

# Oat Growing in Ohio

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**Adaptation of the Crop.**—Oats are particularly well adapted to growing in a rather cool, moist climate such as is found in northern Europe, Canada, the American Northwest, in northern New England, and in the states bordering on the great lakes. In Ohio oats are better adapted to the northern part of the



Field of oats, showing effect of 200 pounds acid phosphate vs. none

state than to the southern part because hot muggy weather does not come on so early in the season in the northern as in the southern part of the state.

**Type of Soil for Oats.**—While there is no particular type of soil upon which oats should be grown, ordinarily it is not wise to attempt to grow oats on a very rich, black soil, since there is danger of the crop making such a great growth that it is almost sure to lodge, and hence make harvesting extremely difficult. In order to secure the best quality, oats should be grown on a fairly well-drained soil that is inclined to be somewhat heavy, such as a clay or a clay loam.

**Fertilization of the Oat Crop.**—Altho the oat crop is not well adapted to all rich soils, it does not necessarily follow that oats is a good poor-land

crop or that it does not need to be supplied with ample plant food. If no fertilizer has been used on the preceding crop, which is usually corn, an application of from 200 to 300 pounds to the acre of fertilizer, preferably acid phosphate, can usually be applied profitably. If the corn crop has been liberally fertilized, the fertilizer for the oats may be reduced or omitted. On rich black land, an application of from 200 to 300 pounds of acid phosphate can often profitably be applied to the oat crop.

**Preparation of the Seedbed.**—Oats are usually sown on land that produced a crop of corn the preceding year. The question naturally arises as to whether the land should be plowed and a seedbed prepared or whether a sufficiently good seedbed may be obtained by the use of the disk harrow. In some cases it may be questionable whether to disk the ground before sowing oats or to sow them with a disk drill without any preparation of the seedbed at all. The Ohio Experiment Station has seeded oats for the past 10 years on a seedbed prepared as shown in the table and with the results indicated.

*Effects of Preparation of Seedbed—10-Year Average Yields*

SEEDBED	Time of seeding	Yield per acre		Weight per bushel
		Grain bus.	Straw lbs.	
No preparation....	March 2 to April 6	49.1	2793	29.14
Disked.....	March 22 to April 25	55.9	2893	29.98
Plowed.....	March 22 to May 1	53.6	2797	29.76

It would therefore seem that the logical thing to do is to merely disk the land before seeding rather than to plow it.

**Grading of Seed Oats.**—Very careful work at the Ohio Experiment Station in grading seed oats has been conducted for a number of years, and the conclusion that can be drawn from this work is that after running the seed thru a good fanning mill to remove sticks, straw, and light dirt, there is nothing to be gained from additional fanning and grading of the seed. In other words, the small plump grains are just as productive as the larger ones.

**Keep Oats Free From Smut.**—One of the worst enemies of the oat crop is the smut which is so widely distributed. This smut, fortunately, is quite easy to control, and hence there is little if any excuse for having a field badly infected with it. The method now generally recommended for treating oats for smut is the "dry treatment." In this method one pint of formaldehyde is mixed with one pint of water and this mixture is sprayed on as the oats are shoveled from one pile to another. The whole mass is allowed to remain covered from two to three hours. This method is entirely effective in eliminating smut from the oats. For a detailed description of the treatment, write to the Department of Botany, Ohio State University, Columbus, Ohio.

**Time of Seeding.**—Since it is important to have the oat crop mature before hot weather comes on, it is very necessary to sow oats early in the spring. Oats are not injured usually by the late frosts, so that it is better to have oats planted and coming up, even tho some late frosts do occur, rather than to wait until danger of frost is past, if that means seeding as late as the first of May. Ordinarily oats should be sown as early in April as possible, or even the latter part of March.

**Rate of Seeding.**—There seems to be a great variation in the amount of seed sown per acre by farmers. The experimental data on this point as secured at Wooster by the Ohio Agricultural Experiment Station are interesting.

*16-Year Average Yields in Rate of Seeding Oats*

Seed per acre pecks	Yield per acre bushels
4.....	52.9
5.....	54.8
6.....	56.7
7.....	57.0
8.....	57.0
9.....	58.0
10.....	58.5
11.....	58.4
12.....	57.0

It is seen from the above data that there has been very little net gain when more than 8 or 9 pecks have been sown, altho the greatest yield has been secured by sowing 10 pecks per acre.

**Methods of Seeding.**—From experimental work conducted at various experiment stations it has been found that there is usually a nice gain secured from drilling oats over broadcasting, and therefore it seems that broadcasting oats should be discouraged. However, other work shows that oats should not be drilled in too deep. One inch in depth gives better results than deeper.

Tests of the 4-inch drilling in comparison with the older 8-inch drilling at Wooster is in favor of the 8-inch drilling by about 3 bushels per acre for a 5-year period.

