

IDAHO CROP IMPROVEMENT ASSOCIATION, INC.
POLICIES AND PROCEDURES OF CERTIFICATION
for
SEED POTATOES IN IDAHO

PART I - GENERAL INFORMATION (rev 3/2018)

- I. Definition of terms used in the Idaho Policies and Procedures of Certification for Seed Potatoes
 - A. General
 - 1. Certification
The attaching of the official Idaho certification tag to a sack or bulk container of seed potatoes certifies the potatoes have met the Idaho Policies and Procedures of Certification for Seed Potatoes. Certification is not complete until all requirements have been fulfilled and the certification tag is attached.
 - 2. Certified Seed
Potatoes that have met the Idaho Policies and Procedures of Certification for Seed Potatoes and have been inspected and certified for grade by the Idaho Federal-State Inspection Service and found to meet the grade requirements for certified seed at the time of inspection.
 - 3. General Seed Certification Policies and Procedures
The set of Idaho Policies and Procedures of Certification common to all seed crops grown in Idaho.
 - 4. Idaho Crop Improvement Association, Inc. (ICIA)
A grower association of certified seed producers and conditioners. In 1959, the Regents of the University of Idaho appointed the Idaho Crop Improvement Association, Inc. as its duly authorized agent to administer and conduct seed certification in Idaho.
 - 5. Idaho Federal-State Inspection Service
The representative of the Idaho Department of Agriculture which ICIA authorizes, by memorandum of understanding, to conduct shipping point inspections and tagging of seed potatoes eligible for certification.
 - 6. Inspector
An employee of Idaho Crop Improvement Association, Inc. or the Federal-State Inspection Service who is hired and trained to conduct various inspections or other evaluations of seed lots entered for certification.
 - 7. Recertification
The process of certifying a seed lot that was certified the previous year.

8. Seed Potato Inspection Policies and Procedure Handbook
An Idaho Crop Improvement Association, Inc. procedural handbook used by ICIA inspectors during the inspections of seed potatoes entered for certification.

B. Seed Potatoes

1. Clonal Line Selection
An improved variety developed by a grower through a series of plant (hill) selections, growouts and reselections based on plant and/or tuber characteristics. A tuber from each hill selection is laboratory tested for viral and bacterial pathogens. Only hill selections that test negative in laboratory tests are allowed to be replanted as hill units in a Nuclear class selection plot.
2. Eligibility
The term used to identify the acceptability of a particular seed lot to continue in the certification process because it meets all the requirements of the Idaho Policies and Procedures of Certification for Seed Potatoes relative to entry into the certification program.
3. Farming Operation
A seed potato enterprise that includes all land, equipment, storage facilities and labor that are utilized in a common effort to produce certified seed potatoes.
4. Generation
A classification scheme of seed potatoes based on the number of field production years completed. Idaho has a scheme based on a maximum of seven (7) field production years. Seed from each production year carries a different designation, i.e., Nuclear, Generation 1, Generation 2, Generation 3, Generation 4, Generation 5 or Generation 6. The terms "earlier" or "later" generation are comparative terms used to relate the number of years a particular seed lot has been in field production since its pre-nuclear origination.
5. Limited-Generation Seed
Seed potatoes grown for a specific maximum number of field production years. In Idaho, the Limited-Generation Program provides for seven (7) field production years. Seed stocks in this program originate from a pathogen-tested source. Limited-Generation seed carries the designation of Nuclear or Generation 1 through Generation 6.

6. **Nonlimited-Generation Seed**
Seed potatoes grown without restriction to the number of field production years. In Idaho, these are usually numbered selections from breeding programs being grown on an experimental basis. Nonlimited-generation seed may also be an experimental line of an established cultivar that differs significantly from the main cultivar. Nonlimited-generation seed carries the designation of Experimental (EXP).
7. **Seed**
The vegetatively propagated tubers used for potato production rather than true botanical seed sexually produced from potato flowers.
8. **Seed Farm**
A field or group of fields entered for certification on a single application. A farming operation may enter seed potatoes for certification from more than one seed farm.
9. **Seed Lot**
A field or a group of fields producing seed potatoes or the potatoes (tubers) harvested from a seed potato field, identified with a certification number and a North American Plant Health Certificate, enabling identity preservation and tracking.
10. **Contact Lot**
A seed lot produced on a farming operation using common production and handling equipment and/or storage facilities.
11. **Sister Lot**
All seed lots originating from the same lot of seed stock.
12. **Seed Stock**
Seed potatoes intended for use as a planting source for certification that are identity preserved with a certification number and a North American Plant Health Certificate.
13. **Field.** A parcel of land that has the boundaries of the parcel identified by the owner or operator of the land. A field may be designated by a map, GPS, or other method so that the boundaries are clearly defined.

