



Australian Seed Potato Industry Certification Authority

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CONDITIONS FOR THE AuSPICA SEED POTATO CERTIFICATION SCHEME

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For up-to-date information about the Scheme please refer to our website

www.auspica.org.au

"Any historical appraisal of the development of Potato Seed Certification will score many of the highlights of its growth. Some will be missed. The scientists and specialists who have made it the program it is are many. Each in his devotion to objectivity in experimenting and reasoning has contributed to the vigorous standards so necessary to the integrity of the total program. Without such a sustaining influence, the industry will degenerate."

H. M. DARLING 1963 AMERICAN POTATO JOURNAL [Vol. 40]

..."State certification agencies will need to continue to work untiringly to maintain high quality, improve standards, lower tolerances for diseases, and otherwise help produce superior seed that will really justify increased prices, and the name "certified."

R. J. HASKELL 1944 AMERICAN POTATO JOURNAL [Vol. 21]

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1 AuSPICA POTATO CERTIFICATION CONTACTS

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2 DEFINITIONS USED WITHIN THE AuSPICA SEED SCHEME

Accredited Laboratories	“Accredited Laboratories” are those laboratories that are accredited by AuSPICA to produce minitubers, micro tubers and plantlets. Such laboratories must have met the standards for facilities and processes as specified by AuSPICA and their production stage must be inspected and passed by the AuSPICA Accreditation Officer or an authorized AuSPICA agent prior to sale.
AuSPICA	“AuSPICA” means the Australian Seed Potato Industry Certification Authority, formerly the Victorian Certified Seed Potato Authority Incorporated. AuSPICA is a not for profit organisation that provides a range of professional inspection, quality assurance and certification services for the Australian potato industry.
Certification	Whilst all best practices are used by AuSPICA, certification is not an exact science and does not constitute a warranty by AuSPICA regarding the quality or freedom from disease of the seed potatoes beyond the express representation that the seed potatoes were produced and inspected under the Scheme and qualified at the time of inspection that the seed potatoes meet the conditions.
Certification Officer	“Certification Officer” means a person authorised by AuSPICA to administer the Conditions of the Scheme.
Conditions	"Conditions" mean the Conditions of the AuSPICA Seed Potato Certification Scheme as published by AuSPICA.
Initial Stock	The initial pathogen-tested microplants produced and maintained under an official control programme.
Label	"Label" refers to AuSPICA's official certification Label used to identify the status of seed lot.
Malformed tuber	A malformed tuber is that which is not characteristic of the variety in shape and or appearance and is deemed to affect the viability of the subsequent production e.g. <i>Rhizoctonia</i> or PVY.
Grower	<p>“Grower” is a member of AuSPICA who grows certified seed potatoes. To participate in the AuSPICA Seed Potato Certification Scheme, the Grower/business must be a current member of AuSPICA. When a Company applies for Membership a natural person shall be nominated as the AuSPICA member and shall hold the membership voting rights.</p> <p>Where a AuSPICA member is a nominee of a company and is not involved in the day to day management of the growing crop and resulting product, documented management and accountability procedures are to be in place and approved by the authority to ensure that those directly involved in the production of certified seed are aware of and comply with the “Conditions” of the Scheme and are responsible for the quality of the product produced. The nominated company member is responsible for submitting the application form.</p> <p>When a sole AuSPICA member is remotely controlling a crop the same principles apply.</p>
Mini-tuber	A tuber produced from a plant grown in an insect-proof greenhouse in an accredited laboratory. The source of the parent plant must be a disease-free tissue culture plant or microtuber.
PLRV	Potato Leaf Roll Virus.
PVS	Potato Virus S.
PVX	Potato Virus X.

PVY	Potato Virus Y.
Rejected	As applied to a field or lot of potatoes, means that the potatoes (plants and/or tuber) failed to meet the certification standards as stated in the official Conditions and Regulations of AuSPICA.
Roguing	The removal and destruction of all diseased or undesirable plants, hill units or tuber units and potatoes produced thereon during the growing season.
Scheme	“Scheme” means the AuSPICA Seed Potato Certification Scheme in this document.
Seed Plot	Individual designated line of seed variety x generation is a defined area.
TSWV	Tomato Spotted Wilt Virus.
Zero tolerance	An indication of zero tolerance means that a particular disease must not be observed during various field inspections, tuber inspections or lab tests. Note: A “0” (zero) recorded for a disease does <i>not</i> mean that a lot of seed potatoes is free from a certain disease or cause of disease. It means only that a disease was not observed during regular certification procedures.



