

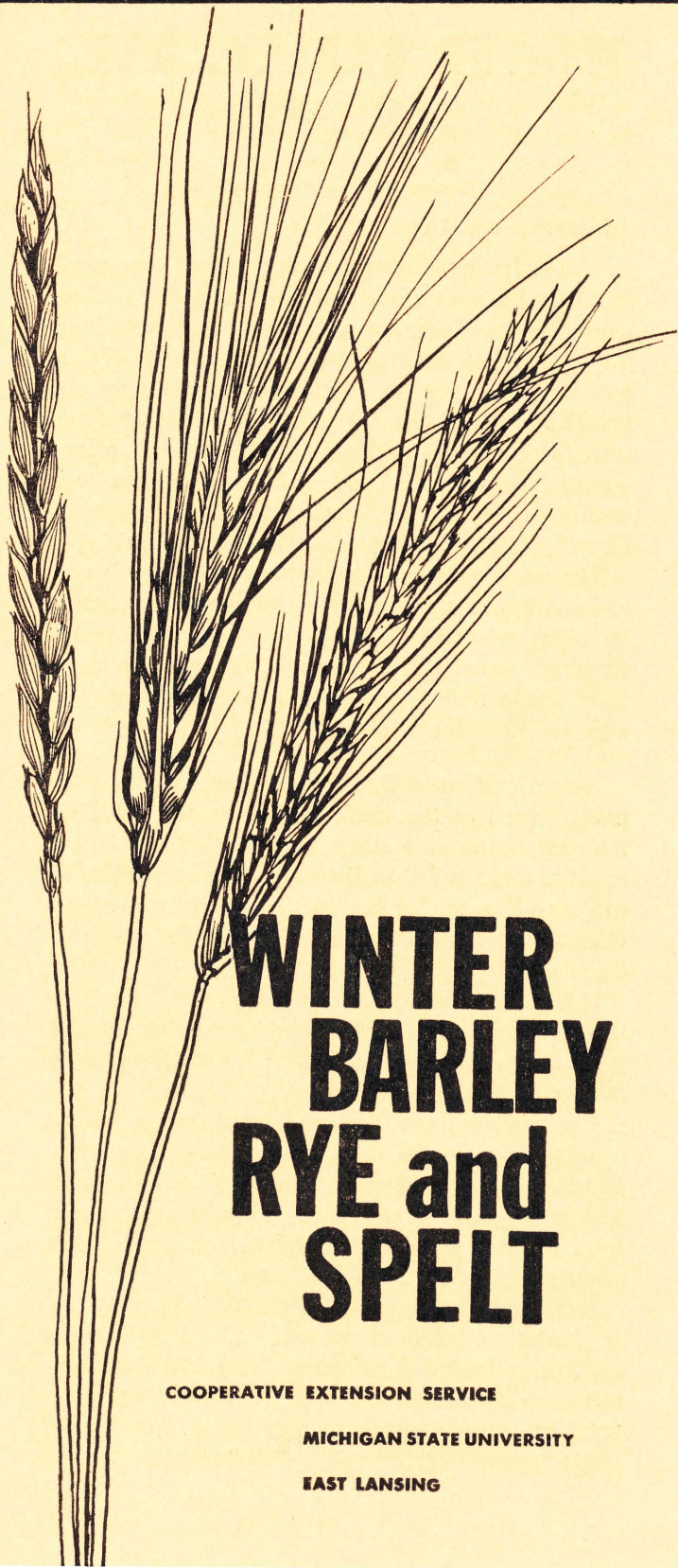
MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Winter Barley, Rye and Spelt
Michigan State University Cooperative Extension Service
F Folder Series
S.C. Hildebrand, Farm Crops
Issued March 1961
5 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.



WINTER BARLEY RYE and SPELT

COOPERATIVE EXTENSION SERVICE

MICHIGAN STATE UNIVERSITY

EAST LANSING

WINTER BARLEY, RYE, AND SPELT

By S. C. HILDEBRAND¹
Extension Specialist, Farm Crops

Adaptation and Uses

Winter barley. This is primarily a feed crop used as a substitute for wheat when wheat acreage allotments are in effect, and sometimes as a substitute for oats. It has been used to a limited extent as a winter cover crop in southwestern Michigan. In general, winter barley is adapted to well-drained soils in the southern three tiers of counties where winter snow cover is good. It has been grown successfully also on well-drained soils in areas of Gratiot, Kent, Saginaw and Tuscola counties.