C. Certification

1. **Applicant**
The grower, growers or entity that enters seed potatoes for certification.
2. **Application**
The form an applicant for certification completes and submits to ICIA. The applicant identifies all seed stocks to be entered for certification and provides ICIA with specific information about the seed stocks used in planting. Maps are required to specify directions for locating all lots listed on the application. Payment for the services is also to be included at time of application.
3. **Certification Factor**
Any organism, condition or process that is regulated by the Idaho Policies and Procedures of Certification for Seed Potatoes.
4. **Certification Process**
The series of five (5) inspections to which seed lots are subjected and which must be passed in order to be certified are as follows:
 - a. two (2) summer field inspections
 - b. a storage inspection
 - c. a post harvest test
 - d. a shipping point inspection.Seed lots, or portions thereof, which are shipped prior to post harvest testing will be certified based on the two (2) summer field inspections and a shipping point inspection.
5. **Disqualification**
Removal of eligibility for certification status from seed potatoes entered for certification due to not meeting all the specific requirements of the Idaho Policies and Procedures of Certification for Seed Potatoes.
6. **Downgrading**
The process of changing the generation designation of a seed lot. This is due to failing to meet a specific tolerance of the generation for which the seed was entered for certification. The seed lot is given the next appropriate later generation designation for which the seed lot does not exceed the generation tolerance.
7. **Hill Unit**
An identifiable section of a Nuclear class production field corresponding to the planting of whole or cut seed tubers collected from a single potato plant in the previous year's crop.

8. Post Harvest Testing
Tubers submitted to ICIA by an applicant for certification or collected by ICIA inspectors are tested by either a winter growout or by direct-tuber testing in the laboratory.
9. Roguing
The seed potato production practice of removing or destroying undesirable potato vines and tubers in a field.
10. Tolerance
The maximum amount of a certification factor allowed in a seed lot of a particular generation.
11. Volunteers
Potato plants growing in a seed potato field that originate not from the seed planted but from tubers left in the field during a previous year's harvest.
12. Zero Tolerance Factor
Zero tolerance means that none is allowed in a seed lot. If one or more of a zero tolerance factor is found at any time in a seed lot, that lot will be disqualified for certification. It does not mean, nor may it be construed to mean, that a lot that passed inspection is free from the zero tolerance factor. It means only that none was found during the normal course of the inspection process. Zero tolerance factors in Idaho include but may not be limited to:
 - a. Bacterial Ring Rot
 - b. Root-Knot Nematode

D. Storage

1. Seed Lot Identification
The tracking and documentation of eligible seed lots while they are in storage. Seed lot locations are mapped by ICIA inspectors during storage inspection and are maintained during the storage season by ICIA. The documentation is provided to the Idaho Federal-State Inspection Service for its use during shipping point inspection.
2. Shipping Point Inspection
The inspection of seed potato tubers after sorting and grading but prior to shipment. This inspection is conducted by the Idaho Federal-State Inspection Service.

3. Tagging
The attaching of an official certification tag to a bag or bulk container of seed potatoes after a shipping point inspection.

E. Diseases and Pests

1. Bacterial Ring Rot
Disease caused by the bacterium *Clavibacter michiganensis ssp. sepedonicus*.
2. Blackleg
Disease caused by the bacterium *Pectobacterium atrosepticum* (formerly known as *Erwinia carotovora ssp. atroseptica*) or *Pectobacterium carotovorum ssp. carotovorum* (formerly known as *Erwinia carotovora ssp. carotovora*).
3. Corky Ring Spot (Spraing)
Disease caused by tobacco rattle virus.
4. Late Blight
Late blight is a disease caused by the fungus *Phytophthora infestans*.
5. Root-Knot Nematode
The plant parasitic nematodes *Meloidogyne hapla* or *Meloidogyne chitwoodii*.
6. Mosaic virus. Includes Potato Virus Y (PVY) and all of its various strains, PVA and other viruses including severe forms of PVX.
7. Potato Leaf Roll Virus (PLRV).

