

Chapter 252: RULES GOVERNING CERTIFICATION OF SEED POTATOES IN THE STATE OF MAINE

SUMMARY: This chapter outlines the procedures and standards governing the certification of seed potatoes in the State of Maine.

1. INTRODUCTION

A. Definitions

(1) The Terms

- (a) **Bacterial Ring Rot** means a tuber-borne potato disease caused by the bacterium, *Corynebacterium sepedonicum* also known as *Clavibacter michiganense* pv. *sepedonicum*.
- (b) **Certification** means the act of endorsing that the potatoes have been inspected and at the time of inspection met the standards or requirements specified in this Chapter for seed potatoes. Certification does not mean or constitute any warranty that the potatoes are merchantable, disease free, or fit for a particular purpose. Except where the Commissioner has indicated other tests are superior, the measurement method or basis for determining compliance with the standards is visual inspection of the fields and crops thereon or harvested there from as described by this Chapter.
- (c) **Certified Seed** means seed potatoes entered into the Maine Seed Potato Certification Program and passing the field year field inspection, and Post-Harvest Test requirements as well as the other requirements established in this Chapter.
- (d) **Certified Seed Class** means seed potatoes entered into the Maine Seed Potato Certification Program with an appropriate field year designation and passing field inspection, Post-Harvest Test and other requirements established in this Chapter for this class of seed potatoes.
- (e) **Commissioner** means the Commissioner of the Maine Department of Agriculture, Conservation and Forestry.
- (f) **Department** means the Maine Department of Agriculture, Conservation and Forestry.
- (g) **Disease Tested Tuber(s)** means potato tuber(s) selected and tested for freedom from the following diseases and pathogens: Bacterial Ring Rot, Blackleg, Potato Spindle Tuber Viroid, Potato viruses X, Y, A, M, S,

Leafroll, Potato Mop Top Virus and the Necrotic Strain of Potato Virus Y (PVY-N).

- (h) **Field Year** means a seed potato classification designating the number of years a particular lot has been grown in the field after greenhouse propagation, not to exceed six years after 2011.
- (i) **Foundation Farming Operation** means all potato acreage on the farm has been entered into the Certified Seed Potato Program.
- (j) **Foundation Seed Class** means seed potatoes entered into the Maine Seed Potato Certification Program with an appropriate field year designation and passing field inspection, Post-Harvest Test and other requirements established in this Chapter for this class of seed potatoes.
- (k) **Inspector or Seed Potato Inspector** means a representative of the Department who is duly authorized to carry-out the services of the Maine Seed Potato Certification Program.
- (l) **Leafroll** means a potato disease caused by the potato leafroll virus.
- (m) **Lot** means a population of certified seed potatoes of one variety, field year and class that is identified by one certification number.
- (n) **Maine Seed Potato Certification Program** means the program established in this Chapter for certification of seed potatoes.
- (o) **Mini-tuber** means a tuber produced in a greenhouse from nuclear stock.
- (p) **Mosaic** means potato disease caused by potato virus A, potato virus X, potato virus Y, potato virus M or a combination of potato viruses A, X, M and Y.
- (q) **Necrotic Strain of Potato Virus Y (PVY-N)** means a strain of Potato Virus Y that causes a necrotic reaction in certain varieties of Tobacco.
- (r) **Nuclear Seed** means propagation material, including mini-tubers and plantlets, which involves in vitro techniques and is grown under controlled conditions.
- (s) **Nuclear Seed Origination Source** means any farm or operation that is authorized by the Commissioner for such production.
- (t) **Post-Harvest Test** means the test authorized by the Department for determining the disease content of recently harvested samples of seed potatoes. Each sample must represent a specific lot of seed potatoes in storage
- (u) **Potato Mop Top Virus** means a soil-borne virus in the pomovirus group which may cause discoloration or necrotic rings in infected tubers, and

various types of mottling and stunting in above-ground portions of infected plants.

- (v) **Production or Crop Handling Equipment** means equipment used in producing potatoes that contacts either the foliage or the tubers of potato plants.
- (w) **Roguing** means the removal of diseased and off-type potato plants from a field of seed potatoes.
- (x) **Root Knot Nematode** means the nematode species belonging to the genus *Meloidogyne*.
- (y) **Separate Farming Operation** means distinct production units which use the same crop handling equipment but which clean and disinfect the equipment between use on each production unit. Separate farming operations must be established and separated by identifiable physical boundaries (i.e. a road, woods, field devoted to a different crop) and must remain the same once established, unless approval for a change is requested by the producer and approved by the Department.
- (z) **Shipping Inspection Tags** means the tags or bulk certificates identifying the variety name, grade, size, class and field year (if requested) of seed potatoes, which are issued by an Inspector prior to shipment.
- (aa) **Single Hill Selection** means the method of seed potato propagation whereby tubers are selected, tested to ensure freedom from certain pathogens, and retained for planting as Nuclear Seed.
- (bb) **Sod Ground** means land on which grass and/or legume species were produced the previous year.
- (cc) **Spindle Tuber** means the potato disease caused by the Potato Spindle Tuber Viroid pathogen.
- (dd) **Tobacco Rattle Virus** means a virus vectored by the stubby root nematode which can cause stem mottling of potato foliage and discoloration or necrotic rings in infected tubers.
- (ee) **Tolerance** means the allowable upper limit of observed disease during field inspection, post-harvest test, and laboratory evaluation.
- (ff) **Total Virus** means the sum or total of the virus diseases Leafroll and Mosaic.
- (gg) **Vine kill** means treating the vines mechanically or chemically to cause them to die.
- (hh) **Zero Tolerance** means that the disease or related pathogen was not found during the inspection and testing process in the case of Bacterial Ring Rot, Potato Spindle Tuber Viroid, or Root Knot Nematode. This is

not intended, nor may it be construed to mean, that the lot inspected is free from the disease in question.

2. PRODUCTION REQUIREMENTS

A. Application(s) and Eligibility

(1) Generally

- (a) The requirements to certify seed potatoes in the Maine Seed Potato Certification Program include a Field Year Designation, Field Inspections, Post-Harvest Testing and a Shipping Point Inspection as provided in these rules. If planting a protected variety, documentation must be supplied indicating that the grower has permission to plant the protected variety and certify the seed.

(2) Field Inspections

- (a) Applications for inspection of potato fields to be entered into the Maine Seed Potato Certification Program must be made on forms available from the Department.
- (b) All the information required on the application form shall be complete and accurate.
- (c) Full payment of the entry fee is required with the application. For a listing of the entry fees for the Seed Potato Certification Program, see Section 8. Fee Schedule, A.
- (d) The application and deposit must be received by the Department by June 15 of the current crop year. Applications not received by this date will be accepted at the discretion of the Department, but will be withheld if payment is due on past accounts.
- (e) Applications that are not accompanied by the full entry fee will be held and not be entered into the Maine Seed Potato Certification Program until the full entry fee is paid.
- (f) Evidence satisfactory to the Department proving origin and quality of seed must accompany the application including:
 - (i) Import Permit numbers or certification numbers in the case of growers using their own seed.
 - (ii) Designation of field year as defined in this Chapter.
 - (iii) Class of seed as either Certified or Foundation Seed Class.
 - (iv) Variety of seed potatoes.

- (g) A refund of the application fee for acreage withdrawn or rejected from the Maine Seed Potato Certification Program will be made by November 1.
- (h) Seed potatoes that pass the field inspection requirements in Maine shall be entered into the Post-Harvest Test unless otherwise provided in this Chapter.

(3) Post-Harvest Test

- (a) Applications for the Post-Harvest Testing of samples of seed potatoes must be made on forms available from the Department
- (b) All information required on the application form must be complete and accurate.
- (c) The application form and the entire fee for the Post-Harvest Test must be received by the Department by September 20 of the current crop year. The Department can extend this deadline for the entire industry or for designated geographic areas if unusual weather or unforeseeable problems make it difficult for the deadline date to be met.
- (d) The fee schedule for the Post-Harvest Test appears on the application form (see Fee Schedule).

