



RULE-MAKING ORDER

(RCW 34.05.360)

CR-103 (7/1/89)

Agency: Agriculture

-
- Permanent Rule
-
-
- Emergency Rule

(1) Date of adoption: November 16, 1989

(2) Purpose: To correct typographical errors and strengthen rules for the production of limited generation certified seed potatoes.

(3) Citation of existing rules affected by this order:

 Repealed:
 Amended: 16-324 WAC
 Suspended:

(4) Authority for adoption:

 Statute: RCW 34.05 and RCW 15.14
 Other Authority:

(5.1) PERMANENT RULE ONLY

 Pursuant to notice filed as WSR 89-19-064 on September 20, 1989(date).

Describe any changes other than editing from proposed to adopted version:

(5.2) EMERGENCY RULE ONLY

Pursuant to RCW 34.05.350 the agency for good cause finds:

-
- (a) That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
-
-
- (b) That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

(5.3) Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?

 Yes No If yes, explain:

(6) Effective date of rule:

Permanent Rules
Emergency Rules

-
- 30 days after filing
-
-
- Other (specify) _____*
-
-
- Immediately
-
-
- Later (specify) _____

*(If less than 30 days after filing, specific finding in 5.3 under RCW 34.05.380(3) is required)

NAME (TYPE OR PRINT)

C. Alan Pettibone

SIGNATURE

TITLE

Director

DATE

11/16/89

CODE REVISER USE ONLY

 CODE REVISER'S OFFICE
 STATE OF WASHINGTON
 FILED

NOV 16 1989

TIME:

WSR:

 11:44
 89-23-073

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-360 DEFINITIONS. The definitions set forth in this section shall apply throughout this chapter, unless the context otherwise requires:

(1) "Department" means the department of agriculture of the state of Washington.

(2) "Director" means the director of the department of agriculture or his duly appointed representative. (Inspector)

(3) "Potatoes" mean Irish potatoes that have been produced outside of or within the state of Washington and are being handled for seed purposes, propagation, or reproduction within the state of Washington.

(4) "Disease tested" means tested for potato viruses, PVA, PVM, PVS, PVX, PVY, leafroll, spindle tuber viroid, Erwinia carotovora carotovora, Erwinia carotovora atroseptica and Corynebacterium sepedonicum.

(5) "Nematode" means a disease (infestation) of plant parasitic nematodes of potatoes including but not limited to ((Ditylenchus; Pratylenchus; -and)) the genera Meloidogyne ((genera)).

(6) "Micropropagated" means potato stock propagated using aseptic laboratory techniques and culture media to promote plant tissue growth.

(7) "In vitro" means in an artificial environment outside the living organism.

(8) "Prenuclear" means micropropagated plants in vitro or tubers in vitro. Also included are micropropagated plants or microtubers produced in a greenhouse.

(9) "Nuclear stock" means plantlets, microtubers, minitubers, or seed potatoes produced from pre-nuclear stock.

(10) "Microtubers" means tubers produced in vitro by a micropropagated plant or plantlet.

(11) "Minitubers" means tubers produced under controlled greenhouse conditions.

(12) "Tuber unit" means a method of planting whereby cut seed pieces from one tuber are dropped consecutively in a row.

(13) "Hill unit" means a method of planting whereby all tubers from one plant are dropped consecutively in a row.

(14) "Family unit" means a method of planting whereby pre-nuclear stock made up of various family lines are mass planted in recognizably separate plots limited to the size and number of plants per plot.

(15) "Cull" means any lot of potatoes rejected for certification for any reason. Seed lots failing to meet the minimum requirements of Washington state's rules and standards for certification shall be considered as culls.

(16) "Trace" means a barely perceivable indication of plant disease that amounts to less than ((0.00)) 0.001 percent.

(17) "Rogue" means a method of removing undesired plant specimens from a lot whereby all plant parts including vines, tubers, and seed piece are completely removed from a field. Proper roguing for plant disease shall also include removing all plants and their parts immediately adjacent to the diseased suspect plant.