II. Seed Classification

A. Idaho is following a Generation program. The classes of seed in this program are as follows:

1. Pre-nuclear (PN)
Pre-field stocks for laboratory and greenhouse productions or direct field plantings. Types of PN material include:
 - a. stem cuttings
 - b. tissue cultured plantlets
 - c. microtubers
 - d. greenhouse-produced tubers (minitubers)
 - e. laboratory-tested line selections.
2. Nuclear (N)1st field production and meets N tolerances
3. Generation 1 (G1)2nd field production and meets G1 tolerances
4. Generation 2 (G2)3rd field production and meets G2 tolerances
5. Generation 3 (G3)4th field production and meets G3 tolerances
6. Generation 4 (G4)5th field production and meets G4 tolerances
7. Generation 5 (G5)6th field production and meets G5 tolerances
8. Generation 6 (G6)7th field production and meets G6 tolerances

Each generation of seed is derived from planting the previous generation. At planting, the seed stock that was planted is automatically moved down one generation. For example, PN becomes N, G3 becomes G4. Seed stocks have to meet tolerances for the generation in which they are classified, regardless of field year production.

B. Experimental (EXP) Class

Non-released breeding selections and cultivars which have been developed with specific added properties not present in the main line of the cultivar. Experimental seed stocks may be nonlimited-generation or limited-generation seed.

C. Line Selections

The suffix "LS" following the generation designation denotes a seed lot that was derived by clonal line selection.

III. Application and Inspection Fees

A. An application to grow potatoes for certification must be postmarked or submitted on-line by June 10. Applications submitted after June 10 have a 15 day grace period which requires a 10% late fee to be paid with the application. No applications postmarked or submitted on-line after June 25 will be accepted.

- B. For Inspection Fees, and Application Deadlines please refer to the Seed Certification Fee and Application Schedule within the Standards link at www.idahocrop.com
- C. Laboratory testing of Pre-nuclear and greenhouse stocks and Nuclear line selections require an additional fee. Contact the Idaho Crop Improvement Association, Inc. Seed Certification Laboratory, Idaho Falls, for details.

IV. Appeal Inspections

- A. An inspector will make an appeal inspection where time, weather, and crop conditions permit and where factors affecting the original decision have not been altered.
- B. An appeal inspection will be handled on an individual basis. A normal appeal process must be followed and justification for such an appeal inspection will be the decision of the ICIA area manager and/or executive vice president. Any evidence of roguing after the initial inspection prior to the appeal inspection will result in acceptance of the initial inspection report.
- C. The Idaho Crop Improvement Association, Inc. Board of Directors may be involved with final appeal decisions.

V. Reinspection of Generations 2 and 3

- A. If a reinspection of a Generation 2 or 3 seed lot is desired, the person requesting this service must submit a request, in writing or by telephone, to the Idaho Falls office of Idaho Crop Improvement Association, Inc. within five (5) days following the date of the initial inspection. A fee of \$82.00 must accompany the request. The field must be rogued and ready for reinspection five (5) working days after the reinspection request is received by the Idaho Falls office.

VI. Potato Virus X (PVX) Testing Program

- A. Any seed lot designated Nuclear, G1, or G2 that meets the generation tolerance for PVX will be identified as such by carrying the "PVX" prefix with its generation name.
- B. Seed lots that were found to have a percentage of PVX greater than the generation tolerance will not carry a "PVX" identification prefix in the Idaho Seed Potato Grower Directory but will not be downgraded.
- C. Downgrading to a later generation in order to maintain the PVX identification prefix is allowed but must be requested by the seed grower.

- D. Any seed lot that loses its PVX designation cannot regain the designation in future years.

VII. Procedure for Tagging and Sealing Bulk Seed Potatoes

- A. Bulk potatoes eligible to be tagged and sealed must have been graded to meet at least the minimum standards for the specified grade.
- B. A certification tag with the following information shall be attached with an official seal to the container in such a manner that the unloading mechanism cannot operate without breaking the seal.
 - a. Variety
 - b. Class
 - c. Weight
 - d. Truck and/or trailer license numbers - optional
 - e. Seal number
 - f. Grower
 - g. Buyer's name - optional
 - h. Certification number
 - i. Inspector's name
 - j. Date inspected
- C. A temporary seal attached by a federal-state inspector may seal a holding container for up to 6 days (not inclusive of date inspected). Seed lots held for longer than 6 days (Not inclusive of date inspected) must have a federal-state inspection when seed is being loaded onto the transport vehicle and will tag and seal each container.

VIII. Procedure for Tagging Bulk Cut Seed Potatoes

- A. In order to be eligible for tagging, seed potatoes that will be cut prior to shipment must have been graded and inspected for grade prior to cutting and have met the minimum standards for a specific Idaho seed potato grade.
- B. The cut seed will be tagged and sealed as outlined in Section VII of these regulations.
- C. The words "Cut Seed" will be stamped on the front of the seed grade tag.
- D. Cut seed that will be stored for a period of time before shipment may be tagged and sealed at a later date as bulk certified seed if the seed lot identity is maintained, and if the seed was graded and inspected prior to cutting.
- E. The Idaho Crop Improvement Association, Inc. must be notified as to where the cut seed is being stored.
- F. A federal-state inspector must be present when any cut seed is being loaded and will tag and seal each container.