B. Designation of Field Years in the Maine Seed Potato Certification Program

(1) Seed Originating from a Foundation Farming Operation

Year Produced in Field	Field Year Designation	Production Information
Year 0	Nuclear Seed	An approved laboratory producing Nuclear minitubers and/or plantlets; See Appendix I for Nuclear laboratory procedures.
Year 1	Field Year 1	Planting of mini-tubers or transplants in soil
Year 2	Field Year 2	General release of most varieties from an approved Nuclear seed origination source.
Year 3	Field Year 3	
Year 4	Field Year 4	
Year 5	Field Year 5	
Flush out	Tablestock/Processing potato producers	

GROWER'S OWN SEED

Continuous Grower's Own

(2) Propagation of Nuclear Seed

- (a) The number of years of propagation from Disease Tested Tuber(s) must be designated at an approved Nuclear Seed Origination Source.
- (b) Nuclear Seed may be propagated on an approved Nuclear Seed Origination Source, using meristem tissue culture or any other existing or new methods of vegetative propagation approved by the Commissioner.
- (c) Nuclear Seed shall be increased in the laboratory/greenhouse and planted into the field at an approved Nuclear Seed Origination Source.

(3) Field Propagation of Seed on a Foundation Farming Operation that Passes the Requirements for Foundation Seed Class

- (a) Mini-tubers or plantlets will be designated as: Field Year 1
- (b) Field Year 1 planted will be designated as: Field Year 2
- (c) Field Year 2 planted will be designated as: Field Year 3

(4) Propagation of seed that passes the requirements for Certified or Foundation Seed Classes

Field Year 3 passing seed requirements will be designated as: Field Year 4

Field Year 4 passing seed requirements will be designated as: Field Year 5

Beginning in 2017, Field Year 5 seed potatoes are not eligible for certification but can be sold as seed for tablestock or processing use.

(5) Field Year Designation for Imported Seed

- (a) All seed from an out-of-state source shall comply with C.M.R. Chapter 255 - *Imported Seed Potatoes*.
- (b) Seed potatoes imported into the state shall meet all the requirements for certification under the Maine Seed Potato Certification Program, including the Post-Harvest Test requirement as prescribed by this Chapter.
- (c) All import certificates shall specify the imported seed's field year, which shall meet or exceed the criteria for its equivalent field year in Maine's Seed Potato Certification Program.

- (d) The Commissioner shall determine and designate the field year of the imported seed, which will be given the same field year designation as equivalent Maine seed in the Maine Seed Potato Certification Program.

C. Production and Importation of Nuclear Seed

(1) Authorization

- (a) The Commissioner may authorize Nuclear Seed Origination Sources in Maine to produce Nuclear Seed from Disease Tested Tuber(s).
- (b) Any person seeking authorization to produce, import or sell Nuclear Seed in Maine shall apply to the Department and comply with all terms and conditions as the Commissioner may require.

(2) Methods of Propagation

- (a) Nuclear Seed shall be propagated from Disease Tested Tuber(s). Methods of propagation may include meristem tissue culture or any other existing or new method of vegetative propagation approved by the Commissioner, which breaks the normal tuber-to-tuber cycle of propagation.

(3) Testing Requirements

- (a) The initial Disease Tested Tuber(s) must be tested and found free of the following diseases and pathogens: Bacterial Ring Rot (*Clavibacter spp.*), Blackleg (*Pectobacterium spp. and Dickeya spp.*), Bacterial Wilt (*Ralstonia spp.*) and Potato Spindle Tuber Viroid.
- (b) Plants produced from Disease Tested Tuber(s) must be tested and found free of the following diseases and pathogens: Potato Spindle Tuber Viroid, the Necrotic Strain of Potato Virus Y (PVY-N), Potato Mop Top Virus, Leafroll and Mosaic viruses.

(4) Importation Requirements

- (a) No shipper, handler or importer of Nuclear Seed or person selling such material shall bring into the State of Maine any Nuclear Seed unless a Seed Potato Import Permit has been inspected and appear to be free from all injurious insects and diseases issued to the shipper, handler or importer.
- (b) Any Nuclear Seed, except Disease Tested Tuber(s) transported into the State must have been grown in a soilless pasteurized potting mix or from an approved hydroponic greenhouse production system.
- (c) Seed Potato Inspectors may inspect, at the point of destination, all Nuclear Seed coming into the State whether under certificate or not, and if such seed is found to be infested or infected with any injurious insect or disease, shall cause it to be destroyed or returned to the consignor at the consignor's expense.

D. Production and Sale of Field Year Seed 1, 2 and 3 on a Foundation Farming Operation

(1) Authorization of a Foundation Farming Operation

- (a) The Commissioner shall authorize Maine potato growers to produce Field Year Seed 1, 2 and 3 only when they can demonstrate the capability of producing such.
- (b) Any person seeking authorization to produce or import Field Year Seed 1, 2 and 3 into Maine shall apply to the Department and comply with all terms and conditions as the Commissioner may require.

(2) Additional Criteria for Authorization of Production and Sale of Field Year Seed 1, 2 and 3 on a Foundation Farming Operation in Maine

- (a) If, pursuant to Section 6.A., the Bacterial Ring Rot disease or pathogen is confirmed on a Foundation Farming Operation producing Field Year Seed 1, 2 and 3, such Foundation Farming Operation is prohibited from selling Field Year Seed 1, 2 and 3 for three years following confirmation of the disease or pathogen, unless the operation:
 - (i) eliminates all seed lots on the farming operation the year that the Bacterial Ring Rot disease or pathogen is confirmed; and
 - (ii) is free of Bacterial Ring Rot disease during the summer field inspection program and during storage in all the new lots obtained. If Bacterial Ring Rot disease is found in any of the new lots obtained on the Foundation Farming Operation, all Field Year Seed 1, 2 and 3 lots on the operation drop to Field Year 4, except for Field Year Seed 1 and 2 lots which are free of Bacterial Ring Rot disease and which are to be replanted on the same operation. The field year of such lots drops to Field Year 3 if younger than Field Year 3. See also 6.A.(2) for additional requirements when the Bacterial Ring Rot disease is confirmed; and
 - (iii) submits to a USDA-APHIS approved laboratory a 400 tuber sample of the progeny of all the new lots which were free of the Bacterial Ring Rot disease during summer field inspection per 15 acres of production. The Department must find these samples free of the Bacterial Ring Rot pathogen through the testing protocol specified in 6.A.(1) of this Chapter prior to sale of such progeny as Field Year Seed 1, 2 and 3. If the Bacterial Ring Rot pathogen is confirmed during laboratory testing of the progeny of any of the new lots, all Field Year 1, 2 and 3 lots on the Foundation Farming Operation drop to Field Year 4 except for Field Year Seed 1 and 2 lots which are free of the Bacterial Ring Rot pathogen and which are to be replanted on the same operation. The field year of such lots drops to Field Year 3 if younger than Field Year 3. See also

6.A.(2) for additional requirements when the Bacterial Ring Rot pathogen is confirmed.

- (b) If, pursuant to Section 6.A., the Bacterial Ring Rot disease or pathogen is confirmed in two out of three succeeding years on a Foundation Farming Operation producing Field Year Seed 1, 2 and 3, such farming operation:
- (i) cannot sell Field Year Seed 1, 2 and 3 for one year following confirmation of the Bacterial Ring Rot disease or pathogen the second time;
 - (ii) cannot sell Field Year Seed 1, 2 and 3 for the second and third years following confirmation of the Bacterial Ring Rot disease or pathogen for the second time, unless the operation:
 - 1. eliminates all seed lots on the farming operation each of the two years following the year that the Bacterial Ring Rot disease or pathogen was confirmed for the second time; and
 - 2. is free of Bacterial Ring Rot disease during the summer field inspection program and during storage, in all the new lots obtained, each of the two years following the year that the Bacterial Ring Rot disease or pathogen was confirmed. If Bacterial Ring Rot disease is present in any of the new lots obtained on the Foundation Farming Operation, all Field Year Seed 1, 2 and 3 lots on the operation drop to Field Year 4, except for Field Year Seed 1 and 2 lots which are free of Bacterial Ring Rot disease and which are to be replanted on the same operation. The field year of such lots drops to Field Year 3 if younger than Field Year 3. See also 6.A.(2) for additional requirements when the Bacterial Ring Rot pathogen is confirmed.
 - 3. submits to a USDA-APHIS approved laboratory, at grower's cost, a 400-tuber sample of the progeny of all the new lots which were free of the Bacterial Ring Rot disease during summer field inspection each of the two years following the year that the Bacterial Ring Rot disease or pathogen was confirmed for the second time, per 15 acres of production. The USDA-APHIS approved laboratory must find these samples free of the Bacterial Ring Rot pathogen through the testing protocol specified in 6.A.(1) of this Chapter prior to sale of such progeny as Field Year Seed 1, 2 and 3. If the Bacterial Ring Rot pathogen is confirmed during laboratory testing of the progeny of any of the new lots, all Field Year Seed 1, 2 and 3 lots on the Foundation Farming Operation drop to Field Year 4, except for Field Year Seed 1, 2 and 3 lots which are free of the Bacterial Ring Rot pathogen and

which are to be replanted on the same Foundation Farming Operation. The field year of such lots drops to Field Year 3 if younger than Field Year 3. See also 6.A.(2) for additional requirements when the Bacterial Ring Rot pathogen is confirmed.