AMENDATORY SECTION (Amending Order 1951, Filed 9/11/87)

WAC 16-324-380 CERTIFIED SEED POTATO STOCK--FEES. (1) Potato certification fees shall be twenty-seven dollars per acre.

Applications shall be accompanied by fifty percent of the total charge due and payable on or before June 15 of each year. Applications may be adjusted ten percent on or before July 15.

(2) Final payment of above fee is due and payable November 1 of each year: PROVIDED, That

- (a) Fees for five acres or less must be paid in full at the time of application.
- (b) Fee for two acres or less is forty dollars minimum to be paid in full at time of application.
- (c) No fees may be charged, up to five acres, for regularly enrolled high school 4-H or FFA projects.
- (3) Refunds of the application fee may be made only if the withdrawal form is received by the department prior to the first field inspection.
- (4) Lots rejected (~~on-or-before-October-1-shall-not-be-subject-to-final-fees~~) before the second inspection shall not be subject to the final one-half payment fee.
Certification fees shall not be refunded after two field inspections have been completed.
- (5) Failure to pay fees when due shall result in removing the applicant from this program.
- (6) No application for any grower owing the Washington state department of agriculture for previous fees may be considered.

AMENDATORY SECTION (Amending Order 1587, filed 11/21/78)

- WAC 16-324-410 WINTER TEST. (1) Purpose. The purpose of the winter test is to visually detect virus and viruslike plant symptoms in samples of the lot submitted by the grower.
- (2) Details for submitting samples for winter testing will be available from (~~division---of---plant--industry--personnel~~) the department.
- (3) "Foundation" may be stamped on the department's official certified tags when a lot has passed the required field standards and winter test tolerances for foundation seed.
- (4) Lots represented in winter tests which do not meet the certification requirements of the winter test will not be eligible for current year certification.
- (5) In the event of serious malfunction of the winter test facility, foundation and certified eligibility may be based on field readings.

AMENDATORY SECTION (Amending Order 1897, filed 7/17/86)

WAC 16-324-445 CERTIFIED SEED POTATO--GRADING INSPECTION--DISEASES AND GRADES. Grading inspections shall be made by the department on a surveillance basis. Shipping point inspection shall be made available upon request by the grower. The quality of the grading of potatoes is the full responsibility of the grower. United States standards for potatoes shall be the official guide for applying and interpreting all definitions and terms used in this chapter in the Washington certified seed grades.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-600 LIMITED GENERATION (L.G.) CERTIFIED SEED POTATO PRODUCTION. (1) The limited generation (L.G.) program is offered as an alternative to the current program for certification of seed potatoes. This L.G. program is not intended to supersede or replace existing rules and standards for certified seed potato production.

Limited generation certified seed potato production shall comply with current standards, where applicable, in addition to the following rules. The purpose of the program is to provide certification for additional kinds of propagative stock now being produced by tissue culture and/or stem cutting techniques.

(2) Eligibility - to be accepted for certification, seed stocks shall be derived from seed stocks that have been disease tested, certified by an official seed certifying agency and continued identity maintained in an approved manner.

(a) To be eligible for recertification, a seed stock shall meet or exceed minimum requirements for field inspection, latent virus testing and winter testing as prescribed in WAC 16-324-630 and 16-324-640.

(b) Applications for all lots planted for certification shall be accompanied by an eligible tag or inspection certificate in addition to winter test results and a signed grower affidavit.

(c) A limited generation seed lot which fails to meet the minimum requirements as prescribed in WAC 16-324-630 and 16-324-640 shall be classified as "certified class," and must meet minimum requirements as stated in WAC 16-324-400 and 16-324-420 to be eligible for current season certification.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-605 LIMITED GENERATION CERTIFIED SEED POTATO-- REQUIREMENTS FOR PRODUCTION AND ELIGIBILITY OF PRENUCLEAR STOCK. Requirements for production and eligibility of preuclear seed potato stock are as follows:

(1) Basic requirements for plant material increase:

(a) All micropropagation facilities shall be approved by the department.

(b) All material shall be documented as to source of variety and shall be a variety approved by the department.