IX. Tagging Exception for Pre-nuclear and Nuclear Seed Potatoes

- A. An Idaho Crop Improvement Association, Inc. "Certificate of Exception for Grade" may be used for any greenhouse produced Pre-nuclear seed potatoes.
- B. An Idaho Crop Improvement Association, Inc. "Certificate of Exception for Grade" may be used for Nuclear class seed potatoes after a federal-state inspection shows that they cannot be tagged as yellow tag grade because of shape factors.
- C. The following conditions must be met:
 - 1. This document can only be used for re-certification in the above mentioned seed classes within Idaho. Seed for out-of-state sales must meet blue, green or yellow tag requirements.
 - 2. Approval must be sought at least seven (7) days prior to the potato shipment and all documentation must be signed by the buyer and seller prior to shipment.
 - 3. An Idaho Crop Improvement Association, Inc. inspector will supervise the shipment.

X. Sacking Seed Potatoes

- A. If seed potatoes are to be sacked, they must be packed in new sacks. Misprinted, misbranded, blotted, reject sacks and/or sacks turned inside out must not be used.
- B. New sacks that have been emptied in order to resort the potatoes shall not be reused if the sacks show stains or if the sacks show appreciable damage.

XI. Tagging Seed Potatoes for Export

- 1. Certified seed lots intended for export may be tagged with an official ICIA White Export Tag in lieu of an official ICIA certification tag of any other color. Export lots must meet all standards for certification and grade as established by the Idaho Policies and Procedures of Certification for Seed Potatoes.
- 2. Grade shall be Idaho Certified plus any Import Permit or importing country protocol requirements.
- 3. Tags shall be white and state the following: IDAHO EXPORT GRADE SEED POTATOES, VARIETY, CERTIFICATION NUMBER, GENERATION (G3,G4, etc.) and other language required by the importing country.

XII. Sanitation

- A. Farming and sanitation practices are the responsibility of the grower. Official inspections do not relieve the grower of this responsibility.

XIII. Disclaimer Representation and Limitation of Remedy and Liability

- A. Since the use of certified seed potatoes is beyond the control of the grower, the seller, the inspector, the Idaho Federal-State Inspection Service and the Idaho Crop Improvement Association, Inc. Make **NO** representation of any kind, expressed or implied, including merchantability, fitness for a particular purpose, quality or freedom from disease, is made concerning certified seed potatoes which extends beyond the description set forth.
- B. The grower, the seller, the inspector, the Idaho Federal-State Inspection Service and the Idaho Crop Improvement Association, Inc. shall not be liable under any theory, including breach of warranty, negligence or strict liability, for any special or consequential loss or damage, including lost profits, resulting from the use of certified seed potatoes.
- B. By acceptance of certified potatoes, the buyer expressly agrees that the buyer's exclusive remedy for breach of any duty owed the buyer, with respect including negligence and strict liability, shall be of the seed. In addition, by acceptance of certified seed potatoes, the buyer expressly agrees that the disclaimer or representation and limitation of remedy and liability set forth herein are express conditions of the sale, and agreement between the parties regarding liability or remedy.

XIV. Procedure for Tagging Small Packages of Seed Potatoes

- 1. All ICIA rules and procedures for seed potatoes apply, including Federal-State Inspection.
- 2. Applicant would have to sign a compliance agreement.
- 3. Maximum permitted package size is 50 lbs.
- 4. A single inspection shall be valid for a maximum of 30 days, inclusive of the inspection date. A maximum of 2000 lbs. per seed lot is permitted for a single inspection.
- 5. Tags are issued directly to the Applicant after the inspection is successfully completed.
- 6. The Applicant is required to maintain a log of tag usage and return any unused or spoiled tags.
- 7. ICIA will review tag usage log. Unresolved discrepancies will result in (1) revocation of tagging privileges, and (2) referral to the ICIA Board of Directors and/or ISDA.

**POLICIES AND PROCEDURES OF CERTIFICATION
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PART II - SEED POTATO REGULATIONS

I. General Certification Standards

- A. The General Policies and Procedures as adopted by the Idaho Crop Improvement Association, Inc. are basic and together with these specific policies and procedures constitute the policies and procedures for certification of seed potatoes. Land, Isolation, Field, Recertification, Post Harvesting Testing, BRR Testing, Pre-Nuclear Production, Storage Inspection, and Shipping Point Grade standards imbedded within these policies and procedures are referenced to IDAPA 08.05.01

II. Seed Farm Eligibility Requirements

- A. All potato acres on a seed farm must be entered and maintained for seed potato inspection and certification. A portion of the acres on a seed farm can be withdrawn from certification with ICIA approval.