The use of winter barley is limited by the degree of winter hardiness of the varieties now available. It is less winterhardy than wheat, rye, and spelt. Although usually fed as grain, barley will make good silage if harvested when the grain is in the milk to early dough stage.

Rye. About one-fifth of the rye crop is grown for grain. Much of the grain is used in the distilling industry, some in making flour for baking, and a small amount is fed to livestock. The remainder of the crop is used for fall and early spring pasture, winter cover, green manure or for combinations of these uses.

It is not normally used for pasture on the heavy-textured or poorly drained soils because of damage to soil structure from punching by cattle hoofs in the spring.

Rye has been used to good advantage in potato rotations on upland sandy and sandy loam soils, and in orchards, vineyards, and small fruit for cover and green manure purposes. Silage may be made from rye but it is less palatable than silage from other small grain crops and corn.

Rye has wide adaptation in Michigan but is usually planted on the light textured soils, such as sands and sandy loams. It is apt to lodge on heavy-textured, fertile soils.

Spelt. This feed crop is used as a substitute for oats and for wheat when wheat acreage allotments are in effect. The leading counties in spelt acreage are Barry, Branch, Genesee, Lapeer, Livingston, and Macomb.

Spelt is best adapted to well-drained soils; however, it is grown primarily on the heavy soils, which dry out slowly in the spring, where oats cannot be planted until late with resultant low yields.

Spelt is less winterhardy than wheat or rye but is slightly more winterhardy than the present varieties of winter barley. It is susceptible to damage from the Hessian fly when planted earlier than the fly-free date. Spelt is sometimes incorrectly called spelts or speltz, and is occasionally confused with emmer, which is a spring-sown crop in Michigan.

As a feed crop, the percentage of *Total Digestible Nutrients* of spelt is similar to that of oats. The grain should be ground for livestock feed to avoid mouth troubles from sharp adhering points on the chaff of the whole grain. Although the grain is usually fed at home, it is usually priced the same as oats on the cash market.

Land Preparation

The land should be plowed and prepared as for wheat. Plowing should be early enough to allow the soil to settle, followed by harrowing and disking before sowing seed, to kill small weeds and smooth the soil. If these crops follow corn or other row crops, twice-over disking should be sufficient preparation for planting.

Planting

The recommended rates and dates of planting seed for each of the crops are given below. The depth of planting should be 1 to 2 inches with the deeper planting suggested when soil moisture is limited.

¹The author acknowledges the assistance of Robert P. Larson, extension specialist in horticulture, for preparing the material on use in orchards.

Crop	Rate lb. acre	Planting date	Remarks
Winter barley	72 to 96	Sept. 8-20	If planted earlier, yellow dwarf or other diseases may damage the crop.
Rye	56 to 112	July 1-10	For cover in corn
		Aug. 1-15	Seeding with air plane for cover in corn
		Aug. 15-Oct. 15	General planting for pasture and for grain
Spelt	64 to 80	Sept. 10-Oct. 1	Spelt is subject to Hessian fly damage; plant after fly-free date for wheat.

Varieties

Winter barley. The *Hudson* variety is bearded and preferred because of higher yield, more disease resistance, and slightly better winter hardiness. *Wong* is an acceptable beardless variety, but inferior to *Hudson*. *Kenbar* has a lower test weight than either *Hudson* or *Wong* and is difficult to thresh because its tenacious beards are not easily removed.

Performance tests with winter barley varieties have been conducted in several counties and yields obtained for 1955, 1956, and 1958. Comparative yields for Hudson and Wong varieties are given below:

County	3-Year Average Yield (bushels per acre)	
	Hudson	Wong
Cass	66.3	58.5
Ingham	78.5	66.5
Tuscola	65.3	52.2
Average	70.0	59.1

Rye. The *Balbo* variety is preferred for winter cover, green manure, and pasture purposes. It makes quicker growth in the fall and starts earlier in the spring than other winterhardy varieties tested. *Tetra Petkus*, a German variety, is slower-growing than *Balbo* but stands better and has given a slightly higher yield of grain. Distillers do not like *Tetra*

and its grain has been discounted on some markets. Tests conducted at East Lansing in 1957 show the comparative heights in inches, of *Balbo* and *Tetra Petkus* varieties, on different dates as follows:

Date	Balbo in.	Tetra Petkus in.
April 29	24 to 25	14 to 15
May 6	36 to 38	20 to 22
May 8	42 to 46	24 to 26
May 16	60 to 63	34 to 36
May 22	---	40 to 42
May 27	---	45 to 47
June 3	66 to 69	59 to 61

Balbo was beginning to head on May 6; Tetra Petkus on May 16
Balbo was fully headed on May 16; Tetra Petkus on May 30

Spelt. There are no named varieties of spelt recommended for Michigan. It is best to use Michigan seed, as spelt from other states may not have enough winter hardiness.