- (c) All potato fields planted on a Foundation Farming Operation producing Field Year Seed 1, 2 and 3 must be entered into the Maine Seed Potato Certification Program.
- (d) All seed lots planted on the Foundation Farming Operation Field Year Seed 1, 2 and 3 must be of the Foundation Class except that seed lots of the Certified Class which were produced on a farming operation where all potatoes were checked for Bacterial Ring Rot may be planted provided that:
 - (i) These seed lots are rogued such that they contain no more than 0.5% total virus prior to the first inspection.
 - (ii) These seed lots are planted at least 500 feet from any Field Year 1, 2 or 3 field.
 - (iii) If either 1 or 2 above is not met, then all Field Year Seed 1, 2 and 3 lots within 500 feet of the Certified Class lot on the farm or farming operation will be designated Field Year 3, except that seed potatoes designated as Field Year 3 at planting will be designated Field Year 4.
- (e) All plots planted with and/or Field Year 1, 2 and 3 must be located on sod ground or on ground where potatoes were not grown the previous year.
- (f) Fields planted with Field Year 2 must be located on ground where potatoes were not grown the previous year or on ground where Field Year 2 of the same variety was harvested the previous year.

(3) Designation of Field Year 1, 2 and 3 Seed produced on a Foundation Farming Operation that meet the requirements of this chapter will be designated as follows.

- (a) Field Year 1 seed will be designated as: Field Year 2
- (b) Field Year 2 seed will be designated as: Field Year 3
- (c) Field Year 3 seed will be designated as: Field Year 4

(4) Production and Sanitation Requirements

- (a) Field Year 1, 2 and 3 Seed produced on a Foundation Farming Operation shall be entered into the Maine Seed Potato Certification Program and must be in conformity with the requirements of this Chapter.

- (b) All plots planted with Nuclear Seed and/or Field Year 1, 2 and 3 Seed should be free of volunteer plants.
- (c) Nuclear Seed derived from the same mother plant, mother tuber, or meristem must be planted together in segregated units. Subunits may be established for testing purposes at the request of the grower.
- (d) Within a row different units must be separated by a minimum of three feet, and must be permanently marked and labeled at both ends. A field map must be submitted with the Inspection Application.
- (e) All units planted with Nuclear Seed and/or Field Year 1, 2 and 3 Seed must have at least one blank row between different field years of the same variety.
- (f) Field Year 1 Seed of the same variety may be composited at harvest.
- (g) All plots planted with Field Year 1, 2 and 3 Seed should be planted before other potato fields. In cases where this is not possible, crop handling equipment must be thoroughly washed and disinfected prior to planting Field Year Seed 1, 2 and 3 plots.
- (h) All plots planted with Field Year 1, 2 and 3 Seed must be harvested before other potato fields.
- (i) Crop handling equipment used in the production of the Foundation Class of seed may be used for Field Year 1, 2 and 3 Seed provided that the machinery is thoroughly washed and completely disinfected under the direction of a Seed Potato Inspector prior to entry into Foundation Seed fields. Crop handling equipment used in the production of the Certified Class of seed may not be used in the production of Field Year 1, 2, and 3 Seed unless these seed lots are planted at least 500 feet from any Field Year 1, 2 or 3 Seed field as provided by 2.D.(2)(d) of this section.
- (j) All cultural operations and spraying must be completed in fields planted with Field Year 1, 2 and 3 Seed before working in other fields.
- (k) Growers must notify their inspector when herbicides or insecticides are applied to their seed and/or fields. Field notification must be done prior to inspector entering their field.
- (l) Crop handling equipment must be thoroughly washed to remove soil and organic matter and completely disinfected between fields containing different varieties and seedlings of Field Year 1, 2 and 3 Seed.
- (m) Crop handling equipment must be thoroughly washed to remove soil and organic matter and completely disinfected prior to harvesting fields containing Field Year 1, 2 and 3 Seed.

(5) Field Disease Tolerances for Field Year 1, 2 and 3 Seed

- (a) Foliage of plants produced from Nuclear Seed must be visually inspected and must contain no more than 0.1% total virus. In fields in which this tolerance is exceeded, growers will be given the opportunity to rogue the field to bring it within the tolerance specified.
- (b) If upon re-inspection of fields which exceed the tolerance specified in 2.D.(6)(a) of this section the Inspector finds that the virus level still exceeds 0.1%, the lot will drop to the next appropriate field year.
- (c) Foliage of plants produced from Field Year 1 must be visually inspected and must contain no more than 0.25% total virus. In fields in which this tolerance is exceeded, growers will be given the opportunity to rogue the field to bring it within the tolerance specified.
- (d) If upon re-inspection of fields which exceed the tolerance specified in 2.D.(6)(c) of this section the Inspector finds that the virus level still exceeds 0.25%, the lot will drop to the next appropriate field year.
- (e) If Potato Spindle Tuber Viroid is found during the inspection of Nuclear Seed, all plants derived from the same mother plant, mother tuber or meristem shall be rejected from the Maine Seed Potato Certification Program.
- (f) Plants produced from Field Year 2, 3, and 4 must be inspected in the field during the growing season in the same manner and must meet the same standards as the Foundation Seed Class.

(6) Post-Harvest Testing of Field Year 1, 2 and 3 Seed on a Foundation Farming Operation

- (a) The Post-Harvest Testing requirement is waived for Field Year 1 Seed providing that such seed potatoes are not sold as seed during the year that this requirement is waived.
- (b) All lots of Field Year 2 and 3 Seed must be Post-Harvest tested. Field Year 1 may be tested upon request of the producing grower.
- (c) Sample sizes and disease tolerances for the Post-Harvest Testing of Field Year 1, 2 and 3 Seed are discussed in the Post-Harvest section of Production Requirements, 2.F.(2)(a) and 2.F.(6)(a) respectively.

(7) Storage and Sizing of Field Year 1, 2 and 3 Seed on a Foundation Farming Operation

- (a) Field Year 1, 2 and 3 Seed must be stored and handled in a seed potato storage facility where all potatoes have been inspected and found to be free from Bacterial Ring Rot during the growing season.

- (b) Field Year 1, 2, and 3 Seed of each variety must be stored separately and must be segregated from non-nuclear potatoes in storage.
- (c) When packed for shipment, Field Year 1, 2 and 3 Seed must meet the grade requirements for certified seed (C.M.R. Chapter 253 - Official Seed Potato Grade for Maine Certified Seed Potatoes), except the undersize tolerance is waived for Field Year 1 and 2 Seed. Growers who purchase Field Year 1, 2 and 3 Seed are encouraged to separate the seed sizes before planting for uniform emergence.
- (d) Any sanitary practices which the Inspector deems necessary during sizing or packing to avoid disease and contamination must be followed.

(8) Requirements Not Met

- (a) Nuclear Field Year 1, 2 and 3 Seed that is not produced in accordance with the requirements specified in this Chapter will not be eligible for propagation as Field Year 2 and 3 Seed. Seed potatoes produced in such instances and which pass the requirements for the Certified or Foundation Seed Class will be designated Field Year Seed 3, except that seed potatoes designated as Field Year 3 Seed at planting will be designated Field Year 4.

E. Field Inspection for Certified and Foundation Seed Classes

(1) Frequency of Inspection

- (a) Each field entered in the Maine Seed Potato Certification Program shall receive at least two field inspections by the Department, spaced approximately one month apart during the growing season.
- (b) One or more additional inspections by the Department for Bacterial Ring Rot will be made after the second inspection and before top kill.
- (c) One or more additional inspections by the Department for Bacterial Ring Rot may be made during harvest.

(2) Field Inspection for Foundation Seed Class

- (a) To be eligible for the Foundation Seed Class, seed potatoes must be inspected in the field during the growing season in the same manner as the Certified Seed Class and must meet the tolerances for the Certified Seed Class.
- (b) Maine does not designate the Foundation Seed Class based upon tolerances during field inspection but designates this class based upon disease levels observed in the Post-Harvest Test and other requirements set forth herein for the Foundation Seed Class.