III. Seed Stock Eligibility Requirements

- A. Limited-generation seed stocks are eligible for certification for seven (7) field production years. Generation 6 seed stocks, the 7th field production year, are not eligible for certification.
- B. Nonlimited-generation seed stocks are eligible for an unlimited number of field production years. However, once a breeding selection has been named, certified Nonlimited-generation seed stocks are only eligible for an additional three (3) years as EXP 1, EXP 2 and EXP 3.
- C. All seed stocks purchased by a farming operation from another farming operation and subsequently entered for certification must be tagged unless the purchaser was a co-applicant for certification of that seed.
- D. Documentation verifying eligibility of seed stock purchased for recertification must accompany the application for certification. Eligibility must be verified by the following:
1. An official tag or certificate and a North American Plant Health Certificate for each seed lot.
 2. In the case that a certification tag is not available, seed may be documented by either:
 - a. A notarized affidavit completed by the vendor giving the certification number for

each seed lot, or

- b. A sales record and a signed statement completed by the vendor. Both documents must give the certification number for each seed lot.

- E. All contact lots on a farming operation shall be ineligible for recertification if any lot of seed on that farming operation is rejected for certification because of bacterial ring rot.
- F. Out-of-state potato stocks to be entered for certification must meet the same requirements as Idaho grown seed stocks.
- G. Seed lots with more than 0.1% Potato Leafroll Virus in either the 1st or 2nd inspection shall not be eligible for recertification.
- H. Nuclear, G1 or G2 seed lots disqualified for certification in the post harvest test because of seed-borne chemical injury may only be recertified by the original applicant(s) during the next growing season.
- I. All seed lots entered for recertification will be laboratory tested for PVY prior to acceptance into the seed certification program. Laboratory testing may be performed on actively growing sprouts (1/4" or greater), dormant tubers, or on green leaf tissue.

IV. Land Requirements

- A. A field will not be eligible to produce certified seed potatoes if Root-Knot Nematode has been proven to exist in the field or in potatoes grown in that field.
- B. A field will not be eligible to produce certified seed potatoes if noncertified potatoes or potatoes that have been confirmed to be Bacterial Ring Rot infected by a laboratory test were grown in this field the previous two growing seasons.
- C. A field must have been farmed with a crop other than potatoes immediately following the growing season in which potatoes were disqualified for Bacterial Ring Rot.

V. Field Isolation Requirements

- A. Potatoes entered for certification must be planted at least 20 feet from potatoes not entered for certification.

Seed lots must be separated from each other by at least one row left unplanted or planted to some other crop. Exceptions are made with ICIA approval and only apply to lots less than five (5) acres that include distinct field markers.

- B. Potatoes entered for certification as two seed lots of the same variety in the same field and found not to have the proper separation will be designated as a single seed lot with the latest generation designation of the two seed lots.

VI. Field Inspection Requirements

- A. Two inspections shall be made for each field entered.
- B. Field Inspection tolerances for 1st and 2nd Inspections

Table 1 - Percentages allowed for 1st inspection¹ NOTE: Footnotes continue on Seed Potatoes-15

| Factor ² | Generation | | | | | |
|--------------------------|------------|-------|-------|-------|-------|-----------------|
| | Nuclear | Gen 1 | Gen 2 | Gen 3 | Gen 4 | Gen 5/6 |
| Varietal mixture | 0.00 | 0.00 | 0.02 | 0.10 | 0.25 | 0.50 |
| Well defined Mosaic | 0.00 | 0.00 | 0.5 | 1.00 | 1.50 | 2.00 |
| Potato Leafroll | 0.00 | 0.00 | 0.03 | 0.05 | 0.10 | 0.20 |
| Blackleg ³ | 0.00 | 0.10 | 0.50 | 1.00 | 2.00 | .. ⁴ |
| PVX | 0.00 | 0.50 | 2.00 | | | |
| Total Virus ⁵ | | | | | | 2.00 |

Table 2 - Percentages allowed for 2nd inspection¹

| Factor ² | Generation | | | | | |
|--------------------------|------------|-------|-------|-------|-------|-----------------|
| | Nuclear | Gen 1 | Gen 2 | Gen 3 | Gen 4 | Gen 5/6 |
| Varietal mixture | 0.00 | 0.00 | 0.01 | 0.05 | 0.10 | 0.20 |
| Well defined Mosaic | 0.00 | 0.00 | 0.25 | 0.50 | 0.75 | 1.00 |
| Potato Leafroll | 0.00 | 0.00 | 0.02 | 0.03 | 0.08 | 0.20 |
| Blackleg ³ | 0.00 | 0.10 | 0.50 | 1.00 | 2.00 | .. ⁴ |
| Total Virus ⁵ | | | | | | 1.00 |

¹Field inspections of Nuclear and Generation 1 seed lots are advisory and all factors are required to be rogued when found in order to maintain the tolerance of 0.00%.