3 INTERPRETATION

In these rules:

1. Headings are for convenience only and do not affect interpretation;

and unless the context indicates a contrary intention:

2. a reference to any person includes that person's executors, administrators, successors, substitutes and assigns, including any person taking by way of novation;
3. a reference to these rules or to any other agreement, deed or document includes, respectively, these rules or that other agreement, deed or document as amended, novated, supplemented, varied or replaced from time to time;
4. words importing the singular include the plural (and vice versa), words denoting a given gender include other genders and words denoting individuals include corporations (and vice versa);
5. a reference to any legislation or to any section or provision of any legislation includes any statutory modification or re-enactment or any statutory provision substituted for it and ordinances, by-laws, regulations and other statutory instruments issued under any legislation;
6. references to parties, sections, clauses, schedules, exhibits or annexures are references to parties, sections, clauses, schedules, exhibits and annexures to or of these rules and a reference to these rules includes any schedule, exhibit and annexure;
7. where any word or phrase is given a defined meaning, any other part of speech or grammatical form in respect of that word or phrase has a corresponding meaning;
8. the word "includes" in any form is not a word of limitation; and
9. all payments to be made under these rules must be made by unendorsed bank cheque or other immediately available funds and in Australian currency.

4 THE AuSPICA SEED POTATO CERTIFICATION SCHEME

4.1 Purpose of the Scheme

1. The purpose of the AuSPICA Seed Potato Certification Scheme is to improve the efficiency of the Australian potato industry through the provision of cost efficient and effective technical and administrative services for the production of high-quality certified seed potatoes.

4.2 What Constitutes Certified Seed?

1. To qualify as AuSPICA certified seed potatoes, the seed potatoes must be produced (grown) in accordance with the certification Rules of AuSPICA. In addition, the potatoes must pass the final field inspection, Potato Lab disease testing and grade requirements of AuSPICA and be accompanied by an official AuSPICA certified seed potato label.
2. Certification means that the seed potatoes have been subjected to field and bin visual inspections by AuSPICA certification officers pursuant to these Rules, and at the time of inspection, the individual potatoes and/or potato fields actually inspected met the requirements for certification set forth in these Rules.
3. Official labels shall be issued only by the Scheme Manager of the AuSPICA Potato Certification Program and shall have the words "AuSPICA Certified Seed Potatoes" and the producer's name, address, variety, or other variations, and crop date for which the labels were issued printed plainly upon it. In addition, the labels shall show the address of AuSPICA. The labels shall be of colours prescribed by AuSPICA.

4.3 Role of AuSPICA

1. The role of AuSPICA is to establish and administer the *Conditions of the AuSPICA Seed Potato Certification Scheme* for the production of certified seed potatoes.

4.4 Certification - Authority and General Provisions

1. Certification of seed potatoes in Victoria, South Australia and the Northern New South Wales district (Guyra) is conducted under the authority of AuSPICA.
2. These Conditions and Regulations have been adopted in consultation with the Board of Directors of AuSPICA.
3. These Conditions are effective upon approval by the Board and apply to seed potato crops grown and certified under these Rules.
4. All correspondence and inquiries regarding the certification of AuSPICA seed potatoes should be directed to: Scheme Manager, AuSPICA, PMB 1 Healesville 3777 Tel: 03 59620000 or auspica@auspica.org.au.
5. Certification is a voluntary program designed to encourage the production of top-quality seed potato tubers through application of the requirements stated in the Conditions for Seed Potato Certification and through research to improve seed potato quality and testing. Certification means that the seed potatoes were inspected and/or tested according to these Conditions for Seed Potato Certification and those potatoes inspected or tested met the requirements of these Conditions.
6. By making application for certification under these Conditions, the seed Grower grants AuSPICA the right of entry, by arrangement, upon any property where seed potatoes are grown, stored, and graded and grants AuSPICA the right to take samples of potato plants and tubers, soil, irrigation water, and pathogenic organisms for the purposes of testing and analysis.
7. Failure to comply with these Conditions and Regulations shall be cause for refusal or cancellation of any application for or certification of any seed as certified seed potatoes.