(3) Tolerances for Certified Seed Class

- (a) Maximum tolerances allowed for the Certified Seed Class during field inspections are:

<u>Disease or Condition</u>	<u>First Inspection</u>	<u>Second Inspection</u>	<u>Third Inspection</u>
<u>Leafroll</u>	<u>2%</u>	<u>1%</u>	<u>N/A</u>
<u>Mosaic</u>	<u>3%</u>	<u>2%</u>	<u>N/A</u>
<u>Total Virus</u>	<u>3%</u>	<u>3%</u>	<u>N/A</u>
<u>Varietal Mixture</u>	<u>1%</u>	<u>0.25 %</u>	<u>N/A</u>
<u>Potato Spindle Tuber Viroid</u>	<u>Zero</u>	<u>Zero</u>	<u>N/A</u>
<u>Bacterial Ring Rot</u>	<u>Zero</u>	<u>Zero</u>	<u>N/A</u>
<u>Root Knot Nematode</u>	<u>Zero</u>	<u>Zero</u>	<u>N/A</u>
<u>Blackleg FY1</u>	<u>N/A</u>	<u>N/A</u>	<u>0.1%</u>
<u>FY2</u>	<u>N/A</u>	<u>N/A</u>	<u>0.2%</u>
<u>FY3</u>	<u>N/A</u>	<u>N/A</u>	<u>1.0%</u>
<u>FY4</u>	<u>N/A</u>	<u>N/A</u>	<u>2.0%</u>
<u>FY5</u>	<u>N/A</u>	<u>N/A</u>	<u>2.0%</u>

- (b) Any field which according to the Department's sampling methods, exceeds the maximum tolerances allowed for the Certified Seed Class during any field inspections will be rejected from the Maine Seed Potato Certification Program.

(4) Appeal of Inspections

- (a) Any grower of Certified Seed may appeal the decision of an Inspector by making such appeal in writing to the Seed Potato Certification Program, in the Department. Such appeal must be received within one week following the inspection and must state clearly the reason for the appeal and show cause why a re-inspection should be conducted. Roguing or sorting will not be permitted between the time of inspection and examination following appeal.
- (b) Upon receipt of the appeal notice, the Maine Seed Potato Certification Program will re-inspect the lot within three working days, providing the plants are healthy enough to be re-inspected, and will notify the grower of the results.

(5) Intentions to Vine Kill

- (a) Growers shall notify the Inspector at least two days prior to commencing vine kill.

(6) Inspection of Processing and Tablestock Fields

- (a) In order for seed potatoes produced on a farming operation on which some lots are not entered into the Maine Seed Potato Certification Program to be offered for sale in the state, either of the following must occur:
 - (i) all lots not entered for certification must be visually inspected by the Department and found free of Bacterial Ring Rot; or
 - (ii) any lot otherwise passing all the requirements of the Certified Seed Class must also have 400 randomly selected tubers per 40 acres of production tested by a USDA-APHIS approved laboratory and found free of the Bacterial Ring Rot pathogen according to the protocol in 6.A.(1)
 - (iii) The grower or his/her representative must contact his/her inspector to verify that a correct sample has been taken. The grower must submit the sample to the laboratory and he/she and the Department must directly receive the results of the laboratory evaluation. The cost of the testing will be borne by the grower or his/her representative.
- (b) These requirements are waived for seed that is produced for a grower's own use or that is sold out-of-state.
- (c) These requirements are also waived for the non-seed portion of a lot on a farming operation provided that a portion of the same lot is entered in the Maine Seed Potato Certification Program on that farming operation.
- (d) If the Bacterial Ring Rot pathogen is found during either of the options specified in 2.E.(6)(a) of this section, the requirements contained in 6.A.(2) and 6.A.(3) must also be met.

F. Post-Harvest Test Requirements

(1) Varieties, Classes and Field Years of Seed Potatoes to be Tested

- (a) The Post-Harvest Test is conducted as a visual evaluation of the appropriate number of plants specified in 2.F.(2) during a winter grow-out or laboratory testing. In the event that a Maine producer forgets to submit a sample for the winter grow-out, or if a Maine producer wishes to import a lot of seed potato from a state or country in which the Post-Harvest test is not required, the Commissioner may allow laboratory testing in place of the Post-Harvest grow-out upon written application. The number of tubers to be tested must comply with the requirements of this Chapter. The testing costs of a USDA-APHIS approved laboratory will be borne by the producer. The Post-Harvest Test will be conducted as a laboratory evaluation starting in 2016, only for FY1 and FY2 samples.

- (b) The Department shall establish a list of varieties or seedlings that do not consistently express visual symptoms of the diseases evaluated in the Post-Harvest Test, the Department shall require that laboratory testing be conducted to determine whether the Post-Harvest samples meet the tolerances specified in 2.F.6. Either a sample from each plant growing in the Post-Harvest Test, or sprouts from the sample size listed below in section 2 from each sample represented in the Post-Harvest Test, must be tested in a USDA-APHIS approved laboratory. The number of plants/sprouts to be tested for each sample may be reduced if statistical analysis determines that a smaller number is satisfactory to adequately assess the disease content of the sample. If additional tests required by the Department include laboratory tests, the cost of such testing will be borne by the producer.
- (c) All varieties, classes and field years of seed potatoes must be Post-Harvest Tested to be eligible for certification, except as specified below:
 - (i) The Post-Harvest Test requirement is waived for seed potatoes of any variety or seedling grown on an aggregate of no more than one acre by any grower, provided that such seed potatoes are not to be sold as seed potatoes during the year that the requirement is waived.
 - (ii) The Post-Harvest Test requirement is waived for Field Year 1 Seed providing that such seed potatoes are not sold as seed during the year that the requirement is waived.

(2) Size of Sample

- (a) **Foundation or Certified Field Year 1 and 2 Seed**
Samples representing Field Year 1 and 2 will be lab tested at the following rates: 200 tuber sample for 0-4.9 acres, 250 tuber sample for 5-39.9 acres, 250 tuber sample plus 10 tubers for each addition acre over 40 acres. The sample(s) must be representative of the field and/or stored seed potatoes tested.
- (b) **Foundation Seed Potatoes Field Year 3 through Field Year 5 Seed**
One 400 tuber sample is required for each 20 acres of Foundation Seed Class potatoes of each variety passing field inspection, except that one 200 tuber sample may be submitted on acreages between 0.5 and 1 acres and one 50 tuber sample may be submitted on acreages between 0.25 and 0.5 acres and one 20 tuber sample may be submitted on acreages less than 0.25 acres. The sample(s) must be representative of the field and/or stored seed potatoes to be tested.

- (c) **Certified Seed Potatoes Field Year 3 through Field Year 5 Seed**
One 400 tuber sample is required for each 40 acres of Certified Seed Class potatoes of each variety passing field inspection, except that one 200 tuber sample may be submitted on acreages between 0.5 and 1 acres and one 50 tuber sample may be submitted on acreages between 0.25 and 0.5 acres and one 20 tuber sample may be submitted on acreages less than 0.25 acres. The sample(s) must be representative of the field and/or stored seed potatoes to be tested.

(3) Size of Tubers

- (a) The size of the tubers for the Post-Harvest Test must be not less than 1 1/2" in diameter and should not exceed 2 1/8" in diameter.

(4) Representative Sample

- (a) The sample taken for the Post-Harvest Test must be representative of the field and/or stored seed potatoes to be tested.

(5) Emergence Requirement

- (a) Samples with less than 50% emergence will be so designated in the annual Post-Harvest Test booklet. Such samples shall be granted certification on the basis of the results of the summer field inspection.

(6) Disease Tolerances

(a) Foundation Seed Class

- (i) Seed potatoes from which samples show 1/2% or less total virus diseases Leafroll and Mosaic and no Potato Spindle Tuber Viroid and no Bacterial Ring Rot in the Post-Harvest Test will be designated as Foundation Seed Class providing they meet the other requirements of this class.
- (ii) The disease tolerances for Foundation Seed in the Post-Harvest Test are:

Disease	Tolerance
Leafroll	1/2%
Mosaic	1/2%
Total Virus	1/2%
Potato Spindle Tuber Viroid	No Tolerance
Bacterial Ring Rot	No Tolerance
Root Knot Nematode	No Tolerance

- (iii) Seed represented by the samples not meeting the tolerances listed in 2.F.(6)(a)(i) and (ii) above will be designated as Certified Class Seed providing it meets the tolerances and other requirements of this Class.

- (iv) See also the Additional Requirements for Foundation Seed Class, Section 5.

(b) **Certified Seed Class**

- (i) Seed potatoes from which samples show 5% or less total of the virus diseases Leafroll and Mosaic and no Potato Spindle Tuber Viroid in the Post-Harvest Test will be designated as Certified Seed Class providing they meet the other requirements of this class.

