

# Oregon Agricultural College Extension Service

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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

## Oregon Certified Seed Potatoes

By

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Potato Inspection and Certification is a project of the Extension Service of the Oregon Agricultural College. Its purpose is to encourage better methods of production, to secure better yields, and to improve the potato seed stock of Oregon. When potato growers are able to secure pure, vigorous, disease-free seed potatoes they will get larger yields of a quality that is always in demand at a premium.



The official inspection and certification of potatoes for seed purposes by the Oregon Agricultural College began in 1917. Each year the work has met with increasing demand and popularity. All potato growers are interested in getting healthy, unmixed, vigorous seed potatoes. They wish to avoid the risk of a stand being ruined by blackleg or rhizoctonia or the yield being cut in half by wilt and other diseases.

The need for potato improvement work is made apparent by the results of the work in 1920. Out of a total of 130 growers entering fields for inspection, only 14 of them had potatoes good enough to pass certification requirements. However, 4710 bushels of certified seed potatoes were grown in Oregon in 1920, most of which will be planted within the State in 1921.

Potato Certification is under the direction of the Potato Certification Board of the Oregon Agricultural College. The Board is composed of H. P. Barss, Plant Pathologist; G. R. Hyslop, Crops Specialist; and the Inspector. The inspection work is conducted by the Extension Specialist in Farm Crops.

The work this season will be carried on as formerly, with slight changes based upon the certification experience of the past four years.

## REGULATIONS

Potato growers who desire to grow certified potatoes are urged to study the Rules for Inspection and the Standards for Certification. Their attention is called in particular to the following points:

(1) **Who May Enter.** Any grower, responsible company, or any bona fide association of Oregon having good seed potatoes of a desirable variety may enter fields for inspection. Seed from improved stock, hill-selected if possible, of standard varieties is preferred for planting in fields entered for certification.

(2) **Application Blank.** Fields may be entered for inspection by turning in an application blank. These blanks may be obtained from the office of the County Agent in the various counties or from the Extension Service of the Oregon Agricultural College. Applications should be in by June 15.

(3) **Fees.** No fee is charged for field inspection. A fee of three cents a bushel is charged for all potatoes that meet certification requirement at the time of bin inspection. Fees, together with a deposit for tags, are due at the time of bin inspection and must be paid before a certificate can be issued to the grower.

A list of the certified potatoes is published on December 1. Only those potatoes passing certification, and for which the fee and deposit have been paid, will be included in this list.

(4) **Tags.** All certified potatoes must be labeled with an official "Oregon Certified Seed Potatoes" shipping tag bearing the grower's name, postoffice address and the variety of the potatoes. This is for the protection of certification standards and the purchaser of certified seed. Tags will be furnished at cost by the Potato Certification Board. When certified potatoes have been grown for a seed company, or are to be marketed through an association, they may be certified in the name of the seed company or the association when so desired by the persons interested.

(5) **Roguing.** Growers who have entered fields for certification are urged to be present whenever inspections of their fields are being made. At each field inspection, off-type, weak, and diseased vines will be pointed out. The grower must remove these plants from the field. Many potato diseases are infectious and spread from plant to plant in the row. Therefore, it is important that diseased hills be removed whenever they appear. Failure on the part of the grower to rogue as directed will result in the rejection of his field for certification.

(6) **Seed Treatment.** It is urged that all potatoes that are planted in fields which are to be entered for certification be treated before planting with a standard corrosive sublimate treatment. The one recommended by the Potato Certification Board is the following:

Dissolve four ounces of corrosive sublimate in one gallon of hot water in a wooden bucket or glass or stone jar, for a stock solution. Pour this gallon into a wooden barrel or vat with enough cool water to make 30 gallons. Soak the uncut whole potatoes in this solution for 1½ to 2 hours. To renew the strength of the solution after treating each lot of potatoes, add corrosive sublimate at the rate of ½ ounce (1 pint of stock solution) for each four bushels of potatoes treated two hours. If shorter treatment is used, reduce proportionately the amount of chemical used. For instance, if treated, 1½ hours add ¾ ounces (¾ pint of stock solution); if treated 1 hour add ½ ounce (½ pint of stock solution). Keep water up to the original volume. The solution may be used as long as it remains clear, usually for not more than seven or eight lots.