4.5 Pre-basic Tissue Culture TC including minituber production

4.5.1 Pathogen-tested initial stock

1. All potato stocks (existing and new cultivars) for use as initial stock in this Certification Scheme must be visually free of all diseases before being pathogen tested for the presence of the following pathogens, either in quarantine, or by any other approved testing authority approved by AuSPICA.
2. To enable entry to the certification Scheme, a plant health certificate or equivalent declaring the results of the pathogen testing that has been conducted for a given variety must be submitted to AuSPICA as the certifying authority.

Table 1 List of pathogens which tissue culture stocks must be tested for inclusion in seed certification.

Pathogen	Disease
Bacteria	
<i>Pectobacteria</i> (formerly <i>Erwinia</i> spp.) and <i>Dickeya</i> spp.	Blackleg and related soft rots
<i>Ralstonia solanacearum</i> (formerly <i>Pseudomonas solanacearum</i>)	Bacterial wilt
<i>Clavibacter michiganense</i> pv <i>sepedonicum</i>	Ring rot
<i>Streptomyces</i> spp.	Common scab
Fungi	
<i>Spongospora subterranea</i>	Powdery scab
<i>Rhizoctonia solani</i>	Black scurf
<i>Helminthosporium solani</i>	Silver scurf
<i>Phoma exigua</i>	Gangrene
<i>Fusarium</i> spp.	Wilt, dry rot
<i>Verticillium</i> spp	Wilt, Early Dying
<i>Colletotrichum coccodes</i>	Black dot
<i>Phytophthora infestans</i>	Late blight
Virus	
Potato leaf roll virus (PLRV)	Leaf roll
Potato virus A (PVA),	Mosaic
Potato virus M (PVM),	Mosaic
Potato virus S (PVS),	Mosaic
Potato virus Y (PVY)	Mosaic
Tomato spotted wilt virus (TSWV)	
Potato spindle tuber viroid. (PSTVd)	
Potato virus X (PVX)	Mosaic
Potato Mop Top Virus (PMTV)	
Tobacco Rattle Virus (TRV)	
Other	
Candidatus <i>Liberibacter solanacearum</i>	Zebra Chip disease complex
Candidatus <i>Phytoplasma solani</i>	Stolbur

3. The aim of this Scheme is to ensure that the stock provided for further multiplication has been tested and found not to be infested or contaminated with the pathogens/pest as listed in Table 1. Additional pathogens/pests may be included at the discretion of AuSPICA as the certifying authority.

4. AuSPICA has developed an Initial Stocks Accreditation Program (IASP¹) for the Registration of Initial Potato Stocks. In doing so, all potato varieties that are submitted for certification must have appropriate phytosanitary and identification records.

The *in vitro* collection is not retested again for specific pathogens, however the movement of stock between laboratories must be supported with original testing documentation.

4.5.2 Structural conditions for minituber production

1. Greenhouse/polyhouse facilities must be insect-proof, inspected and approved by AuSPICA prior to planting.
2. The greenhouse/polyhouse must be a substantial, properly constructed, insect-proof glasshouse, polyhouse, or approved tunnel house with an insect-proof door entrance, anteroom or 'lock'. The entrance anteroom or lock must be of sufficient area to permit the entry of people, plants and trolleys into the lock, to ensure that only one door may be open at any one time. This is as so to mitigate the risk of pest entry.
3. All openings (including evaporative cooling systems) in the facility must be covered with permanently fixed insect proof gauze with a maximum aperture of 70 microns. Whilst metal gauze is preferred, synthetic meshes may be used. Synthetic meshes can be approved by AuSPICA, provided they retain the minimum aperture dimensions when fixed in place. For this reason, welded mesh is preferred to woven mesh types.
4. Situations whereby positive air flow prevents the entry of pests may exempt the need for insect proof gauze, in such situations (for example exhaust fans) the infrastructure must be sufficient to prevent the entry of insect pests and must be regularly serviced and maintained to ensure biosecurity integrity.
5. Water used for irrigation of minituber crops should be appropriately treated to avoid pathogen transfer and contamination.
6. Premises must be securely locked when unattended and after hour access to the premises must be limited to authorised persons only.
7. Vessels and containers used to produce minitubers should be clean before planting. All containers and vessels should be arranged so that they are on benches or trays that prevent contact with the ground and to prevent water ebbing into the growing media.
8. It is the responsibility of the operator to ensure that the premises and all operations comply with all local, state and federal regulations and the relevant state EPA requirements.

