

Grow Winter Rye

for

Better Weed Control

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WINTER RYE HELP TO FIGHT WEEDS

Winter rye is one of the most effective small grain crops for weed control in North Dakota. Even though rye may not have been quite as profitable as wheat in recent years some increase in rye acreage for more effective weed control appears to be desirable.

In planning crop production on any farm a change in the acreage of cash crops to be grown may be required from time to time as a result of factors such as surpluses and acreage allotments. Any big shift of acreage to rye in North Dakota does not appear to be advisable. However, a small acreage of rye on many North Dakota farms to help clean up weedier fields might pay dividends in weed control.

Winter rye provides more effective weed competition than a spring grain. Late summer cultivation to work up the seedbed kills or sets back many weeds. If rye can than be planted early in September, when moisture conditions are favorable for quick germination and growth, it will tend to smother the weeds during the fall. The early vigorous spring growth of winter rye provides strong competition to the weeds and the earlier harvest helps to prevent much of the shattering of weed seeds that occurs in later crops and helps to reduce the shattering of wild oats.

Alternating intensive summerfallow with the growing of winter rye over a period of two or three years is effective on a field infested with persistent noxious weeds such as leafy spurge or creeping jenny. One season of fallow, followed by winter rye and cultivation after harvest, would

be effective in control of other troublesome weeds such as perennial sow thistle, Canada thistle and wild oats.

ADVANTAGES FOR RYE

The production of a limited acreage of winter rye in North Dakota on the weedier fields or in a definite place in the crop rotation would offer the following main advantages:

1. Effective competition to weeds.
2. An additional cash crop
3. Protection against rust injury
4. Less risk from heat, drouth and hail as a result of early maturity.
5. Better distribution of labor and machine use.
6. Provides some grazing for livestock.

The main disadvantage for rye is that it has averaged a slightly lower yield per acre and a lower income per acre as compared with wheat in recent years.

RUST SELDOM INJURES RYE

In the severe rust epidemic on wheat and durum in 1953 only occasional and very slight rust was observed on rye and no injury to rye was reported.

There are other species of rust that have built up and caused injury to rye that was growing near barberry bushes. But, with little or no barberry bushes remaining in North Dakota, there appears to be no danger from present races of rust.

HOW PROFITABLE IS RYE?

Rye production in North Dakota before World War II averaged four to five times greater than in recent years. This reduction in rye acreage was

mainly a result of acreage changes required during World War II and of the higher support levels for wheat and other crops in recent years.

During the 11 year period 1942 to 1952 rye yields in North Dakota have been as high or higher than wheat yields four times. Long-time rye yields are generally within 2 bushels of wheat. This speaks well of the capacity of rye to yield well when it is considered rye is often grown on the more weedy or drouthy fields.

With a slightly lower average yield per acre and with a lower support price than wheat, rye has produced less income per acre in recent years. However, considering its rust resistance in a bad rust season and its ability to compete with weeds, rye will often be a profitable crop. The potential income per acre for rye in much of North Dakota compares favorably with feed barley and oats.

The consumption of rye for food in United States appears to be increasing again. The use of rye for feed has decreased in the past 7 or 8 years. There is little historical relationship in the past 10 years between supply and prices for rye on which any accurate predictions could be based as to the prices for rye in the future. Factors such as dollar shortages in importing countries, government purchases of food for foreign aid, price supports and tax policies on alcohol and spirits will likely be important in determining prices.

PRICE SUPPORTS FOR RYE

Rye is one of the non-basic agricultural commodities for which price supports are fixed each year by the Secretary of Agriculture. The 1953 support price was set at 85 percent of parity. The average loan price for rye in North Dakota in

1953 was \$1.34 per bushel for rye grading number 2 or better.

It is not possible to state what the support price will be for rye in any future year. But, historically, rye has been supported at not less than 85 percent of parity.

WINTER RYE VARIETIES

Dakold and Pierre are the small seeded varieties of winter rye and are the most winter hardy. They yield moderately well and are somewhat more consistent. Less winter hardy, but satisfactory for most ordinary conditions, are Emerald, Imperial and White Soviet. White Soviet is the latest to ripen but is a high yielding variety when it has overwintered satisfactorily.

