturity, improve straw strength and some yield increase.

3. Seed

(a) When should you plant? Early, but not before the soil is in condition so a good seedbed can be prepared.

(b) What kind of seed? Use a disease-resistant variety adapted for your area and recommended by the experiment station. Use seed that has been tested for germination, cleaned and treated.

(c) How much seed to plant? Usually two and one-half (2 1/2) bushels per acre by weight. This amount is recommended if you drill your oat seed. If you broadcast, increase the rate by one-half bushel per acre. Remember that some varieties have more seeds per pound than others. "Tippincanoe" has a relatively small seed size as compared to Lodi or Garland. Also, growing conditions can make a difference in seed size even within a variety. A large seeded variety or fully developed oats which have large seeds, the seeding rate must be increased to about three bushels per acre.

Special Note: Avoid unusually heavy applications of commercial fertilizer or animal manure on fields intended for oats the following year. The surplus nitrogen can make oats lodge.

5. Harvesting

Most producers need little advice on this subject. Common sense tells us oats should be harvested when mature, certainly not when wet and "tough." Use sufficient wind so as to remove chaff and light weight foreign matter. Excessive foreign material is undesirable, especially in milling oats.

6. Marketing the Oat Crop

A high percentage of the oat crop is fed to livestock, but a very significant amount also is marketed as a cash crop. You can increase your net profit by studying the cash oat market and selling when the price tends to be the highest. Usually, the price goes down at harvest time and continues low for several months afterward. Grain storage, either on the farm or at custom storage facilities, is a way to take advantage of the peak oat price seasons.

WHERE OAT SEED AND FERTILIZER SHOULD BE PLACED

**Planting Time**

![Diagram of planting time]

**3 Weeks After Planting**

![Diagram of 3 weeks after planting]

**Fertilizer is Even More Important Now**

![Diagram of fertilizer importance]

**Enlarged Section of Stem Interior**

![Diagram of stem interior]

**Summary**

1. Prepare a good seedbed
2. Plant on time
3. Fertilize
4. Use good seed, free from other grains
5. Control weeds
6. Market wisely
7. Increase your profits

South Dakota has become known as the "truck oat market" in several southern states where the northern-grown crop is in demand as feed oats. The southern market usually pays a sizeable premium and starts high in mid-winter, continuing until near the next harvest season.

Oat producers should not forget the milling oat market, because in some years a worthwhile premium is paid for oats which meets the milling oat standard. Good milling oats must possess quality factors, including:

(a) Low amount of foreign material (not over 1/2 per cent).
(b) Freedom from mixture with other crops (the limit of barley mixture in oats is 0.9 per cent — equal to about 10 kernels in a handful of oats).
(c) Plump kernels with test weight of about 36 pounds per bushel or better.

At harvest time, during the rush period, the elevator manager may not have time nor adequate storage facilities to separate milling quality oats from feed oats. However, most elevator managers are aware of the milling oat market and, if possible, many provide storage for better lots of quality oats meeting milling standards.

The producer who thinks his oats is of milling quality should deliver his crop to an elevator prepared to handle it and insist on milling oat price — another way to increase his net returns.
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Marketing Weed Control
Seedbed Preparation
CAN CONTROL FACTORS THE FARMER

Year Income:
Farm Output
Amplified

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