4.5.3 Conditions for production

1. Seed source must be tissue culture plantlets or microtubers produced by a AuSPICA accredited laboratory.
2. New growth soil-less media shall be used for each planting.
3. Production should be registered immediately after planting so as to provide traceability.
4. Audits and inspections - AuSPICA requires a minimum of two inspections are required over the growing period.
 - a. The first inspection will be performed during optimal plant growth (approx. 4- 6 weeks after planting) and,
 - b. The second inspection will be performed just before vine kill while the plants are still green and prior to onset of senescence. It is the responsibility of the Grower/operator to schedule the inspections with the certification Authority. The potato tops should be removed within 7-10 days after leaf sampling, and prior to harvesting.
5. Leaf testing for viruses - Plantlet populations or mini-tubers produced in an approved facility shall also be randomly tested for all diseases of concern. A minimum of 2.5% of plants in the greenhouse/polyhouse shall be leaf sampled prior to harvest and tested for five viruses (Table 2).

¹ Initial Stocks Accreditation Program Accreditation (ISAP) – accreditation for the introduction of tissue culture stocks. Contact AuSPICA for details.

6. The diagnostic laboratory tests are to be done at an accredited facility approved by AuSPICA.
7. Leaf samples for virus testing must be collected in groups of 10 leaves and sealed in plastic bags.
8. AuSPICA may request additional tests and sampling based on observations and circumstances.
9. **Copies of diagnostic testing results must be forwarded to the AuSPICA Accreditation Officer within 10 days of the completion of testing.**

Table 2 Five viruses tested on leaf samples collected from greenhouse.

Virus	
Potato leaf roll virus (PLRV)	Leaf roll
Potato virus S (PVS)	Mosaic
Potato virus Y (PVY)	Mosaic
Tomato spotted wilt virus (TSWV)	
Potato virus X (PVX)	Mosaic

4.5.4 Classification and labelling

1. Plantlets produced in *in vitro* in an AuSPICA accredited facility or approved by AuSPICA can be used as a source propagation material for the production of minitubers. The progeny crop will be labelled Generation zero or G0.
2. On occasion, minitubers produced in a greenhouse can be used as a source of planting material in the greenhouse and the progeny will be classified as G0 EX minitubers.
3. All material produced under official accreditation will be labelled with Black GO labels which include the reference to the production facility

4.6 Audits Inspections

1. The crop (i.e. each individual variety grown) must be thoroughly inspected for both regulated and non-regulated disease symptoms and the presence of insect vectors (aphids). Aphids prefer and tend to congregate on soft new growth and inflorescence stems. Therefore, a number of flowers, and young leaves towards the top of the canopy, should be scrutinised to look for aphids. Yellow sticky traps must be present, and these should also be inspected to gauge insect activity in the environment. It is recommended that a yellow sticky trap also be present within the anteroom entrance. This will help monitor possible aphid incursions at this point and can also intercept aphids before they enter the growth area.
2. If there is any doubt over possible disease symptoms being expressed by a potato variety being grown to be certified as GO seed potatoes, the authorised certification officer should collect leaf samples and submit them at an AuSPICA approved diagnostic laboratory.
3. The inspection should confirm that no field or non-approved initial stock seed potatoes, nor any other Solanaceous material, are present in the facility. No plants other than those potato plants being produced for certification as minitubers and listed on the application may be present in the protected environment while the minitubers are being grown. If there is a connection between protected environments, a secure pest-resistant physical separation must be present between minituber crop and all other plants being grown in a different protected environment on the same farm unit.
4. Micropropagation material must be planted in soil-free medium which has not been previously used to produce any crop.
5. If containers are used, they must be new or must have been thoroughly cleaned and disinfected before each use.
6. All varieties must be physically separated from one another by means of physical barriers to maintain varietal integrity and purity. This could be accommodated by, for example, using dividers in beds, and/or the growing of individual varieties in individual containers. Varieties must be labelled to maintain variety identity and so as to prevent variety mixes.
7. The facility must be aphid-proof at all possible entry points (i.e., mesh screening used must have a screen hole size smaller than 70 microns, must be present on all air intakes, exhausts, vents and so on, including louvered vents). The structure should also be checked very carefully to ensure that there are no holes or tears present which could allow entrance of aphids/insect vectors.