²Some diseases may be present in a seed potato lot and not exhibit symptom expression in plants or tubers at the time of a regular inspection.

³Determination of blackleg disease is based on a visual plant symptom of an inky black stem originating from the seed tuber. Visible blackleg has no tolerance in Generations 5 and 6 and therefore is not a disqualification factor.

⁴Visible blackleg will not be a disqualification factor in G5 or G6.

⁵Total is the combined percentage of potato leafroll, calico, well defined mosaic and all other viral, viroid and phytoplasmas (including Candidatus Liberibacter). This does not include Potato Virus X (PVX).

- C. Fields shall be considered ready for inspection at all times. Additional inspections may be made at the discretion of the fieldman, but will not be made in order to allow growers to rogue fields which will not pass inspection. In the event a field receives a first inspection before it is rogued, it may be reinspected one time if it is disqualified because of a rogueable viral or varietal mixture problem. Reinspection will not be allowed if there is evidence of rogueing when the first inspection is done.
- D. Seed lots that exceed the generation tolerance for a particular factor will be downgraded to the next generation for which the seed lot does not exceed the tolerance.
- E. Volunteers must be rogued from any field of Nuclear or Generation 1 seed potatoes. Generation 2 through Generation 6 fields that show volunteer potato plants will remain eligible for certification when the volunteer plants are not found in excess of 3 % of the total plants in the field. Volunteer plants shall be considered as part of the field from the standpoint of all factors of inspection.
- F. Generation 2 and 3 fields downgraded but not disqualified at the time of either the regular 1st or 2nd inspection because of a rogueable viral or varietal mixture problem may be reinspected one time.
- G. Any seed lot will only be allowed one reinspection during the season.
- H. Non-Generational Experimental seed must meet Generation 4 inspection requirements to be eligible for recertification.
- I. Chemical Injury
 - 1. The fieldman is given authority to withhold certification pending the outcome of the winter test plot growout or refuse certification on a field or portion of a field sprayed or contaminated with a chemical that causes seed-borne injury to seed potatoes.
 - 2. Those portions of a field that show enough chemical injury to the potato foliage to interfere with the field inspection process shall be rejected from certification if the potatoes are stored.

3. Those portions of a field that do not show enough chemical injury to interfere with field inspections but still may be contaminated to the degree that seed-borne chemical injury may occur in the next crop, shall be harvested and stored separately from other potatoes in that seed lot.
 4. Under the direction of a fieldman, a separate winter test sample shall be collected and submitted from those potatoes with the possible chemical injury.
 5. Certification will be withheld until winter test readings are completed.
- J. The following are seed lot disqualifying conditions:
1. Seed lots or portions thereof may be disqualified for certification because of any condition that interferes with the inspection of the potato plants.
 2. Bacterial ring rot and root-knot nematode are zero tolerance factors. Any seed lot, regardless of generation, shall be rejected from certification at any time when any of these factors is confirmed by laboratory testing.
 3. Evidence of failure to remove daughter tubers from rogued hills.
4. When bacterial ring rot is confirmed in a seed lot:
- a. The certifying agency shall identify sister and contact lots. The certifying agency shall cooperate on trace back efforts with the Idaho State Department of Agriculture.
 - b. A random sample from all contact and sister lots shall be obtained by the certifying agency:
 - i. Contact lots shall remain eligible for certification provided that a laboratory test is negative for bacterial ring rot prior to final certification. A random sample of 1200 stems or tubers shall be required for seed lots that are ten acres or greater. For lots smaller than ten acres, the sample size shall be determined by the certification agency.
 - ii. Sister lots shall remain eligible for recertification provided that a laboratory test of 4400 stems or tubers is negative for bacterial ring rot.
 - c. The sanitation protocols, equipment, and facilities of affected farming operation(s) shall be inspected by the certifying agency prior to the receipt of new seed stocks.
 - d. Seed lots produced on affected farming operation(s) shall be laboratory tested for bacterial ring rot for a period of five years following the initial find. A random sample of 1200 stems or tubers shall be negative for bacterial ring rot prior to final certification for seed lots that are ten acres or greater. For lots smaller than ten acres, the sample size shall be determined by the certification agency.

