

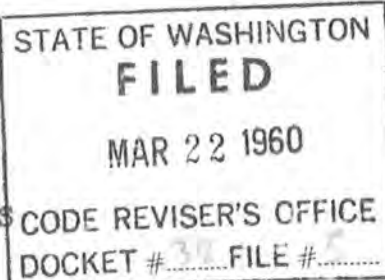
STATE OF WASHINGTON
DEPARTMENT OF AGRICULTURE
Sverre N. Omdahl, Director

Division of Horticulture
Wm. H. Shaw, Supervisor

(Seed Branch)

Order No. 671

RULES FOR CERTIFICATION OF SEED POTATOES



PLANTING STOCK

- I Eligible planting stock must consist of foundation or certified seed potatoes.
- Foundation seed is seed that has met the field standards and test plot standards for foundation seed.
- Certified seed is seed that has met the field standards and test plot standards for certified seed.
- Exceptions may be made for desirable planting stock of known history and varietal purity, produced the preceding year in a tuber-unit plot under the special observation of the State Department of Agriculture and the State College.
- II Planting stock from states other than the state of Washington is eligible for certification only if those states have standards at least as high as the State of Washington.
- Seed from states allowing Bacterial Ring Rot is NOT ELIGIBLE under any circumstances.
- Information as to the eligibility of seed from other states may be obtained from the State Department of Agriculture, Olympia, Washington
- III Tags, bills of sale and other evidence of the origin of the seed stock must be preserved and be available upon request by the Certifying Agency.

APPLICATION FOR CERTIFICATION

- I Application for certification must reach the State Department of Agriculture, Olympia, Washington, not later than June 1, accompanied by the application fee and tags or other evidence of eligibility that was attached to the seed planted.
- II No applications will be accepted after July 31, and no application from any grower owing the Department of Agriculture for previous fees will be considered.
- III A penalty of \$5.00 per application will be charged for applications received between June 1 and July 31.

TEST PLOT RECORDS

Each lot of seed entered for certification must have a record of the previous year's plot or greenhouse test. When a field entered does not have an official plot-test record it will be necessary to withhold final certification until a sample is taken from the field and greenhouse tested.

FEEES

- I The APPLICATION FEE is \$10.00 for three acres or less and \$2.00 per acre for each acre over three.
- II The TOTAL certification fee, which includes the application fee, is \$10.00 for two acres or less and \$4.50 per acre for each acre over two. The final fees shall be due and payable upon completion of the last field inspection.

REFUND for the application fee will be made only when the field is properly withdrawn from certification by written notice to the State Department of Agriculture and before the first field inspection is made.

- III Charges for PLOT or GREENHOUSE TESTING will be made and prorated in accordance with the cost involved.
- IV SHIPPING POINT INSPECTION FEES will be the same as those set up by the Division of Horticulture for the shipment of commercial potatoes.

LAND REQUIREMENTS

- I Where foundation or certified seed potatoes of different varieties are being produced on the same farm, a distinct margin of separation must mark the different fields in order to prevent mixture at harvesting.
- II A potato field entered for certification must not have been planted on land that produced commercial potatoes of any variety or seed potatoes of a different variety the previous year.
- III Land which has grown Iris bulbs or which is otherwise infested with nematode, will not be eligible to produce certified seed potatoes.

ISOLATION REQUIREMENTS

Fields intended for certification must be isolated from fields planted to produce commercial potatoes or fields carrying more than the tolerance of tuber borne diseases by at least 300 feet.

Part of a field failing to pass inspection shall cause rejection of the entire field.

HANDLING OF CROP TO PASS INSPECTION

- I Constant roguing of diseased and off-type plants is necessary from the time the plants are of proper size to give expression to disease until their decline late in the season.
- II The only acceptable method of roguing is to remove the entire plant, including the seedpiece and newly formed tubers. The rogued plants must be carried off the field in a bag or other container to prevent further spread of disease.
- III Excessive weeds, which prevent proper inspection of the field will be cause for rejection.

FIELD INSPECTIONS

- I Fields will be subjected to three inspections, the first at about 6 - 8 weeks after planting.
- II Additional inspections will be made when deemed necessary by the inspector.
- III The inspector will traverse the field sufficiently to accurately evaluate the factors to be considered.

FIELD STANDARDS

- I The unit of certification will be the entire field standing at the time of inspection.
- II SPECIAL REQUIREMENTS: Field inspection tolerances:

VIRUS DISEASES	Foundation		Certified	
	1st	2nd & 3rd	1st	2nd & 3rd
Total virus diseases	1/2%	1/2%	3%	2%
Virus diseases seriously affecting yeilds	1/2%	Trace*	1%**	1%**

*Trace is 0.1% or less
 **Tuber borne or current season rugose mosaic or leaf roll each 1/2%

OTHER DISEASES	Foundation			Certified	
	1st	2nd & 3rd	1st	2nd & 3rd	
Blackleg	1/2%	1/4%	2%	1%	
Wilts	1%	1%	2%	2%	
Others	1/2%	3/4%	1%	1%	
Total - Including above singly or in combination.	2%	2%	5%	4%	
Bacterial Ring Rot	0%	0%	0%	0%	

Late blight - Fields damaged by late blight to the extent where a proper inspection can not be made will be considered disqualified.