(7) Rejection from Maine Seed Potato Certification Program

- (a) Seed potatoes represented by a sample in the Post-Harvest Test not passing the tolerances for the Certified Seed Class defined in this section will be rejected from certification and cannot be sold as seed.
- (b) A grower may request that a USDA-APHIS approved laboratory test any lot found to exceed the tolerance for the Certified Seed class defined in this section.
 - (i) Any such request must be made in writing to the Commissioner within 5 business days of receipt of the grower's Post-Harvest Test results.
 - (ii) Leaves from the original samples must be tested for Potato Virus Y, A, and Leafroll, and the laboratory test results will be deemed to be final and official.
 - (iii) All laboratory-testing costs will be paid by the grower requesting the test.

(8) Averaging of Lots

- (a) If two or more Post-Harvest Test samples are collected from the same lot of seed potatoes, Post-Harvest Test results from these samples will automatically be averaged unless the grower can demonstrate that the seed potatoes represented by those samples have been segregated in storage.
- (b) Averaging of the Post-Harvest Test results of two or more samples which have been segregated in storage will be allowed at the discretion of the Inspector and under the following conditions:
 - (i) Lots of potatoes represented by Post-Harvest Test samples which have no more than a 0.5% difference in total virus readings require no blending to be averaged.

- (ii) Lots of potatoes represented by Post-Harvest Test samples with a total virus reading greater than a 0.5% difference must be blended in order to be averaged.
 - (iii) Lots of potatoes represented by Post-Harvest Test samples with a total virus reading greater than 1% may not be averaged to meet Foundation tolerance.
 - (iv) Lots of potatoes represented by Post-Harvest Test samples with a total virus reading greater than 5% may not be averaged to meet Certified tolerance.
- (c) If two or more lots are to be blended to meet Foundation tolerance, then amounts of each lot involved must be mixed proportionally, under the direction of the Seed Potato Inspector, to meet this tolerance.

(9) Shipments Prior to Post-Harvest Test

- (a) Seed potatoes shipped prior to the availability of results from the Post-Harvest Test will be certified based upon the tolerances allowed during the field inspections providing all other certification requirements are met.
 - (i) See also the Packing Requirements (4.A.(3)) for shipments made prior to the availability of Post-Harvest Test results.

G. Other Seed Potato Production Requirements

(1) Sprout Inhibitor

- (a) Any field or seed in storage treated or partially treated with any sprout inhibitor applied to the growing crop or seed while in storage, shall be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed potatoes.

(2) Other Diseases and Pests

- (a) Any disease or pest not covered by these rules that might adversely affect the Maine potato industry or Maine agriculture in the judgment of the Commissioner will be cause for potatoes to be rejected or withdrawn from certification, provided that action by the Commissioner shall become final after opportunity for a hearing is afforded the grower(s).

(3) Special Conditions

- (a) Any condition such as foliage diseases, excess weed, hail injury, foreign plants, chemical damage, insect damage or soil conditions that interfere with proper inspection may be cause for rejection from certification.

H. Waivers and Special Certifications

(1) General Waiver

- (a) The Commissioner may, upon application of one or more growers and for good cause, temporarily waive any of the requirements for the field year designation and/or Post-Harvest Testing, provided that seed potato quality in Maine is not thereby jeopardized.
- (b) Any such waiver may be granted only upon written application of the grower(s) involved, providing the following information:
 - (i) The specific request including the amount, variety, generation, Post-Harvest Test results, and other specific information.
 - (ii) Documentation must be provided by the person requesting the waiver of the quantity and availability of seed of the variety, both in-state and in other states and provinces.
 - (iii) The disease content of the available seed, both in-state and in other states and provinces.
 - (iv) The economic impact on the industry through loss of contracts, established markets, and other relevant information if the waiver is not granted.
 - (v) Possible impacts of the waiver on the seed industry.
- (c) If the Commissioner grants such waiver, the grower(s) shall comply with the terms and conditions required by the Commissioner.
- (d) The Commissioner shall give public notice in a newspaper of general circulation in the area where the potatoes are to be grown and in such other publications or forms as he finds appropriate of all requests for waivers under this section and shall provide a minimum of five days for interested persons to comment. Any person making request to receive copies of all such notices shall be provided with them.
- (e) Prior to granting any waiver the Commissioner must review all waiver requests with the Maine Potato Board's Seed Executive Council. The Commissioner must provide all the information on each waiver to the Council prior to the review. The Seed Council shall make recommendations to the Commissioner if the waiver should be granted and any conditions that should be applied to the waiver. If the Commissioner's decision on waivers is different than the recommendation of the Seed Council the Commissioner will provide the Seed Council with an explanation as to why the recommendations were not followed.

(2) Certification of Grower Seed Plot

- (a) Growers may seek certification for seed potatoes grown by them exclusively for their own use and not for sale. Such certification may be allowed regardless of the field year, provided all other requirements are met for certification.
- (b) In order to qualify for “Grower’s Own Seed” lot, a grower must produce tablestock and/or processing potatoes in the farming operation.
- (c) The seed produced from the seed plots will be designated as “Grower’s Own” providing it meets the requirements of the Certified Seed Class.
- (d) The seed plot used to produce “Grower’s Own” must be entered into the Maine Seed Potato Certification Program and pass all of the requirements for the Certified Seed Class.
- (e) Seed potatoes classified as “Grower’s Own” cannot be sold as seed.
- (f) Seed lots not meeting all requirements of this section will not qualify for the “Grower’s Own” designation.
- (g) All potatoes used as seed on any farm in Maine must qualify as “Grower’s Own” under this section or otherwise be certified or authorized under this Chapter. Potatoes not so certified or authorized do not meet the minimum standards for planting under 7 M.R.S.A. §951-A.

(3) Certification of Experimental Varieties and Seedlings

- (a) The Commissioner may allow certification as experimental of new varieties or seedlings which are produced or imported by Maine growers for the purpose of testing their adaptability for commercial use in the state and which are not available from an authorized Nuclear Seed Origination Source and not currently commercially produced in the state.
- (b) Varieties or seedlings shall be deemed to be commercially produced when a total of one hundred acres or more have been certified in the State in the current or in any previous year.
- (c) Any person seeking such certification shall apply to the Commissioner in writing and shall provide such information and comply with the terms and conditions as the Commissioner may require, including meeting all pertinent requirements of the Maine Seed Potato Certification Program.
- (d) Varieties or seedlings accepted for certification as Experimental will be designated Experimental in the Maine Seed Potato Certification Program.
- (e) Production from a Research and/or Experimental facility cannot be sold as seed. Seed produced on these facilities can be used for evaluation and commercial trials if part of a breeding or program but, not entered for recertification. Each facility that ships seed for evaluation and or

commercial trials must file a report to the Commissioner by July 1st of each year on the volume, variety and location of all shipments of seed.

3. STORAGE REQUIREMENTS

A. Storage Sanitation

(1) Disinfection and Disease Control

- (a) Bins, handling equipment and all the immediate surroundings in which Certified or Foundation Seed Classes are to be stored or handled shall be cleaned and disinfected before the potatoes are brought into storage or are handled.
- (b) No class of certified seed can be stored in a storage with potato lots known to be infected with the Bacterial Ring Rot disease or pathogen. Any seed potatoes placed in a storage with potato lots known to be infected with the Bacterial Ring Rot disease or pathogen will immediately lose their certification status.

B. Records and Bin Identification

(1) Required Procedures

- (a) Accurate records of amounts of certified seed potatoes harvested must be kept by the grower.
- (b) Seed potatoes of different field years, classes or varieties must be kept in separate storage bins.
- (c) Bins containing seed potatoes shall be separated from each other and easily identified to enable Inspectors to locate all certified seed potatoes stored in bins and to post bin cards.
- (d) Bin cards identifying the seed potatoes must be completed and posted by the Seed Potato Inspector upon examining the seed potatoes in the storage bins.
- (e) Bin cards must show the amount of seed potatoes stored in each bin, field certification number, and the Post-Harvest Test sample number which represents the potatoes in the storage bin.

C. Sprout Inhibitors on Tablestock/Processing Potatoes in Storages Containing Seed Potatoes

(1) Sprout Inhibitors Applied as a Gas

- (a) All seed potatoes in a storage treated with any gaseous applied sprout inhibitor will be rejected from the Maine Seed Potato Certification Program.