5 LIMITATIONS AND WARRANTIES

1. AuSPICA gives no warranties, express or implied, of quality factors not specified in the AuSPICA Conditions for seed potato certification, merchantability or fitness for any purpose in respect of seed certified by AuSPICA other than those warranties as required by law.
2. AuSPICA, disclaims all responsibility & liability for any incorrectness & inaccuracy caused by any circumstances beyond its control. Whilst best practices are used by AuSPICA in conducting the certification scheme, certification is not an exact science & does not constitute a warranty by AuSPICA regarding the quality or freedom of a disease of the seed potatoes beyond the expressed representation that the seed potato crop and associated seed lots, at the time of inspection, met the published Conditions.
3. The assaying of seed potatoes to determine the absence or presence of chemical or pesticide residues is not a function of the AuSPICA seed potato certification process. The certification of seed potatoes by AuSPICA is not an affirmation of fact, promise, guarantee, or warranty, express or implied, that AuSPICA certified seed potatoes are free from chemicals or pesticides residues.

6 Definition of Certification

1. Certification of seed indicates that the seed crop and associated seed lot was officially inspected, & at the time of inspection by AuSPICA, it met the requirements for certification as set out in the published AuSPICA Conditions for seed potato certification.
2. Certification does not mean that the specific seed lot is free of disease or defect, but that the disease or defect was not visually observed during in field & post - harvest inspections. Certification does mean that the seed lot was below the prescribed tolerance of the disease or defect at the time of inspection done by AuSPICA. Statistical limitations are applied to all diagnostic tests that are used.

7 DEFINITION OF VARIETY WITHIN THE SEED SCHEME

1. The variety name printed on the official certification label is based on the variety information supplied by the Grower at the time of application to AuSPICA. As such, the seed potato crop & corresponding seed lot have been visually inspected to be "true-to-type" and at the time of inspection the seed crop was determined to be within the related variety tolerances of the Scheme. AuSPICA does not laboratory test for variety purity.

8 RULES FOR THE PRODUCTION OF CERTIFIED SEED POTATOES

8.1 Application for Certification

1. Any seed potato Grower desiring to have seed potatoes certified by AuSPICA under the conditions of the AuSPICA certified seed potato Scheme shall make application to AuSPICA on a dedicated form. Application forms are available from AuSPICA PMB 1 Healesville Victoria 3777, (auspica@auspica.org.au).
2. Application forms will be provided to Growers by AuSPICA. A separate application form is to be used for each field and or block of seed plots planted in succession.
3. It is important that field names are consistent with that used to record PCN soil sampling.
4. Extra copies of the application forms are available from AuSPICA as required.
5. Completed application forms must be received in the office of AuSPICA. Any application submitted to AuSPICA after one (1) month of planting, the seed plot, will automatically be deemed 'late' and will incur a late fee. If a Grower is late in submitting an application, a registered letter will be sent to that Grower. The Grower has ten (10) days after the letter is received to apply for certification. After ten (10) days, no application for certification will be accepted.
6. A field map with clear designations of each seed crop, all documentation relating to the seed-source and any other information requested on the application form (including variety name, generation tonnes planted and crop rotation history), must be attached to the application.

7. Applications must be submitted for any seed crops, fields or varieties for which certification are sought. Failure of any Grower to apply for certification of any seed crop, field or variety may result in that Grower's field or seed crop being ineligible for certification.
8. An application for certification will not be accepted unless the applicant has paid all previous indebtedness to AuSPICA. All certification Labels and services will also be withheld until all past indebtedness is paid up.
9. False or incorrect applications or information supplied to AuSPICA will be considered to be a breach of the rules associated with seed certification and penalties may be applied, as determined by the Board of AuSPICA.
10. All seed growers should have a current (in date and valid) farm chemical users permit.