(c) All tests required shall be conducted by a third party laboratory approved by the department.

(d) Entry level material shall be isolated from all other material and limited to fifty in vitro propagules per line selection. All plant material to be mass micropropagated shall be disease tested.

(2) Testing requirements for mother plants. Yearly testing of one hundred percent of the mother plants for the following pathogens shall be required as follows:

(a) *Corynebacterium sepedonicum* by gram stain and immunofluorescent antibody stain and Richardsons Media. The eggplant bioassay may be substituted for Richardsons Media.

(b) *Erwinia* species by crystal violet pectate.

(c) Potato viruses - X, Y, S, M, A, and leafroll by ELISA, radioimmuno assay and nonspecific viral assay by electron microscopy or dsRNA hybridization.

(d) Potato spindle tuber viroid by cDNA, dot hybridization or gel electrophoresis.

(e) All plant material to be mass propagated shall test negative for the pathogens listed above.

(3) Sampling requirements for mass propagated plants or tubers.

(a) Samples shall be taken prior to kill down or shipping plantlets. A minimum of one percent (no less than twenty samples) of the plants or tuber population shall be disease tested in the manner described for testing requirements for mother plants. No more than five plants or tubers shall be bulked per sample.

(b) Prenuclear class stock shall have a zero tolerance for all pathogens listed above.

(4) Private micropropagation labs shall make samples of propagation material available to the department for further testing when requested.

Generation I Four years

Generation II ((Three)) Two years out of potatoes unless prior crop was a higher class of same variety

Generation III Two years

Generation IV Two years.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-620 LIMITED GENERATION CERTIFIED SEED POTATO--ISOLATION REQUIREMENTS. Isolation required for limited generation seed potato are as follows:

- (1) Prenuclear - approved laboratory (greenhouse).
- (2) Nuclear - Generation I: Location of field approved by the department.
- (3) Generations II, III, and IV - three hundred feet from potatoes not ((classified-as)) virus tested ((~~r~~
- ~~(4) Generation III and Generation IV--))~~ and a minimum space of six feet ((minimum--space)) between lots of a different class and variety.
- (5) Each lot shall remain distinctly separated in the field and in storage.
- (6) Fields shall be staked or marked so that varieties, lots, unit plantings, single drop plantings, and different seed sources can be identified.
- (7) Access to fields shall be severely restricted. Entrance shall only be allowed in the presence of the grower.
- (8) Nuclear and Generation I stocks are to be planted by a unit method. Cut seed and single drop seed shall be sorted and planted separately within the unit plot, with single drop seed identified.
- (9) ~~((Nuclear units shall be planted with a one row skip between every two rows))~~ If a ground rig is used for spraying, a wide enough spray row shall be allowed so tires will not touch plants during the growing season.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-630 LIMITED GENERATION CERTIFIED SEED POTATO--FIELD INSPECTION TOLERANCES.

FIELD INSPECTION TOLERANCES: PERCENT DISEASES

Factor	NUCLEAR		GEN. I		GEN. II		GEN. III		GEN. IV	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Varietal mixture	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.08	0.05
Pvy mosaic	0.00	0.00	0.00	0.00	0.01	TR	0.50	0.25	0.50	0.25
Leafroll	0.00	0.00	0.00	0.00	0.01	TR	0.03	.010	.080	0.05
Blackleg	0.00	0.00	0.10	0.10	0.50	0.50	1.00	1.00	2.00	2.00
Ring rot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nematode	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spindle tuber virid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Factor	NUCLEAR		GEN. I		GEN. II		GEN. III		GEN. IV	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Total visible virus	0.00	0.00	0.10	0.00	0.20	0.10	2.00	1.00	2.00	1.00
PVX	0.00		0.50		1.00		3.00		4.00	

(1) Two or more visual inspections shall be made of each lot by the department. Fields shall be considered ready for inspection at all times.

(2) Leaf samples shall be submitted in late August for virus determination to an independent testing laboratory approved by the department. All classes entered for certification shall be PVX tested. The cost of foliage sample testing shall be borne by the applicant.