(2) Sprout Inhibitors Applied as a Liquid

- (a) Sprout inhibitors may be applied as a liquid to tablestock/processing potatoes in the same storage as seed potatoes providing the application is approved by an Inspector and is in accordance with this section.
- (b) Liquid sprout inhibitors applied at time of shipment must be applied at a rate not to exceed the rate that is recommended by the manufacturer.
- (c) Liquid sprout inhibitors may be applied on the packing line by a contact applicator.
- (d) Liquid sprout inhibitors may be applied on the packing line as a spray providing the spray is hooded and exhausted, and further providing this spray is applied in an area and in a manner such that stored seed potatoes cannot be contaminated.
- (e) All seed potatoes in a storage where sprout inhibitor has not been applied according to the specifications described in this section will be rejected from the Maine Seed Potato Certification Program.

4. PACKING REQUIREMENTS**A. Tolerances and Tagging****(1) Grade of Seed Potatoes**

- (a) All Certified or Foundation Seed Class seed potatoes must be packed to meet the official seed potato grade as defined in C.M.R. 01-001, Chapter 253 - Official Seed Potato Grade for Maine Certified Seed Potatoes.
- (b) All seed potatoes not meeting the Maine Seed Potato Grade will not be issued a Shipping Inspection Tag and cannot be sold as seed.

(2) Size of Seed Potatoes

- (a) Sizes and identification of seed potatoes in the Certified Seed Class shall be as follows:

Size	Identification on Tag
1" - 3 1/4"	Blue tag + Grade + Size + Field Year (if requested) + Variety Name + the word "Certified"
B 1 1/2" - 2"	Green tag + Grade + Size + Field Year (if requested) + Variety Name + the word "Certified"

- (b) Sizes and identification of seed potatoes in the Foundation Seed Class shall be as follows:

Size	Identification on Tag
1" - 3 1/4"	Gold tag* + Grade + Size + Field Year (if requested) + Grower Name + Variety Name + the word "Foundation"
B 1 1/2" - 2"	Green tag + Grade + Size + Field Year (if requested) + Grower Name + Variety Name + the word "Foundation"

- (c) There are no restrictions on size and shape requirements for fingerling seed potatoes.

***Note: Growers may request blue tags from the Inspector in place of gold tags.**

(3) Shipments Prior to Post-Harvest Test

- (a) Seed potatoes shipped prior to the availability of results from the Post-Harvest Test will be certified based upon the tolerances allowed during the field inspections providing all other certification requirements are met.
- (b) Shipments of certified seed potatoes prior to availability of Post-Harvest Test results must be inspected by an Inspector.
- (c) The shipment shall be tagged by an Inspector with a blue shipping tag stating the grade, field year (if requested), size, variety, grower name of the shipper and the word "Certified", except that the words "Field Foundation" may be used if the maximum disease tolerances established for the Foundation Seed Class in the Post-Harvest Test are not exceeded during field inspection and all other requirements of the Foundation Seed Class are met.

(4) Special Permits

- (a) Special permits to ship Maine Certified and/or Foundation Class seed potatoes not conforming to the packing requirements in this section may be granted by the Department upon oral or written application by the shipper, stating the justification for the request, variety, grade, field year, approximate quantity to be shipped, receiver, and time and destination of the proposed shipment.
- (b) The Department shall verify that the receiver has been notified of the cause of the special permit and has agreed to accept the seed potatoes as shipped.
- (c) Any shipments made under such a permit must be inspected by an Inspector and identified and tagged as seed as prescribed by the Department.

- (d) Any shipments made under such a permit must meet the requirements in the Maine Seed Potato Grade for foreign material, decay, freezing or soft breakdown (see also C.M.R. 01-001, Chapter 253, Official Seed Potato Grade for Maine Certified Seed Potatoes).
- (e) Any shipment made under such a permit must in all respects other than as authorized under the terms of the special permit, meet all other requirements of the Maine Seed Potato Certification Program.
- (f) Special permit shipments shall be tagged with a red shipping tag stating grower name, grade, size and variety. Bulk Certificates will be marked "Special Permit" and shall detail the reason.
- (g) The shipper receiving such a special permit shall comply with such terms and conditions as the Department deems appropriate in issuing the special permit.

(5) Bulk Shipments

- (a) Bulk shipment of Certified and Foundation Class seed potatoes is permitted, provided such shipments are identified by a bulk certificate issued by a Seed Potato Inspector.
- (b) The Bulk Certificate must state the variety, size, grade, certification number and field year of potatoes in the load.
- (c) The Bulk Certificate must be attached to and may be used to identify the lot only as long as it is in the original conveyance as identified on the certificate.

(6) Other Requirements

- (a) Other requirements for packing seed potatoes are specified in C.M.R. 01-001, Chapter 253 - Official Seed Potato Grade for Maine Certified Seed Potatoes.

B. Records and Facility Requirements

(1) Required Procedures

- (a) Any person, firm or corporation engaged in grading, sizing or packing Maine certified seed potatoes which have been bought or otherwise obtained from others for proposed sale shall be considered a seed packer.
- (b) Any seed packer must notify the area Seed Potato Inspector for prior approval before receiving any seed potatoes.
- (c) Approval will be granted only to those seed packers who demonstrate compliance with the following rules, which shall be adhered to at all times during packing operations:

- (i) Either separate grading and handling equipment shall be used for seed or grading and handling equipment must be thoroughly washed and disinfected and meet the approval of the Inspector before handling seed.
 - (ii) Complete and accurate records must be kept showing the grower, variety and amount of potatoes received by each seed packer.
 - (iii) Seed potato records shall be kept and made available to an Inspector or other representative of the Department upon request.
 - (iv) If certified seed potatoes from different growers are mixed in a packing operation, the certification tag will be stamped with the seed packer's name or the name of the packing operation.
 - (v) If large lots from individual growers are handled and kept separate, the grower's shipping tag may be used.
- (d) Sanitary and handling procedures, including cleaning and disinfecting of equipment and the shipping and handling methods used to insure against varietal mixture and other contamination, must be provided by the packer and approved by the Seed Potato Inspector.
 - (e) Whenever a Seed Potato Inspector determines that any seed packer is not complying with the rules stated above, the seed potatoes will be rejected from the Maine Seed Potato Certification Program.

C. Truck Sanitation

(1) Sanitation Requirement

- (a) All trailer trucks into which Certified or Foundation Class Seed is to be loaded must be cleaned and disinfected before loading.
- (b) If an Inspector observes Certified or Foundation Class Seed being packed into a trailer truck which is not cleaned and disinfected thoroughly, the Inspector will not issue tags or bulk certificates for that load.

5. ADDITIONAL REQUIREMENTS FOR FOUNDATION SEED CLASS

A. Total Farm Entered

(1) Entry Requirements and Procedures if Fields are Rejected

- (a) All potato fields planted on a farm or farming operation using the same production equipment must be entered into the Maine Seed Potato Certification Program in order for any seed potatoes produced on such farm or operation to be eligible for the Foundation Seed Class.

- (b) Fields rejected during first or second field inspections must be inspected by the Department before harvest and found free from Bacterial Ring Rot in order to allow any of the remaining fields on the same farm or farming operation using the same production equipment to be eligible for Foundation Seed Class.

B. Bacterial Ring Rot

(1) Penalties if the Bacterial Ring Rot Pathogen is Found on a Foundation Class Farming Operation

- (a) All seed potatoes produced on a farm or farming operation using the same production equipment are ineligible as Foundation Seed Class if the Bacterial Ring Rot pathogen is confirmed in any field or laboratory sample submitted from the farm or farming operation.
- (b) Crop handling equipment may be used in more than one farming operation, provided that the machinery is thoroughly washed and disinfected between farming operations under the direction of a Seed Potato Inspector.
- (c) If the Bacterial Ring Rot pathogen is confirmed in a production unit involved in a separate farming operation, all seed potatoes produced in the other production unit(s) are ineligible as Foundation Seed Class.

C. Spindle Tuber

(1) Penalties if Spindle Tuber is Found on a Foundation Class Farming Operation

- (a) Any seed potato lot in which Potato Spindle Tuber Viroid has been detected cannot be sold as seed.
- (b) Any seed potato lot represented by a Post-Harvest Test sample in which Potato Spindle Tuber Viroid has been detected cannot be sold as seed.

D. Freedom from Volunteers

- (1)** Fields planted with Field Year 1, 2 and 3 Seed must be free of volunteer plants to be eligible for Foundation Seed Class.

E. Storage Requirements

- (1)** Foundation Seed Class potatoes must be stored and handled in a seed potato storage facility where all potatoes have been inspected and found free from Bacterial Ring Rot during the growing season

F. Packing and Shipping Requirements

- (1)** Any sanitary practices which the Inspector deems necessary during sizing or packing to avoid disease and contamination must be followed.