8.2 New Grower Members

1. Unless they have previous certified seed growing experience recognised by AuSPICA, new Growers must serve a probationary period, generally for 12 months in which they grow a plot/s of G1, G2, G3 or G4 seed, which must pass field inspection (**with a field rating of 1 or 2**).
2. A new seed potato Grower must send a request to enter the seed potato certification program to AuSPICA **before the receipt of any seed potatoes intended for planting on their farm**.
3. Applications to register as a new Grower member of AuSPICA must be made by 30th June of the previous year. Applications are available through the AuSPICA office. New Grower applications are assessed by the Board or delegated subcommittee.
4. New Growers may, with the approval of the AuSPICA Scheme Manager, grow commercial potatoes of the same variety as the plots submitted for inspection for their own use only, in their first year (subject to section 9.5)
5. Probationary Grower must meet the conditions of AuSPICA to the satisfaction of the Scheme Manager to enable:
 - a. Removal from probation; and,
 - b. Issue of certification labels.

8.3 Certification fees

8.3.1 If Grower members do not maintain their payments for membership for a period of 24 months their membership of AuSPICA will be deemed to be lapsed, this includes fees, Payments, Account Collection, Refunds and Adjustments.

8.3.2 Fees for the certification of seed potatoes

- a. A complete list of AuSPICA fees for certification will be published annually at the AuSPICA AGM.
- b. All certification fees are divided into two-part payments.
- c. The initial application Fee, payable for all stocks/plots with submission of application.
- d. Second instalment fee, payable for all stocks passed first and second field inspection – invoiced in July of the following year of production.
- e. Any application submitted after one (1) month of planting the associated seed plots will include a prescribed late fee.
- f. Postage fee for labels (standard options available are standard post and or express post)
- g. Growers will be assessed a special travel fee to seed fields and storage facilities that are located outside an established seed producing district, and/or for re-inspections at the request of the Grower, and/or for inspections rescheduled due to unavailability of a Grower or a Grower's agent at the time of a regularly scheduled inspection.

8.3.3 Testing and Miscellaneous Fees

1. Growers will be invoiced costs of laboratory testing of seed potatoes and miscellaneous services, including the following:
 - a. Virus-testing;
 - b. PCN sampling and laboratory;
 - c. universal disease tests if applicable; and,
 - d. charges for any other inspection, testing, or purchase from AuSPICA.

8.3.4 Payments

1. All fees are to be paid to AuSPICA within 30 days of the date of billing, unless otherwise specified. The due date for all standard invoices is 30 days from the date of the invoice.
2. All invoices not paid within 60 days from the date of the invoice will be considered delinquent and accrue interest at the rate of 1% per month (12% per annum) retrospective to the date of the invoice.
3. AuSPICA will not accept an application for certification from any Grower who has not paid their account in full at the time of application. The application will be returned to the Grower until the Grower pays all accounts in full.
4. Payments shall be made to AuSPICA via cash, cheque, credit card or funds transfer.

8.3.5 Past Due or Delinquent Accounts

1. Any Grower having an amount more than 60 days past due on their account will relinquish their rights to further certification and other AuSPICA services until all past due amounts are paid. Such action could result in loss of certification, and/or cancellation of special services and/or tissue culture services.
2. No certified seed labels will be issued to any Grower who has an amount on their account that is 60 days or more past due.

8.3.6 Required Deposit for Certain Growers

1. AuSPICA may require any first-time Grower, any Grower who has been inactive for a period, or any Grower with a poor payment record to deposit an estimated payment for services prior to that specific service being rendered.
2. Refusal to make such a required deposit will make that Grower ineligible for all AuSPICA services.

8.3.7 Collection of Past Due/Delinquent Accounts

1. For accounts which become 90 days or more past due AuSPICA will impose additional collection fees, including legal fees and court costs if necessary, to collect an account. The Grower is responsible for payment of those additional collection fees, legal fees (on a full indemnity basis).
2. AuSPICA may refer a past due account or delinquent account to a private collection agency, who may impose additional fees for services necessary to collect an account (including legal fees and court costs on a full indemnity basis).

8.3.8 Refunds and adjustments

1. If an application is rejected or withdrawn before the first field inspection, the full first instalment fee in relation to seed certification fees will be refunded.
2. If a seed crop or application for certification is **rejected** at the first field inspection, one-half of the first instalment fee will be refunded.
3. If a seed crop or application for certification is **rejected** and/or withdrawn at the second inspection, then the first instalment fee will be applied but no second instalment fee will be charged.
4. If a seed crop or application for certification is rejected or withdrawn after passing the first and second field inspections, no fees will be refunded.

