

# Oregon Agricultural College

## Extension Service

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Cooperative Extension Work in Agriculture and Home Economics  
Oregon Agricultural College and United States Department of Agriculture, Cooperating  
Printed and distributed in furtherance of the Acts of Congress of  
May 8 and June 30, 1914

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## Certification of Small Grains

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### What is certified seed?

Certified grain seed is seed which has been field inspected by a representative of the Extension Service of the Oregon Agricultural College, again inspected after threshing, and which has been found to be reasonably free from mixtures of all kinds, noxious weed seeds, and serious diseases.

### Why are mixtures objectionable?

Mixtures of other classes of wheat often injure its milling value; accordingly, mixtures often cause a discount in price. In addition to this loss in the market value, mixtures cause reductions in yield. It is certain, for example, that if five varieties are all growing together, not all of these can be of equal yield, and usually only one out of the five is the best wheat to grow. A further loss comes from the fact that there is a wide difference in the ripening period of the different wheats. This makes it impossible to harvest a mixed field without loss either from shattering of the over-ripe varieties, or from cutting others when immature. Mixtures of different kinds of grains, such as rye in wheat, or barley in wheat, similarly cause losses both in market value and yield.

Knowledge of these losses has caused most growers to appreciate the value of good seed. Farmers have often discarded their own seed because of mixtures and have bought seed said to be pure, only to find that it was as badly mixed as their own.

It was to prevent such experiences that the Extension Service of the Agricultural College started the seed certification work.

### Is grain in Oregon badly mixed?

In some counties, at least 50 percent of the wheat sold is discounted in price because of mixtures, while in certain of the Eastern Oregon counties there is virtually no loss in price on this account. Grain dealers in one county have stated that formerly the yearly loss from mixtures in that county alone was \$25,000. Most of this has been eliminated through the use of certified seed.

### How does grain become mixed?

There are many ways. The most important are:

1. Sowing impure seed.
2. Growing several varieties on the same farm.
3. Through harvesting machinery, wagon boxes, sacks, and grain bins.
4. Volunteer grain.
5. Using different varieties for hay rows on rights of way around fields.

### Do most communities have too many varieties?

A community growing only one variety of wheat invariably has purer seed than sections where several are grown. Such a community not only profits by larger yields and smaller discounts, but becomes recognized as a seed center.

Oregon grows commercially sixty-three different varieties of wheat. Much would be gained in yield and in market value by reducing this number to ten. Foreign mills have sometimes hesitated to buy here because of the enormous number of varieties. It is impossible for foreign buyers to learn with accuracy the milling qualities of each of sixty-three varieties. Many of these are grown nowhere else in the world. This condition hurts our export market.

### What varieties can be certified?

Only the standard varieties approved by the Oregon Experiment Station and adapted to the locality. No freak varieties or those manifestly unsuited to conditions in the county will be passed as certified seed.

### What varieties are recommended?

#### *For Eastern Oregon:*

Wheat: Turkey Red, Hybrid 128, Federation and Hard Federation, Early Baart.

Oats: Swedish Select. Varieties worthy of further trial are Silvermine, Markton, Idamine, and Golden Rain.

Barley: Hannchen, Trebi, and White Club.

#### *For Western Oregon:*

Wheat: White Winter, Rink, Blue Chaff Club, Huston, Defiance.

Oats: Three Grain, Victory, Gray Winter.

Barley: Hannchen and O. A. C. No. 7.

### Are many people now using certified seed?

In some counties it is used by the majority of farmers. In other counties it is hardly known. Many more acres could be certified each year, but the work is no longer necessary in some Eastern Oregon counties where nearly all the growers are using certified seed. The acres of certified seed in the state in previous years were:

1918	12,563
1919	14,400
1920	19,036
1921	23,170
1922	23,505
1923	25,001

In 1923, this certified seed amounted to about 750,000 bushels. Of this total 24,310 acres were wheat, 506 acres were barley, 168 acres were oats, and 17 acres were rye. This work was carried on in 1923 in 18 counties as follows: Baker, Benton, Clackamas, Columbia, Crook, Deschutes, Jackson, Josephine, Linn, Malheur, Morrow, Multnomah, Polk, Sherman, Umatilla, Union, Wasco, and Washington.

#### **What must the grower do to have his fields inspected for certification?**

He must apply to the county agent at any time before the field inspections are made, or write directly to the Extension Service headquarters at Corvallis. The state is large, and time is limited for inspection work. Growers therefore can rarely have a field inspected after the inspector has been in the county for the purpose. There is seldom time to make a return trip to a county for late requests. Every year some requests cannot be taken care of, as the inspector must use his time in the field to the best advantage. He can seldom take the time to go into a county for one or two requests for this service when he could be using this time in another county where there are from twenty to fifty requests for inspection.

#### **What indicates that a lot of seed is certified?**

The growers receive a statement to that effect, and if they wish they are either provided with tags at cost, or they are provided with stencils for marking each sack.

#### **What are the rules for certified seed?**

##### *Standards and rules for certification of small grains.*

All grain entered for certification shall be viewed standing in the fields by the inspector. From fields passing the field inspection, a threshed sample will be given a laboratory inspection and a germination test before a certificate is issued.

The presence of serious disease for which there is no very practical treatment shall disqualify.

The presence of more than a trace of commercially inseparable foreign seeds, except as noted below, shall disqualify.

Certification indicates that the seed has met the standards required as to purity, inseparable foreign material, diseases, etc., but *the matter of seed being recleaned or not rests entirely between purchaser and seller.*

*Wheat.* Wheat shall be certified in two classes, A and B.

Class A shall contain no rye and not to exceed one-half of one percent of varieties of distinctly different color or type of grain and not to exceed one percent total mixture.

Class B shall not be certified except in counties not having a sufficient amount of Class A to satisfy the demand for good seed. It shall contain not to exceed two percent of wheat of other varieties.

The presence of Canada thistle, wild onion, corn cockle, or other noxious weeds shall disqualify. The presence of vetch or other inseparable foreign material, in any quantity, will disqualify. Fields will not be passed if they contain loose smut or more than five percent of common smut. If the threshed sample shows excessive evidence of smut, it will be disqualified.

*Oats.* Oats for certification may contain not more than one percent of other distinct varieties of oats and may contain not more than one seed in one thousand of wild oats. Seed will not be certified which has more than one percent mixture of other cereals in the threshed grain. More than five percent of smut will disqualify.

*Barley.* Barley may contain not to exceed one percent of mixture of other varieties of barley. It may contain not to exceed one-half percent of mixture of other cereals that are inseparable. More than five percent of smut shall disqualify.

*Rye.* Rye shall be certified as to winter or spring habit. It may contain not to exceed two and one-half percent mixture of other varieties and not to exceed one percent other grain or inseparable weed seed. Presence of ergot in serious quantities shall disqualify.