OTHER FACTORS

Variety Mixture	0%	0%	1/2%	Trace
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III Fields not meeting field tolerance requirements at the first inspection will be withheld from certification until a greenhouse test is made.

IV Fields not meeting field tolerance requirements at the second or third inspection will be rejected.

SAMPLING FOR TESTING, TEST PLOTS

I The Certifying Agency will set up two sets of test plots each year; one planted in the spring in the open and made up of the planting stock used for certification and the second made up of the crop produced on each field entered for certification and planted in the greenhouse.

II Growers are required to furnish the Certifying Agency with a sample consisting of 310 tubers of single drop grade before May 15, of the stock to be planted for certification as a representation in the spring test plots.

In the fall, not later than November 15, the growers will furnish the Certifying Agency with a representative sample of the same size and grade for the purpose of greenhouse testing.

A separate sample must be taken of each field grown. The number of tubers must be doubled for fields of 35 acres or more.

TEST PLOT TOLERANCES

I	VIRUS DISEASES	Foundation	Certified
		Total virus diseases	1 1/2%
	Virus diseases seriously affecting yields	1/2%	2%
II OTHER DISEASES			
	Blackleg	1%	2%
	Wilts	1%	3%
	Others	1/2%	1%
	Total - including above singly or in combination.	2%	4%
	Bacterial Ring Rot	0%	0%

TUBER INSPECTION - DISEASES AND GRADES

The U. S. Standards for potatoes shall be the official guide for applying and interpreting all definitions and terms used in the Washington certified seed grades below.

Certified seed potatoes when offered for sale must be:

1. Stored so as to maintain vitality of seed.
2. Placed in new sacks when tagging is requested.
3. Graded according to seed potato grade rules.
4. Identified with the official Washington tag which MUST show the growers name and lot number.

A. DISEASE	<u>Foundation</u>	<u>Certified</u>
1. Bacterial Ring Rot, Powdery Scab, Blackwart, Tuber Moth, nematode	0%	0%
2. Net Necrosis - associated with Leafroll	$\frac{1}{4}$ %	1%
3. Blackleg	0%	1%
4. Wilts	1%	3%
5. Rhizoctonia	Infection sufficient to seriously affect the general appearance of the lot shall disqualify.	
6. Scab (deep pitted)	1%	3%
7. New Diseases	General infection of light scab affecting 10% or more of the tubers by weight will disqualify. Any lot showing symptoms new to Washington may be disqualified or may have certification delayed until a plot trial can be made.	
B. CONDITION		
Any lot of potatoes may be denied certification if a condition develops which seriously and adversely affects the seed value.		
C. VARIETY MIXTURE		
	0%	$\frac{1}{2}$ %
D. GRADES		

WASHINGTON No. 1 CERTIFIED SEED POTATOES (Blue Tag Stock) shall consist of potatoes of one variety which are not badly misshapen (1), free from recognizable spindle tuber, deep scab, freezing injury, and soft rot or wet breakdown (2), and from damage (3) caused by dirt (3a) or other foreign matter (3a), second growth (3b), growth cracks (3c), cuts, sprouting (3d), shriveling (3e), dry rot, surface scab(3f), rhizoctonia (3g), other diseases, stem end discoloration (3h), insects, mechanical or other means.

The size of Washington No. 1 Certified Seed Potatoes shall be between two and fourteen ounces in weight. (See tolerance).

WASHINGTON No. 2 CERTIFIED SEED POTATOES (Red Tag Stock) shall consist of potatoes of one variety which are free from recognizable spindle tuber, freezing injury, soft rot, late blight and from serious damage caused by dirt or other foreign matter (4a), second growth (4b), growth cracks, cuts (4c), shriveling (4d), scab (4e), dry rot, disease, insects or mechanical or other means.

The size of Washington No. 2 Certified Seed Potatoes shall be between two and eighteen ounces in weight. (See Tolerances).

WASHINGTON SINGLE DROP CERTIFIED SEED POTATOES (White Tag Stock) shall consist of potatoes which meet all requirements of Washington No. 2 Certified Seed Grade except the size shall be from one to three ounces in weight.

WASHINGTON BUFF CERTIFIED SEED POTATOES (Buff Tag Stock) shall consist of potatoes of one variety which are free from recognizable spindle tuber, freezing injury, soft rot, late blight and from serious damage caused by dirt or other foreign matter or dry rot.