9 GENERAL REQUIREMENTS FOR CERTIFICATION

9.1 Seed Potatoes

1. Growers must only plant **Black Label certified seed stocks** for further seed multiplication within the Scheme and shall provide the Scheme Manager of AuSPICA with records of their purchases².
2. AuSPICA maintains a **Certified Seed Growers Code of Professional Conduct** for seed growers. Growers supplying certified seed potatoes are responsible for the integrity of the seed variety that they produce. The variety name printed on the label is based on the variety information supplied by the Grower

² Growers are responsible for securing AuSPICA approved planting material up to generation 4 (black label).

at the time of application to AuSPICA. The full version of the [AuSPICA Certified Seed Growers Code of Professional Conduct](#) is available on the AuSPICA website.

3. ANY and ALL seed crops entered for certification must be from a source approved by AuSPICA prior to planting; However, AuSPICA maintains the right to vary the conditions in which seed lots are accepted into the AuSPICA Scheme.
4. Growers may purchase early generation seed from other AuSPICA Growers, or other approved Schemes³, with a view to further multiplying it to produce certified seed. The purchased seed must have a Black certification Label. All seed from other approved sources must be from fields that have been soil sampled and tested negative to PCN or other quarantinable pests and diseases. Supporting documented evidence of plant health status may be requested by AuSPICA.
5. Proof of purchase in the form of official Black Labels must be provided upon application. AuSPICA may request extra proof of traceability in the form of invoice/s or other documentation
6. Mandatory PVY testing for all seed stocks for sale or transfer see *page 23*. A seed crop shall be rejected for certification for any of the following reasons:
 - a) a failure to plant AuSPICA approved seed source the or the inability to demonstrate traceability of seed source, or
 - b) field(s), or any portion thereof, planted without adequate crop rotation as outlined in the Conditions, or
 - c) blending or mixing of seeds lots from of two different sources; or,
 - d) at the time of inspection or testing, potato plants failed to meet disease tolerance limits set forth in Section 10 of these conditions.

9.2 Fields used to produce Certified Seed Potatoes

1. The detected presence of the pathogen Potato Cyst Nematode (*Globodera rostochiensis* and/or *G. pallida*) shall disqualify a field for future production of certified seed potatoes, until soil tests indicate absence of PCN to the satisfaction of AuSPICA.
2. The confirmed diagnosis of Bacterial Wilt (*Ralstonia solanaceum*) shall disqualify from seed certification all seed potatoes produced under that application for certification, or different applications using the same equipment. All such fields will be disqualified from seed potato production for a period of six (6) years, with no other host crops being grown in this period.
3. There shall be a physical separation between seed potato plots:
 - a) between each registered seed plot; and,
 - b) of at least twenty (20) meters between certified potato fields and commercial potato fields.
4. Certification shall be denied for any seed crop grown in field(s) that do not have appropriate rotations (3 or 5 years) in accordance with Section 9.2.1

9.2.1 Field Rotation History

1. No application will be accepted for land that has grown bulbs, corms or tubers imported from a country with a known Potato Cyst Nematode (PCN) infestation or planted with bulbs that were grown in a PCN-infested district in Australia.
2. Potatoes grown on land that has previously grown bulbs from other sources will be subjected to intensive soil sampling for PCN prior to certification.
3. Land on which seed generations one to three (G1 – G3) are produced, must not have grown potatoes for a minimum of five years (60 months) from the date of planting Land on which subsequent generations of seed potatoes are produced (i.e. G4 and G5) must not have grown potatoes for a minimum of three years (36 months) from the date of planting.

³ Approved seed potato certification Schemes operate in Western Australia, Tasmania, New South Wales and seed stocks from these Schemes must have a black label to be considered for inclusion within the AuSPICA seed Scheme.