G. Recommended Production Practices**(1) Blank Row Recommendation**

- (a) All plots planted with different varieties of Field Year 1, 2 or 3 Seed should be separated from other potatoes and from each other by at least one blank row.

(2) Production Recommendations

- (a) All acreage planted with Nuclear and Field Year 1, 2 or 3 Seed should be planted and harvested before other potato fields.
- (b) Tuber-Unit Planting is recommended when planting Nuclear or Field Year 1 Seed to insure that roguing can be completed effectively.
- (c) All cultural operations and spraying should be completed in plots planted with Nuclear or Field Year 1, 2 or 3 Seed before working in other fields to minimize spread of latent Mosaic.
- (d) Weeds, diseases and insects should be controlled using approved herbicides, fungicides and insecticides as recommended by the manufacturer as well as using them safely, effectively and timely.
- (e) The grower must notify his/her inspector when herbicides or insecticides are applied to his/her seed potatoes.

6. DISEASES**A. Bacterial Ring Rot****(1) Testing Requirements for the Bacterial Ring Rot Pathogen**

- (a) Potato plants and/or tubers must be submitted to the Department's USDA-APHIS approved laboratory for testing:
 - (i) if suspected by the Inspector as being infected with the Bacterial Ring Rot pathogen;
 - (ii) if required to meet the phytosanitary regulations of other countries; or
 - (iii) if otherwise required to meet the provisions of this Chapter.
- (b) The requirements of this Chapter also apply to seed potato samples voluntarily submitted for testing in the Department's USDA-APHIS approved laboratory.
- (c) The Department's USDA-APHIS approved laboratory will test all samples submitted for Bacterial Ring Rot testing, except as provided in 6.A.(1)j.

- (d) The grower or his representative shall be notified by the Inspector, if possible, prior to removal of a suspect plant and/or tuber from the grower's property.
- (e) In the event that a suspect plant or plant part is observed on a grower's property, no certification will be issued until the required laboratory test results indicate the sample is apparently free from the Bacterial Ring Rot pathogen.
- (f) The following laboratory tests are acceptable for use when testing samples for the Bacterial Ring Rot pathogen: Enzyme Linked Immunosorbant Assay, Latex Agglutination, Gram Stain, Immunofluorescent Antibody Staining, Polymerase Chain Reaction.
- (g) Plants and/or tubers which exhibit visual symptoms of the Bacterial Ring Rot pathogen will be declared positive upon confirmation of two laboratory tests, at least one of which is serological (examples: Enzyme Linked Immunosorbant Assay, Latex Agglutination, Immunofluorescent Antibody Staining).
- (h) All potato tuber samples submitted for laboratory testing to meet phytosanitary requirements of other countries or to meet the requirements of this Chapter must be collected in the presence and under the supervision of a Seed Potato Inspector or other Department official. All other samples will not be considered to be official and will not be eligible to meet the phytosanitary requirements of other countries or to meet the requirements of this Chapter.
- (i) The Department's USDA-APHIS approved laboratory will utilize the following protocol to determine the presence of the Bacterial Ring Rot pathogen, in the event that plants and/or tubers which do not exhibit visible symptoms of this pathogen, test positive through the use of any of the laboratory tests specified in 6.A.(1)(f).:
 - (i) The grower or his/her representatives will be notified by the Department that the seed lot in question cannot be sold as seed or entered into the Maine Seed Potato Certification Program until additional confirmatory tests are completed.
 - (ii) The Department's USDA-APHIS approved laboratory will test the sample using at least two additional laboratory tests from the list noted in 6.A.(1)(f). These tests must be different from the initial test conducted in 6.A.(1)(i).
 - (iii) If both of these tests are negative for the Bacterial Ring Rot pathogen, the lot is allowed to remain in the Maine Seed Potato Certification Program.
 - (iv) If one or more of these tests are positive for the Bacterial Ring Rot pathogen, the lot remains on hold and a pathogenicity test,

using as indicator plants 25 eggplant and/or potato plantlets, must be carried out.

- (v) If none of the indicator plants in (4) exhibit visible symptoms of the Bacterial Ring Rot pathogen, the lot is allowed to remain in the Maine Seed Potato Certification Program. The results of the laboratory and pathogenicity tests must be placed on any documents relating to the lot which are requested by Maine growers or government certification officials.
 - (vi) If one or more of the indicator plants in (4) exhibit visible symptoms of the Bacterial Ring Rot pathogen, the lot will be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed.
- (j) The grower or his/her representative may request that a seed lot submitted for testing for the Bacterial Ring Rot pathogen to meet the phytosanitary regulations of other countries be tested in a laboratory other than the Department's USDA-APHIS approved laboratory. Such other laboratory must follow the Bacterial Ring Rot testing protocol established in this section. The grower must submit the sample to the laboratory, at his/her expense, and he/she and the Department must directly receive the results of the laboratory evaluation.
- (i) In the event that the laboratory results are positive for the Bacterial Ring Rot pathogen, the lot will be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed. Additionally, the requirements contained in 6.A.(2) and 6.A.(3) of this Chapter must be met.
 - (ii) In the event that the laboratory results are negative for the Bacterial Ring Rot pathogen, and the Department has reason to believe that the seed lot is infected with this pathogen, the Department may have the seed lot tested, according to the protocol established in this Section, to ensure its freedom from the Bacterial Ring Rot pathogen. In the event that a USDA-APHIS approved laboratory results are positive for the Bacterial Ring Rot pathogen, the lot will be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed. Additionally, the requirements contained in 6.A.(2) and 6.A.(3) of this Chapter must be met.
- (k) The grower or his/her representative and the Department shall be notified of the results of the laboratory tests within a reasonable time after they become available.

- (l) Final notification of the Department's decision will be sent to the grower or his/her representative in writing. A final decision by the Department to deny certification will be accompanied by a statement of the appeal rights of the grower.
- (m) All testing costs will be borne by the grower or his/her representative.

(2) Requirements when the Bacterial Ring Rot Disease or Pathogen is Found

- (a) The lot in which the Bacterial Ring Rot disease or pathogen is found in accordance with these regulations shall be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed.
- (b) All other seed potato lots that otherwise pass the requirements of the Maine Seed Potato Certification Program, that were produced on a farming operation on which the Bacterial Ring Rot disease or pathogen has been found in accordance with these regulations:
 - (i) will automatically be designated as Certified Class seed;
 - (ii) will have a # symbol printed after each such lot in the Seed Potato Certification Program Seed Directory;
 - (iii) cannot be sold as seed or be planted as seed subject to the following exceptions:
 1. Lots which are tested according to the protocol established in 6.A.(1) of this Chapter at a level of 400 tubers per each 40 acres of production and found free of the Bacterial Ring Rot pathogen can be sold or planted by the grower as seed but cannot be entered in the Maine Seed Potato Certification Program.
 2. Lots which are tested according to the protocol established in 6.A.(1) of this Chapter at a level of 400 tubers for each 15 acres of production and found free of the Bacterial Ring Rot pathogen can be entered into the Maine Seed Potato Certification Program. The progeny of such lots must also be tested according to the protocol established in 6.A.(1) of this Chapter and found free of the Bacterial Ring Rot pathogen prior to sale or use by the grower as seed. Testing must be conducted at a level of 400 tubers per 15 acres of production if the progeny of such lots is to be sold as Foundation Class Seed, or 400 tubers per 40 acres of production if the progeny is to be sold as Certified Class Seed.
 - (iv) will drop to Field Year 4 if designated lower than Field Year 4, if such lots are sold as seed the year that the Bacterial Ring Rot pathogen is found.

- (a) Fields from which potatoes infected with the Bacterial Ring Rot pathogen were harvested cannot be used to produce Certified or Foundation Class seed for one year following discovery of the pathogen.
- (d) Crop handling equipment may be used in separate farming operations, provided that the machinery is thoroughly washed, and completely disinfected under the direction of a Seed Potato Inspector, between farming operations.
- (e) If the Bacterial Ring Rot disease or pathogen is found in a production unit involved in a separate farming operation, all seed potatoes produced in the other production unit(s) are ineligible as Foundation Seed Class.