Potatoes should, if possible, be treated while dormant, and at least ten days to two weeks before planting. Loose potatoes can be treated more effectively than sacked ones. After treating, spread them out thin to dry. Exposure to a hot sun will cause black heart. Before resacking treat sacks in a separate solution of corrosive sublimate or formaldehyde and dry.

Corrosive sublimate is **poisonous** if taken internally. It corrodes metals; therefore, use only wooden or stone containers.

The potatoes should be planted on soil which has not grown potatoes recently, on new ground, or in a rotation which does not have potatoes on the same land more than once in five years.

### RULES FOR INSPECTION

There shall be at least two field inspections and one bin inspection during the season.

The first general field inspection will be made about blossoming time. Fields that pass this inspection will be given the second field inspection. Fields failing to pass any inspection will not be considered further.

The second field inspection will be made at about the time the vines begin to ripen but before they are dead.

The object of these inspections is to determine varietal purity, general vigor and uniformity of the plants, comparative freedom from disease and the percentage of stand. At each field inspection, the inspector will give any necessary instructions concerning the removal of undesirable plants.

The bin inspection for potatoes that have passed both field inspections will be made after the potatoes have been harvested, sorted, and stored; preferably not later than a month after harvest. This inspection will be for disease, insect pests, and variety type.

### STANDARDS FOR CERTIFICATION

All potatoes certified by the Oregon Agricultural College shall in the judgment of the Inspector or the Potato Certification Board conform to the following standards:

(1) **Varietal Purity.** Seed stock containing a mixture with other varieties shall not be eligible for certification unless the hills representing such mixture are dug at blossoming time or staked at blossoming time and removed by the grower prior to the harvesting of the crop.

The presence of 5 percent of mixture at the time of any field inspection will disqualify for certification.

(2) **Variety Classification.** Potatoes shall be named by their group name, with the exception of certain well marked varieties.

(3) **Type, Condition, and Appearance.** All potatoes must conform to variety type and shall be reasonably uniform, symmetrical, smooth, and free from cuts, stabs, bruises, and similar blemishes.

(4) **Size.** Two ounces shall be the minimum size. There is no requirement as to maximum size. Excessively large potatoes are not considered the most desirable seed stock.

It is recommended that potatoes be sorted to sizes considered suitable to market requirements.

(5) **Cultural Conditions.** Fields shall not be accepted for certification if they are so weedy or the vines so injured by insects or other factors that satisfactory inspection is made difficult. Extremely poor soil condition, uneven or weak stands, and similar conditions may disqualify.

### FREEDOM FROM DISEASE AND INSECT PESTS

The following amounts of disease will disqualify seed stock for certification:

#### A. Vine Diseases—field inspections

1. 5 percent of the plants showing well defined curly dwarf, leaf roll, mosaic chlorosis, or spindle sprout singly or in combination.

2. 5 percent of the plants affected by wilt or blackleg.

3. 10 percent of the plants affected by a combination of any of the above-mentioned diseases.

4. A majority of the plants showing a serious infection of late blight.

5. An amount of heavy *Rhizoctonia* infection sufficient in the judgment of the inspector to be considered serious.

In order that fields having less than the above-stated amounts of disease may be eligible for final inspection, all weak or diseased hills, with the exception of those attacked by late blight, shall be moved as directed by the inspector after the first and before the second field inspection. Any such plants remaining after the second inspection must be removed before the crop is harvested.

#### B. Tuber Diseases—bin inspection

1. More than 8 percent light infection or 2 percent deep infection with wilt diseases.

2. Wart, powdery scab, eel worms, and larvae of the potato tuber moth in any amount.

3. Serious infection with *Rhizoctonia* (black scurf), and common scab. A small amount of light infection with these diseases will not disqualify.

4. All bin rots shall be removed and the potatoes shall be practically free from late blight.