4-Year Average Rye Yields (1949 to 1952) North Dakota Agricultural Experiment Station

Variety	Fargo	Edgeley	Langdon	Minot
Dakold	34.8	39.5	15.9	28.8
Pierre	33.0	35.7	16.0	29.8
Emerald	31.3	37.6	15.7	32.5
Imperial	27.3	36.1	15.7	28.2
White Soviet	29.8	37.8	17.2	30.9

SELECTING THE FIELD

The purpose for which rye is to be grown will usually be the deciding factor in selecting the field for rye. Whether rye is included in the regular crop rotation, if it is to be a temporary shift in acreage or if it is being grown for weed control will have to be considered.

On Fallow Ground--A summerfallow field will usually be best for rye production. A good seed-

bed can be prepared and the reserve of moisture and plant food provided by fallow helps insure maximum yields. The combination of fallow and winter rye is very effective in weed control. Raising winter rye on fallow ground does have the disadvantage of producing less winter protection on the field compared to a stubble field that holds more snow.

In A Stubble Field---Rye is often planted in a clean stubble field. If such a field is relatively free from weeds it will often result in satisfactory yields and provides excellent winter protection from snow held by the stubble as well as a saving in seed bed preparation.

In many cases some cultivation of the stubble may be advisable to provide a better seedbed. A light disking or the use of other tillage implements that will leave as much as possible of the stubble standing or on the surface will provide the best winter protection. Weedy stubble fields will usually not be satisfactory.

On Fall Plowing--A fall plowed field will usually be less satisfactory than either fallow or clean stubble for rye. A lack of moisture and in some cases of plant food after producing a crop that season can result in poorer winter protection than on fallow as a result of a poor fall stand.

On Corn Ground--Corn stubble will provide a good place to grow rye. However, getting the corn crop off the field in time for seeding will usually be a problem unless the corn is cut and removed early such as for silage.

TREAT THE SEED

Seed treatment is recommended for rye as for other small grains. Treating helps to secure a better start through protection from seedling blights and other rootrot organisms as well as from striped smut.

Treating the seed will not prevent ergot in rye. Thorough cleaning of the seed will remove many of the larger and more viable ergot bodies.

PLANT EARLY IN SEPTEMBER

Planting early in September will allow rye to become well established before winter. Seeding during the first two weeks in September when enough moisture is present in the soil to insure rapid germination will insure a good stand and growth before freeze up time and will provide the best weed competition.

From 4 to 5 pecks per acre depending on the variety and seed size, are the recommended seeding rate. Dormancy in winter rye seed is not a problem. Rye produced in any season can be planted the same fall without danger of not germinating due to being dormant.

RYE RESPONDS TO FERTILIZER

Although there have been no Experiment Station trials conducted on rye with commercial fertilizer in North Dakota a number of farmers have carried out field trials and frequently report a good response. Fertilizer applied to rye can be expected to produce responses and increased yields similar to those of other small grains.

About 50 pounds per acre of a phosphate fertilizer such as 0-43-0 or the equivalent is recommended for rye seeded on fallow ground. On non-fallow ground about 70 pounds per acre of a nitrogen-phosphate fertilizer such as 8-32-0 or an equivalent rate of other available fertilizer would be suggested. The above rates are for applying fertilizer by drill attachment at seeding time and had proved to be the most efficient method of application on small grains in North Dakota.

CONCLUSION

Winter rye is one of the most effective grain crops in weed control. It also provides protection from present races of rust and a better distribution of labor and machine use on the farm.

Rye has not been as profitable in North Dakota during recent years as cash crops such as wheat, malting barley or flax. However, it does compare favorably in potential cash returns per acre with crops such as feed barley and oats. Considering the weed control obtained some winter rye on a farm could be very profitable over a period of years.

Although any big shift to rye is not advised some increase when adjustments are necessary would appear to be warranted.

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