The size of Washington Buff Certified Seed Potatoes is not regulated except as to agreement between buyer and seller.

TOLERANCES FOR DEFECTS

In order to allow for variations other than size, and internal discoloration, incident to proper grading and handling, not more than a total of 6 per cent of the potatoes in any lot may fail to meet the requirements of the grade. But, not more than 1 per cent shall be allowed for potatoes affected by late blight, and including not more than 1 per cent for potatoes which are frozen, or affected by soft rot or wet breakdown. In addition, not more than 5 per cent may be damaged by internal discoloration.

All percentages shall be calculated on the basis of weight.

GRADE TOLERANCES

Below minimum size	3%
Above maximum size	6%

The tolerances specified shall be placed on a container basis. However, any lot of seed potatoes shall be considered as meeting the requirements of the grade, if upon inspection, no sample from a single container in any lot is found to exceed the tolerances specified by more than double the amount allowed, provided that the entire lot shall average within the tolerances specified.

DEFINITIONS OF TERMS

As used in these Grades:

1. "Not badly misshapen" means potatoes are not excessively pointed, or elongated, dumb-bell shaped, or other wise ill-formed.
2. "Soft rot or wet breakdown" means any soft, mushy, or leaky condition of the tissue, such as slimy soft rot, wet fusarium, or wet breakdown following freezing injury or sun scald.
3. "Damage" means any injury or defect which materially affects the appearance or which materially injures the potato for seed purposes. Any one of the following defects or any combination of defects, the seriousness of which exceeds the maximum allowed for any one defect shall be considered as damage:
 - (a) Dirt or foreign matter which materially affects the general appearance of the lot; a potato having an appreciable amount of caked dirt shall also be considered as damaged.
 - (b) Second growth which has developed to such an extent as to noticeably affect the appearance of the potato.
 - (c) Growth cracks which are not shallow or not well healed.
 - (d) Sprouting, when the sprouts are over 3/4 inch long on 10 per cent of the tubers.
 - (e) Shriveling, when the tuber is more than slightly shriveled.
 - (f) Light scab which covers more than 10 per cent of the surface of the potato in the aggregate, on 10 per cent of the tubers.
 - (g) Rhizoctonia which covers more than 5 per cent of the surface of the potato in the aggregate, on 25 per cent of the tubers.
 - (h) Stem end discoloration which extends over 1/2 inch into the flesh of the potato.
4. "Serious damage" means any injury or defect which seriously injures the appearance of the individual potato or the general appearance of the potatoes in the container, or which causes a loss of more than 10 per cent of the total weight of the potato for seed purposes. Any one of the following defects or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage.
 - (a) Dirt or foreign matter when the general appearance of the potatoes in the container is seriously affected by tubers badly caked with dirt or other foreign matter which seriously affects the appearance of the potatoes.
 - (b) Second growth when more than one well attached knob is over 10 per cent of the total weight of the tuber, or when knob is broken.
 - (c) Cuts and deep bruises which seriously affect the potato for seed purposes.
 - (d) Shriveling when the potato is excessively shriveled, spongy, or flabby.
 - (e) Surface scab which covers an area of more than 20 per cent of the surface of the potato in the aggregate, on more than 25 per cent of the tubers.

FACTORS OF SANITATION

The following sanitary precautions must be observed to prevent contamination with or the spread of bacterial ring rot and other diseases easily transmitted by equipment used.

I DIGGING EQUIPMENT

Clean and disinfect all diggers, pickup-buckets, and truck beds before harvest.

II FIELD SACKS

Use only sacks which are known not to have been in contact with commercial potatoes.

III STORAGE HOUSE

Clean and disinfect thoroughly each year prior to bringing in the new crop from the field.

Certified Seed potatoes may be disqualified if stored in the same building with potatoes grown for commercial use.

IV. Grading Equipment

All grading facilities, including floor and loading platform, must be thoroughly sterilized each year.

Grading of seed potatoes on a grader which is also used for commercial potatoes will disqualify the lot for further certification.

SOURCES OF CONTAMINATION IN HANDLING POTATOES

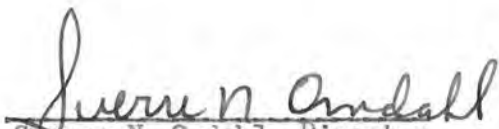
Borrowed field and grading equipment.

Wearing gloves and clothing that have been used in handling potatoes elsewhere.

Employees should wear new cotton gloves or disinfected rubber gloves when starting a new grading job.

Soil sticking to shoes.

Grading sheds should have facilities to disinfect the shoes of people entering the premises.


Sverre N. Omdahl, Director
Department of Agriculture

Signed at Olympia, Washington,
July 22, 1953.