**Varieties of Oats for Ohio.**—From data secured by the Ohio Experiment Station and at various county experiment farms over the state it would appear that for the southern half of Ohio an early maturing oats should be grown, such as the Sixty-Day or a pure line selection of that variety. For the northern half of the state there are several varieties that seem to give good results. They are, however, either early or medium early in maturity. There does not seem to be a place for a late maturing variety of oats in this state.

Such varieties as the Big Four, Siberian, Improved American, Sixty Day, Silvermine, and Swedish Select, all give very good results in Ohio. The Ohio 6203 is a Siberian selection, Ohio 6222 an improved American selection, Ohio 7009 a Sixty-Day selection. Usually these pure line selections outyield the parent variety by several bushels per acre. The following table gives the results of variety testing work at various points in Ohio. All varieties in the tests are not included, but the ones given include nearly all that stand very high at most places.

*Results of Variety-Testing Work*

VARIETY	Wooster 10 yrs.	Strongsville 4 yrs.	Hancock 9 yrs.	Paulding 8 yrs.	Miami 8 yrs.	Hamilton 7 yrs.	Clermont 5 yrs.	Trumbull 5 yrs.	Mahoning 4 yrs.
Big Four.....	67.9	75.9	46.0	65.0	63.2	48.5	31.9	53.1	52.2
Ohio 7009.....	67.2	65.0	43.4	54.9	53.3	40.4	27.5	46.4	40.3
Ohio 6203.....	70.4	67.7	48.4	59.9	63.5	40.4	29.9	53.0	56.3
Ohio 6222.....	69.0	70.7	51.5	67.7	59.0	43.4	26.4	49.7	57.2
Silvermine.....	69.8	76.5	48.8	58.0	61.0	45.9	23.7	54.9	53.5
Swedish Select.....	53.2	72.9	46.9	57.3	53.3	40.6	27.1	50.2	46.4
Wideawake.....	59.0	69.2	42.1	52.4	57.9	41.6	27.4	43.3	45.4

**Home Grown vs. Northern Grown Seed.**—The idea is sometimes advocated that to secure best results new seed should be introduced from a northern climate every few years. In order to see whether northern grown seed produced as well as home grown, an experiment has been carried on for the past eleven

years by the Ohio Experiment Station in which seed has been secured from North Dakota each year and compared with seed of the same variety grown at Wooster. The results of the test are as follows:

*Results of Comparison Between Northern-Grown and Home-Grown Seed*

SOURCE OF SEED	Yield per acre		Weight per bushel
	Grain bus.	Straw lbs.	
Ohio.....	68.6	2438	28.57
North Dakota.....	71.5	2566	28.62

In a recent circular by F. A. Welton the conclusions are stated thus, "There is a gain of 2.89 bushels in favor of the North Dakota seed. The weight per bushel of each class has been maintained, which indicates that no appreciable deterioration in quality of grain has occurred thru the continuous use of home grown seed. These results indicate that if Ohio grown seed of good quality is for any reason scarce, then northern grown seed may be used without fear of lack of adaptation."

**Oats and Peas as a Hay Crop.**—Almost every spring a great many farmers are disappointed in the way their fields of young clover come thru the winter. Oftentimes the clover is entirely killed out, and when this is the case the prospects for a hay crop are very discouraging. It is almost necessary to plow up the fields and put them back to a grain crop such as oats or corn, or make an attempt to put some crop in that will furnish hay the same season. A mixture of oats and Canada field peas helps out very nicely in such a situation. They should be seeded in the same manner as oats alone, using, however, a mixture of 1½ bushels of oats and 1 bushel of peas per acre. This makes a very rapid growth and usually can be depended upon to make from 1½ to 2½ tons of good hay per acre.

**Oats as a Nurse Crop.**—It is often desired to make a seeding of alfalfa, red clover, alsike or sweet clover at the time of seeding oats. This may be done quite satisfactorily, provided the land is well supplied with lime. When seeding any of these clover seeds, however, it is better to make a rather light seeding of oats. Not more than 4 to 6 pecks of oats should be seeded per acre. This will prevent the oats from making such a dense shade and on account of their being thinner on the ground they are not so apt to lodge and thus smother out the young clover. When clover seed is sown with the oats the seedbed should be as firm as possible so that ample supplies of moisture will be available. The following rates of seeding alfalfa and the clovers have given satisfactory results:

- Alfalfa.....10 to 12 pounds
- Sweet clover.....10 to 12 pounds
- Red clover..... 6 to 8 pounds
- Alsike clover..... 4 to 7 pounds

**Harvesting the Oat Crop.**—Oats differ from wheat in that they do not shatter easily when ripe, hence it is wise to allow the crop to get well ripened before harvesting. Oats are harvested in the same manner that other small grains are; that is, with the self binder. The shocks should be made rather small, however, as the oats straw does not dry out so readily as does wheat straw. As soon as possible it should be threshed or hauled into the barn, as it is difficult to handle the crop in the shock to prevent molding after it is exposed to a hard rain.