- 5. The presence of any disease new or exotic to the state of Idaho.
 - 6. Failure to list on an application all sources of the seed lots that were used to plant a particular seed lot will automatically disqualify that seed lot from certification.
 - 7. Potatoes which are not harvested and left to overwinter in the ground and are dug in the spring are not eligible for recertification or for tagging as certified seed.
 - 8. Failure to have potatoes graded, inspected and tagged at shipping.
- K. Seed lots are subject to the guidelines of the current Canada/US Management Plan for Potato Viruses that Cause Tuber Necrosis.

VII. Post Harvest Testing Requirements

- A. Each seed lot must be post harvest tested. Lots, or portions thereof, which are shipped prior to post harvest testing will be certified based on the two (2) summer field inspections and a shipping point inspection.
- B. Only seed lots that have passed the equivalent of a 2nd field inspection will be eligible for post harvest testing.
- C. The number of single drop tubers to submit for winter testing, regardless of generation or testing format:

| | |
|---|-----------------------------------|
| Lots representing one acre or more..... | 400 tubers |
| Lots representing 0.5 – 0.9 acres..... | 200 tubers |
| Lots representing 0.1 – 0.4 acres..... | 100 tubers |
| Lots less than 0.1 acres..... | 10% of tubers to a maximum of 100 |
- D. Seed lots are disqualified for certification if seed-born chemical injury in excess of 5% is found during post harvest testing.
- E. Seed lots are not eligible for recertification if any of the following factors are found during post harvest testing at a percentage greater than:

| | |
|-----------------------|------|
| Potato Leafroll Virus | 0.8% |
| Well defined Mosaic | 1.0% |

VIII. Potato Virus X (PVX) Testing Requirements

- A. All seed entered for certification in the Nuclear, G1 and G2 classes must be laboratory tested for PVX.

IX. Bacterial Ring Rot Testing Requirements

- A. A random sample of stems or tubers obtained from all seed lots G1 or higher, shall be laboratory tested for bacterial ring rot. The required testing must be completed prior to final certification. The minimum sample size shall be 10% of stems or tubers to a maximum of 200 stems or tubers for seed lots 0.1 acres or less, and 400 stems or tubers for seed lots exceeding 0.1 acres.

X. Pre-nuclear Production Requirements

- A. Source: Meristem culture of tubers from breeding projects or tubers from lots of Nuclear, G1 and G2. Exceptions will be allowed with Idaho Crop Improvement Association, Inc. approval.
- B. Greenhouse Production: New (sterilized) growth media shall be used for each planting.
- C. Greenhouse Pre-nuclear crops may be entered for certification at any time as soon after the crop is planted as possible. A minimum of two inspections shall be performed on each Pre-nuclear seed lot entered. The responsibility of notifying Idaho Crop Improvement Association, Inc. of readiness for inspection of greenhouse Pre-nuclear crops shall rest with the grower.
- D. Each of the following organisms shall be tested for in Pre-nuclear seed production:
 - Base Cultures: Bacterial Ring Rot
(Entry Level) *Pectobacterium (Erwinia) spp.*
Potato Viruses X, Y, M, A, S
Potato Leafroll Virus
Potato Spindle Tuber Viroid
 - Greenhouses: Bacterial Ring Rot
Pectobacterium (Erwinia) spp.
Potato Virus X, Y, A
Potato Leafroll Virus
 - Line Selections: Bacterial Ring Rot
Pectobacterium (Erwinia) spp.
Potato Virus X, Y, A
Potato Leafroll Virus
 - Mother Plants: Bacterial Ring Rot
(Stem Cuttings) Potato Virus X, Y, A
Potato Leafroll Virus

Entry level cultures, line selection hill units or mother plants used in stem cuttings that are found to be infected with any of the indicated organisms shall be ineligible for use in Pre-nuclear seed production. Units or lots in greenhouse production found to be infected with any of the indicated organisms shall be downgraded to the next generation for which the seed lot does not exceed the generation tolerance of the organism that causes the certification factor (e.g. *Pectobacterium* (*Erwinia*) spp. is a causal agent for blackleg).

E. Clonal Line Selections:

1. One tuber from each plant selected shall be submitted to ICIA for laboratory testing.
2. Nuclear plots planted from clonal line selections shall be planted in hill units.
3. All seed in a clonal line selection plot automatically advances to G1 the following season except for those hills selected for clonal selections.

