Spring Small Grains to Replace Wheat

Purdue University Cooperative Extension Service

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Higher Crop Yields From Improved Varieties


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Purdue University
Agricultural Extension Service
Lafayette, Indiana

Mimeo AY-43a
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SPRING SMALL GRAINS TO REPLACE WHEAT
Agronomy Department

Under conditions where winter wheat fails or is not grown, spring sown grains such as spring barley, spring wheat and preferably spring oats, may be planted.

Most winter grains sown in the spring fail to head. Winter oats is an exception. (See below: Southern Indiana.)

Spring Oats are the most heat tolerant of the spring grains and are thus the only spring rain crop generally recommended in Indiana. They are the logical choice for maximum acre value and yield. For seed resources of recommended varieties --Clintland 60, Clintland, Goodfield, Minhafer, Newton, Putnam and Bentland--write Seed Certification Service, Life Science Building, Purdue University, Lafayette, Indiana. For performance and description of spring oat varieties, see "Small Grain Varieties for Indiana," a Purdue research bulletin published annually.

Table 1. Thirty-Two-Year Averages for Small Grains at Purdue Agricultural Experiment Station 1/

<table>
<thead>
<tr>
<th>Crop</th>
<th>Average Yield in Bushels per Acre</th>
<th>Average Pounds of Grain per Acre</th>
<th>Average Indiana Farm Price 1953-1958</th>
<th>Average Gross Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter wheat</td>
<td>30.42/</td>
<td>1824</td>
<td>$1.86</td>
<td>$56.54</td>
</tr>
<tr>
<td>Winter rye</td>
<td>34.0</td>
<td>1904</td>
<td>$1.11</td>
<td>37.74</td>
</tr>
<tr>
<td>Spring oats</td>
<td>58.4</td>
<td>1869</td>
<td>$.65</td>
<td>37.96</td>
</tr>
<tr>
<td>Winter barley</td>
<td>33.7 2/</td>
<td>1618</td>
<td>$.97</td>
<td>32.69</td>
</tr>
<tr>
<td>Spring barley</td>
<td>27.2</td>
<td>1306</td>
<td>$.97</td>
<td>26.38</td>
</tr>
<tr>
<td>Spring wheat</td>
<td>13.6</td>
<td>816</td>
<td>$1.86</td>
<td>25.30</td>
</tr>
</tbody>
</table>

1/ 1910-1941
2/ No crop two years due to winter killing. Not included in average.

All of the small-grain crops in the above table have been grown by farmers in Indiana for many years, yet, except for winter wheat and spring oats, their acreages have remained relatively small. In the case of spring barley and spring wheat, the acreages have declined. In the last few years, there has been an increase in winter barley acreage, especially in southern and extreme northern counties.

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State of Indiana, Purdue University
and the United States Department of Agriculture Cooperating
L. E. Hoffman, Director, Lafayette, Indiana
Issued in furtherance of the Acts of May 8 and June 30, 1914.
Southern Indiana: No spring small grain is well adapted to southern Indiana. Winter crops, sown in mid-March, yield about one-third as much as when fall sown, but will be freer of cheat. No barley is recommended for spring seeding. Spring oats--Putnam, Clintland G0, Clintland, Minahafer, Newton and Bentland varieties--are the best choice for spring sowing but will not yield as much as in the north, especially in a hot season.

General Culture: All spring small grains are cool-season crops and should be sown as early as soil conditions permit. Oats are the most tolerant of Indiana weather. Disk soybean stubble and plow stalk ground where possible without delaying seeding. A complete fertilizer with either high nitrogen content or a nitrogen top dressing following seeding will increase yields. Rates of seeding with grain drill--Spring oats, two bushels; wheat, six to eight pecks; barley, eight to ten pecks.

Spring Wheat: To make satisfactory yields in Indiana, must be sown earlier than usually possible to get on the soil. March seeding is essential. Once in about three years, the results have been fairly satisfactory in Purdue tests at Lafayette.

Varieties--Those adapted in northern Illinois and Wisconsin are somewhat better for Indiana than those developed for western spring-wheat areas. Russell and Henry spring wheat, for farmers wishing to sow a bearded red wheat for farm feed, and Selkirk, bearded and hard, are certified in those states. HENRY IS DISCOURAGED IF WHEAT IS TO BE SOLD.

Sources of certified seed--Write Wisconsin Agricultural Association, Madison, Wisconsin, for Certified Seed Directory; or Illinois Crop Improvement Association, Urbana-Lincoln Hotel, Urbana, Illinois.

NOTE CAREFULLY: Spring wheat offers less competition to companion crops, such as clover and alfalfa, than oats. Neither does it control weeds as well. On weedy soils, two bushels per acre should be sown; elsewhere, one and one-half bushels. Spring wheat ripens two to three weeks later than winter wheat and so is exposed that much longer to unfavorable conditions, such as Hessian fly, chinch bugs, midge, scab and rust. Trying to patch a thin stand of winter wheat with spring wheat is impractical and not advisable.

Hulless Oats has not yielded as much feed (groats or meats) per acre as ordinary oats. Only those who make a practice of feeding oat groats will find it economical to grow hulless varieties.

Spring Barley: The small acreage of spring barley sown in Indiana is in the extreme northern part of the State. It is sown on fertile, high-nitrogen soils. Even then it may not be of malting quality and will be suitable for feed only. It is very susceptible to scab, which, when severe, reduces quality and causes hogs especially to refuse to eat it. No seed treatment is possible to control scab. In addition, chinch bugs prefer barley to all other host crops. If chinch bugs are brooding on a farm, they multiply rapidly in barley and go from it to corn fields.

Varieties--Erie, Fox, Kindred, Moore, Oderbrucker, and Traill. One or more of these varieties are certified in Wisconsin, Illinois, Michigan and Ohio. For more information on culture and varieties of spring barley, see Purdue Mimeo AY-26.

Spring Rye, Emmer, Spelt and Flax are all cool-climate crops and as a rule are not adapted to Indiana.