(a) The minimum number of plants per lot to be sampled for latent virus determination shall be one hundred; nuclear stock ten percent of the total number of plants per lot; Generation I two percent of the total number of plants per lot; Generation II fifty leaves per acre; Generation III and IV twenty leaves per acre. No more than ten plants shall be bulked per sample. The department may require additional testing when deemed necessary.

(b) Samples shall be labeled as to row and location within the row.

(c) If a positive test results on a virus sample, a retest of every plant after rouging infected area is acceptable.

(d) Any plant rogued and suspected of being contaminated with virus, *Erwinia carotavora* or *Corynebacterium sepedonicum* shall be submitted for testing.

(e) Bacterial ring rot found in a seed lot of a seed operation shall be cause for removing the lot from certification. A third or additional inspections shall be required on remaining seed lots. All other seed lots associated with or planted after the rejected lot shall not be eligible for recertification.

(3) A limited generation growers list shall be published annually after final field inspection showing the results, including bacterial ring rot.

(4) ~~((All-seed-sources-entered-for-certification-shall-be-represented-in-a-Washington-seed-lot-source-trial))~~ At the option of the grower, seed sources shall be represented in a seed lot source trial. The presence of bacterial ring rot in the sample shall be cause for rejection of seed lots planted from the same seed source by the grower submitting the sample.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-660 LIMITED GENERATION CERTIFIED SEED POTATO--SANITATION. Requirements for sanitation in the limited generation certified seed program are as follows:

(1) Chemicals used in the sanitation of equipment shall be those recommended by the Pacific Northwest Plant Disease Control Handbook. Vector control shall be maintained throughout the growing season as prescribed by the Pacific Northwest Plant Disease Control Handbook.

(2) Seed stocks in a limited generation program shall be planted and harvested prior to handling any other seed stock. The highest generation shall be handled prior to lower classes within the program. All equipment used in the cutting, planting, digging, storage, and sorting process shall be sanitized between lots and varieties. When cutting nuclear stock, gloves and knives shall be sanitized between each tuber cut.

(3) Precautions shall be taken when roguing, irrigating, or cultivating to prevent the spread of potato pathogens. Only sanitized footwear shall be allowed in the field.

(4) To produce nuclear, Generation I and Generation II stock, a grower shall have successfully produced certified seed potatoes the previous two years with no bacterial ring rot disease during this period. Exceptions to this subsection are possible on approval by the department.

(5) Only department approved containers shall be used during the digging, storage, and packing process. Approved containers shall be new sacks or bags. Wood containers shall be painted with no bare wood exposed.

(6) Appropriate procedures for sanitizing shall include steam cleaning or use of a pressure washer to eliminate all dirt and dry matter, ~~((followed-by-steam-cleaning;))~~ followed by application of an approved chemical to kill bacteria.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-670 LIMITED GENERATION CERTIFIED SEED POTATO--TAGS. All lots shipped outside of the immediate area of production shall be tagged and accompanied by shipping permit. ~~((Permits-and-tags-shall only-be-issued-for-Generation-II,-III,-or-IV-seed-stocks;))~~

(1) In addition to meeting the requirements of WAC 16-324-430(3), tags shall identify seed class and percent of PVX.

(2) Two colors of tags shall be available for use in limited generation seed potatoes. The color of tag designates grade only.

(a) Blue tags shall meet or exceed minimum requirements of United States Standards for U.S. No. 1 Seed Potatoes.

(b) Yellow tags shall indicate a contract grade between buyer and seller and shall meet or exceed minimum requirements of WAC 16-324-490.

(c) Tags shall not be issued for culls.

AMENDATORY SECTION (Amending Order 1951, filed 9/11/87)

WAC 16-324-680 LIMITED GENERATION CERTIFIED SEED POTATO--STORAGE. In addition to meeting the requirements in WAC 16-324-430 (1) (a) and (b), all tubers harvested from unit plantings shall be numbered and stored as an identifiable unit for the next year's planting ~~((of pnenuclear-stock))~~.