XI Storage and Shipping Point Inspection Requirements

- A. Storage inspection will be conducted on all storages containing seed potatoes eligible for certification.
- B. Storages where sprout nip or similar materials were used the previous season are not eligible to store seed potatoes eligible for certification.
- C. Seed potatoes must not be stored, graded or handled in storage warehouses or subdivisions thereof in which potatoes that have not been field inspected, or are laboratory confirmed to have Bacterial Ring Rot or Root-Knot Nematode are stored or handled.
- D. All storages shall be available for inspection at all times.
- E. For a seed lot to remain eligible for certification, seed lot identity must be maintained in storage.
- F. Seed lots must remain entirely separate in storage:
 1. If seed lots from two different farming operations are stored in the same storage.
 2. If seed lot identity is to be maintained for different lots from the same farming operation.
 3. If seed lots of different varieties are being stored in the same storage.

- G. A fabric barrier of a type approved by Idaho Crop Improvement Association, Inc. may only be used between lots of the same variety grown by the same farming operation.
- H. Co-mingling of seed lots of the same variety from the same seed farm will result in all potatoes in these lots receiving the poorest field inspection reading of any of the lots as well as the latest generation.
- I. Seed potatoes will not be washed without written permission from ICIA. Permission may include requirements and conditions.
- J. The Idaho Crop Improvement Association, Inc. inspector and Idaho Federal-State inspector are given authority to refuse to tag and seal any seed potatoes for any condition or situation that may bring certification into disfavor or make an accurate inspection impossible.

XII Grade Requirements

A. Idaho Certified Blue Tag Seed Potatoes

The blue tag shall be equivalent to U.S. No. 1 seed potato grade with the following exceptions. There is a 1% tolerance for late blight.

1. Scab - shall not cover more than one-fifth of the surface area.
2. Adhering dirt - a maximum of 50% of the tuber surface may be covered with caked dirt.
3. Loose dirt and/or foreign material - included in total external tolerance.
4. Clipping or trimming not allowed.
5. Freshly broken off second growth - shall not be damaged.
6. Wireworm and/or grub - damaged by waste.
7. Tolerances: For total defects 10%. Three percent (3%) for potatoes which are affected by freezing injury. One percent (1%) for potatoes which are affected by soft rot, wet breakdown or are frozen. The limitations for external and internal defects shall apply as written in the U.S. No. 1 seed potato grade.
9. An additional 10% may be damaged, but not seriously, by shape.

B. Idaho Certified Green Tag Seed Potatoes

The green tag grade shall be equivalent to the U.S. No. 2 grade with the following exceptions. There is a 1% tolerance for late blight.

1. Maximum and minimum size shall be specified by the grower.
2. Wireworm and/or grub - serious damage by waste. Permit an additional six percent (6%) serious damage by waste.
3. Scab - shall not cover more than one-fifth ($1/5$) of the surface area.
4. Hollowheart - no requirements.
5. Adhering dirt - no requirements.
6. Loose dirt and/or foreign material - included in total external tolerance.
7. Varietal purity - not more than 0.2% of other tuber identifiable varieties.
8. Clipping - shall not be clipped or trimmed.
9. Second growth - shall not be seriously damaged.
10. Sunburn and light greening - no requirements.
11. Appearance - discoloring of tubers caused by immaturity or the characteristic checking of tubers that occurs under normal conditions shall not disqualify them.
12. Growth cracks - not to exceed a maximum of 10% serious damage.
13. Mechanical injury - shall not be damaged by waste.
14. Air cracks - damage by waste.
15. Serious damage by dry or moist type tuber rot - 2%.
16. Sprouts – no requirements.
17. Flattened depressed and sunken discolored areas showing no underlying flesh discoloration – no requirements.

C. Idaho Certified Yellow Tag Seed Potatoes

The yellow tag grade shall be equivalent to the U.S. No. 2 grade with the following exceptions. There is a 1% tolerance for late blight.

1. Maximum and minimum size shall be specified by the grower.
2. Wireworm and/or grub - no requirements.
3. Scab - no requirements.
4. Hollowheart - no requirements.
5. Adhering dirt - no requirements.
6. Loose dirt and/or foreign material - included in total external tolerance.
7. Varietal purity - not more than 0.2% of other tuber identifiable varieties.
8. Clipping - shall not be clipped.
9. Second growth - shall not be seriously damaged.
10. Sunburn and light greening - no requirements.
11. Appearance - no requirements except second growth.
12. Growth cracks - no requirements.
13. Mechanical injury - shall not be seriously damaged by waste.
14. Six percent (6%) serious damage by internal discoloration. Percentages higher than six percent (6%) allowed with Idaho Crop Improvement Association, Inc. approval if laboratory tests show the internal discoloration is not of pathogen origin.
15. Serious damage by dry or moist type tuber rot - 2%.
16. External discoloration – no requirements.
17. Flattened depressed and sunken discolored areas showing no underlying flesh discoloration – no requirements.
18. Rhizoctonia – no requirements
19. Sprouts – no requirements.