(3) Additional Requirements If the Bacterial Ring Rot Disease or Pathogen is Found During Packing and Handling

- (a) If Bacterial Ring Rot is found in seed potatoes of the Certified or Foundation Seed Class during a packing operation, certification of potatoes from the same bin, and potatoes grown from the same seed source in other bins, will be rejected from the Maine Seed Potato Certification Program and cannot be sold as seed.
- (b) If Bacterial Ring Rot is found in seed potatoes during the packing operation, certification of all other potatoes stored on the farm or any operation using the same equipment will be rejected from the Foundation Seed Class and re-designated into the Certified Seed Class.
- (c) Packing of seed potatoes of the Certified Seed Class from remaining bins in the storage or packing house in which Bacterial Ring Rot has been found will not be permitted until the affected seed lot is segregated or “binned up” so as to be inaccessible when seed potatoes from other bins are being graded, stored or packed.
- (d) After Bacterial Ring Rot has been found, Shipping Inspection Tags will not be issued until the entire storage or packing house work area and potato grading and handling equipment has been cleaned and disinfected by the shipper and meets the approval of the Seed Potato Inspector.
- (e) All seed potatoes in the storage or packing house in which Bacterial Ring Rot has been found must be inspected for grade by a Seed Potato Inspector prior to shipment.

B. Potato Spindle Tuber Viroid

(1) Potato Spindle Tuber Viroid Identification

- (a) Potato plants and/or tubers which are entered into the Maine Seed Potato Certification Program and which the Inspector suspects of being infected with Potato Spindle Tuber Viroid shall be submitted to the Department’s USDA-APHIS approved laboratory for testing.

- (b) The grower or his/her representative shall be notified by the Inspector, if possible, prior to removal of the suspect plant and/or tuber from the grower's property.
- (c) The samples shall be analyzed by generally accepted laboratory procedures for the detection of Potato Spindle Tuber Viroid.
- (d) The grower or his/her representative and the Department shall be notified of the results of the laboratory test as they become available.

(2) Discovery During Field Inspection or Post-Harvest Test

- (a) Seed potatoes in which Potato Spindle Tuber Viroid has been detected during field inspection or Post-Harvest Test cannot be sold as seed.

C. Symptomless Disease Carriers

(1) Designation

- (a) The Commissioner may, with input from the industry, designate, based upon experimental evidence, a list of potato varieties or seedlings which do not consistently express visual symptoms of diseases regulated by the Maine Seed Potato Certification Program.

(2) Disease Testing Requirement

- (a) The Commissioner may require that samples of any of these varieties be laboratory tested if there is reason to suspect that such variety (ies) contains disease levels exceeding the tolerances specified in this Chapter. The appropriate plant or plant parts will be tested by the Department's USDA-APHIS approved laboratory to determine the level of disease(s) in the seed lot.
- (b) The number of samples to be taken will be statistically determined to adequately assess the disease content of the seed lot.
- (c) Samples for laboratory testing may be collected during field inspection or in the Post-Harvest Test.

(3) Penalty if Disease Tolerances are Exceeded

- (a) If the appropriate disease tolerances cited in this Chapter are exceeded during laboratory testing, then the seed lot shall be rejected from the Maine Seed Potato Certification Program.

D. Other Regulated Diseases

(1) Potato Mop Top Virus and Tobacco Rattle Virus

- (a) Potato Mop Top Virus and Tobacco Rattle Virus will be regulated according to the *Canada/US – Management Plan for Potato Viruses that*

Cause Tuber Necrosis, dated October 25, 2004, adopted by the United States Department of Agriculture's Animal and Plant Health Inspection Service and the Canadian Food Inspection Agency. This plan is incorporated in these rules by reference.

E. Suggested Grower Practices for Disease Control

(1) Equipment and Storage Disinfection

- (a) All equipment and storages should be cleaned and disinfected in accordance with appropriate industry standards each year prior to use.
- (b) Disinfectants should be available at all seed storages and no one should be allowed entry into the storage without first disinfecting their footwear.
- (c) Equipment from seed farms which is used on other farming operations should be thoroughly cleaned and disinfected prior to being used on the seed farm.

(2) If Bacterial Ring Rot is Discovered

- (a) Any field of potatoes in which Bacterial Ring Rot was found should be treated with a sprout inhibitor providing the treatment can be applied at the proper stage of growth to effectively control sprouting.
- (b) Any field in which Bacterial Ring Rot was found should not be planted to potatoes for the next two consecutive years and should be treated with a sprout inhibitor or effective herbicide the year following detection of Bacterial Ring Rot to control volunteers.
- (c) For the next two years after the detection of Bacterial Ring Rot the farming operation should:
 - (i) thoroughly clean and disinfect, under the supervision of a Seed Potato Inspector, all machinery, storages and equipment used in the production of seed potatoes.
 - (ii) dispose of all seed potatoes produced on that farming operation and acquire and plant new lots of seed of the Foundation Seed Class.
 - (iii) laboratory test 400 tubers of each variety, field year and source of seed produced on the farming operation before such seed can be sold. The cost of this test will be charged to the grower.

7. REJECTION FROM MAINE SEED POTATO CERTIFICATION PROGRAM

A. Reasons and Effects

(1) Reasons

- (a) Except as otherwise provided herein, potatoes that do not meet all of the requirements of this Chapter shall fail certification and be rejected from the Maine Seed Potato Certification Program.

(2) Effects

- (a) Potatoes failing certification and therefore rejected from the Maine Seed Potato Certification Program cannot be sold as seed. Further, seed potatoes, except as otherwise specifically authorized by this Chapter, cannot be used as seed.
- (b) Except as otherwise provided in this Chapter, future field years of any seed potatoes which fail certification requirements, or are not properly certified or certifiable, are ineligible for certification.

8. FEE SCHEDULE

A. Field Inspection

(1) Fee

- (a) The fee for field inspections is established in conjunction with the Maine Potato Board's Seed Executive Council.
- (b) Full payment of the entry fee for the Seed Potato Certification program is required with the application form.
- (c) A refund of the appropriate entry fee for acreage withdrawn prior to field sampling will be made by November 1.

(2) Services Provided

- (a) Two field inspections during the growing season timed approximately one month apart.
- (b) One or more field inspections for Bacterial Ring Rot after second inspection and before completion of harvest.
- (c) One or more field inspections for Bacterial Ring Rot may be made during harvest.
- (d) One or more field inspections for Bacterial Ring Rot only on fields not otherwise entered for certification or on fields rejected because of virus if requested by the grower.

B. Post-Harvest Testing**(1) Fee**

- (a) The fee for Post-Harvest Testing seed samples is established in conjunction with the Maine Potato Board's Seed Executive Council.
- (b) The fee schedule will be found on the application form and cover letter.

C. Shipping Inspections**(1) Fee**

- (b) The fee for inspection of seed potatoes during the shipping season is established in conjunction with the Maine Potato Board's Seed Executive Council.
- (c) The State of Maine shipping tag shall not be replicated in any shape, working or color.

(2) Services Provided

- (a) Inspection of facilities to insure compliance with the rules governing the Maine Seed Potato Certification Program.
- (b) Inspection of seed potatoes during packing and shipping.
- (c) Issuing of the proper Shipping Inspection Tags to identify the potatoes' grade, size, class, grower's name, field years (on bulk certificates) and variety name and assure compliance of the rules governing the Maine Seed Potato Certification Program.

D. Timely Payment

- (1) Payment of fees for services provided is due within thirty (30) days of receipt of the services.
- (2) If payment is not received within thirty (30) days, the Department reserves the right to withhold further service until the delinquent account is paid. The Department also reserves the right to require advance cash payment for subsequent service to producers who maintain delinquent accounts.
- (3) A late charge of ten (10) percent, plus interest of eight (8) percent per annum will be assessed on accounts that are more than thirty (30) days overdue.

APPENDIX I. Laboratory procedures at an authorized Nuclear Seed Origination Source involved in producing Nuclear Seed¹

In the Laboratory & Greenhouse

1. Disease Testing Tubers
 - a. Sprout tubers & remove apical tip
 - b. Plant remainder in greenhouse
 - c. Disease Test² and discard
 - d. Transfer tip to test tube culture medium and grow plantlet
 - e. Section plantlets into separate nodes,
 - f. Disease Test² one node
2. Produce plantlets
3. Transplant plantlets to greenhouse.
4. Harden plants off and Disease Test²
5. Grow to produce minitubers

Planted in soil (First Year) (See Section 2.B.)

1. Plant minitubers in field (Disease Test²)
2. Transplant plantlets into field (Disease Test²)

¹ Other methods of Pre-nuclear Seed production are acceptable. (See II.C.2.)

² Laboratory test means testing for the Bacterial Ring Rot, Blackleg, PLRV, PVA, PVS, PVX, PVY, PVY-N, Potato Mop Top Virus, and PSTV pathogens.

STATUTORY AUTHORITY: 7 M.R.S.A. Chapter 401, §§ 2101-2105; 7 M.R.S.A. Chapter 1 §12; and
7 M.R.S.A. Chapter 411, §2352

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CORRECTIONS:

February, 2014 – agency names, formatting