For additional and current information on crop varieties, refer to Michigan State University Extension Folder F-289, *Crop Recommendations for Michigan*.

Selecting Seed

The highest quality and most dependable seed is certified seed. Of the varieties listed, only Hudson barley and Balbo rye are certified in Michigan. If seed of other varieties is desired, certified seed may be obtained from other states.

In the case of uncertified seed of spelt, rye, or winter barley, the grower should obtain the purest seed available. Seed should be well-cleaned to remove weeds, chaff, and small and shrunken seed. A germination test should be made to determine its suitability for planting. Quackgrass, corn cockle, vetch, and chess are frequent contaminants of rye and spelt seed and sometimes winter barley.

Seed of barley and spelt should be treated before planting to reduce injury from seedling diseases. A few of the acceptable treatment materials are: *Ceresan M*, *Panogen 15*, *Mema*, and *Ceresan 100*

or 200. Follow the directions of the manufacturer in applying these materials. These and similar materials will not control loose smut of these crops.

Fertilization

The rate and analysis of fertilizer to use is best determined from a soil test. Fertilization is similar to that for winter wheat. If the drill places the fertilizer in contact with the seed, the drilled application should be limited to 120 pounds of *nutrients* per acre. For example, this would amount to about 270 pounds per acre of a 5-20-20 fertilizer. For additional information on fertilizers refer to Michigan State University Extension Bulletin 159 (revised), *Fertilizer Recommendations for Michigan crops*.

Harvesting

Combine harvest should wait until the moisture content of the grain is 14 percent or less. The local elevator is equipped to run a moisture test. Be sure that the sample for testing is taken from several parts of the field so that it will be representative of the entire field. Place the sample in a tight jar or plastic bag so that the grain will not dry before it is tested.

Careful adjustment and operation of the combine is essential to a good job of harvesting and will do much to reduce harvest damage and losses. Check the operators manual furnished by the manufacturer of the combine before making adjustments.

Special Considerations:

1. The results of clipping tests with winter barley (to simulate grazing) show that clipping in the fall or spring reduces the grain yield by 3 to 12 bushels per acre. Clipping in late fall (October 21) and late spring (May 11) gave yield decreases of 8 and 12 bushels per acre, respectively.

2. When planning to pasture rye in the fall and spring, plant in mid-August and pasture lightly

from October 15 to November 15. Start pasturing in the spring as soon as animals can be put on the land without damage to the soil from punching.

3. Use of rye in orchards, vineyards, and with small fruits.

The most important use of rye in orchards (those not in sod) is to compete with the trees for nutrients late in the season so the trees may harden off before winter.

Other uses in relation to all fruits are: control soil erosion and furnish protection over the winter, conserve moisture at critical times, and furnish some organic matter and conserve nutrients.

Rye is well suited for these uses when it is seeded by early August. It makes a vigorous growth, especially in the spring.

Because of the vigorous spring growth, it must be managed properly so as to avoid interference with tree growth and fruit development. Rye should be worked into the soil by the time it is 12 inches tall. The usual rate of seeding for cover or green manure is 112 pounds per acre.

A rye cover crop in a fruit orchard may be fertilized at seeding time according to a soil test. However, the actual amount of fertilizer applied should furnish 10 to 15 pounds of nitrogen; enough to stimulate initial growth of the cover crop. Excessive nitrogen, applied at this time, may stimulate undesirable late season growth of the fruit trees.

4. Rotations for winter barley, rye, and spelt:

When grown for grain, these crops fit into a rotation in place of wheat. Because of the transmission of soil and straw borne insects and diseases to the succeeding crop, it is risky to plant these crops in continuous culture, or after one another, or after wheat.

Cooperative extension work in agriculture and home economics. Michigan State University and the U. S. Department of Agriculture cooperating. N. P. Ralston, Director, Cooperative Extension Service, Michigan State University, East Lansing. Printed and distributed under Acts of Congress, May 8 and June 30, 1914.

IP-3:61-15M-ST