9.2.2 Potato Cyst Nematode (PCN) testing of fields for use in seed Scheme

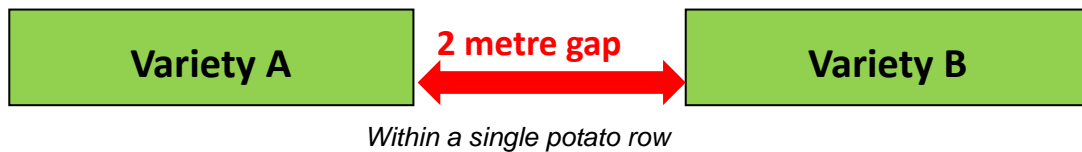
1. All fields must be soil sampled (10x10 m grid 500g per 2 Ha see 21.3.2) and laboratory tested with a negative result to enable associated seed crops to be submitted for certification.
2. No certified seed potatoes can be produced on a property that is deemed to have linkages (through common management or shared machinery) to PCN infested fields.

9.2.3 Use of leased land to produce certified seed potatoes

1. Growers submitting crops grown on leased land must submit:
 - the property owners' name.
 - the address of the property.
 - a map showing the location of the field in the property; and,
 - the cropping history of the relevant fields for the previous five years.
2. AuSPICA may use a GPS device to map the location and area of the fields.

9.3 Isolation of seed crops within a field

1. Within each generation, different varieties must be planted with at least one blank row between varieties/seed lots or a gap of two metres if planted in the same row.



- a) However, within each generation, only red and white skinned potato varieties need not be separated by a blank row.

Note:

- G1, G2 & G3 have the same isolation rules
 - that the minimum distance that G1, G2 and G3 seed can be planted from Certified seed is 5 metres
 - G1, G2 & G3 crops must be at least 20 metres from all Commercial crops
- b) Isolation from G5 to Commercial crops
 - At least 1 Blank row from crops planted with certified seed.

G1 & G2 Plots

- G1 & G2 plots of each variety are to be planted in blocks of at least two rows and preferably in blocks of four rows with a gap left to allow roguing and inspection. Sufficient space is to be left to allow the movement of sprayers around them without damaging the foliage.
- The “normal” headlands left for machinery movement must not be planted.
- Isolation areas and headlands are to be kept reasonably free of weeds.

9.4 Storage Facilities for Certified seed Potatoes

1. Certified seed potatoes shall be neither stored nor graded in a storage facility containing non-certified potatoes without conditions.
2. Crops subject to separate applications for certification may be stored in the same storage facility. A physical identification (e.g. painted lines on floor) between seed lots for a common variety is permissible as long as seed potatoes from the transition zone are identified as a mix between the two lots for tracking purposes. However, if stored together without a demonstrable separation and clear labelling of all potato lots, all commonly stored seed will be denied certification.

9.5 Other crops rule (other commercial potato production)

1. Applications will not be accepted from Growers who have commercial crops of the same variety or have financial interests in commercial crops of the same variety as those submitted for certification to be grown on their properties or on other land which they lease unless they apply for consideration for an exemption from the Scheme Manager of AuSPICA.
2. Commercial Crops of the same variety as crops intended for certified seed may be accepted when they meet the following conditions: -
 - a) They are planted with G1 to G4 certified seed. Records/proof of seed purchases are to be provided by the Grower to AuSPICA at application time.
 - b) AuSPICA has the right to inspect each commercial crop to check for overall crop health. A fee for each commercial crop will be charged to cover the cost of a check field inspection and harvest and shed audits.

3. All Growers are to keep account of harvesting, grading and the sale of the commercial potatoes by their normal record keeping means All commercial potatoes of the same variety as certified seed are to be stored in a separate building.
4. For grading, certified seed stocks should be clearly separated from commercial stocks. Grading records are to be kept of each day's activities.
5. The commercial crops should in no way jeopardise the integrity of the crop being grown for seed.

9.6 Violations, Rejection of Application and Fields

1. Any certified seed potato Grower who wilfully violates any certification rule or regulation may be rejected for any certification for that given year.
2. AuSPICA may reject an application for certification for the following reasons:
 - (a) an incomplete application form, as determined by the Scheme Manager; or
 - (b) a late application form; or
 - (c) the failure of a seed Grower to pay a past due or delinquent account or the appropriate application and inspections fees; or
 - (d) a seed-source ineligible for certification; or
 - (e) the undisclosed or unauthorised blending seeds stocks of two different sources; or,
 - (f) AuSPICA may reject a seed crop, field or entire application for certification if the crop fails to meet the Conditions of the AuSPICA seed potato Scheme.
3. In the situation of a violation, the Scheme Manager of AuSPICA shall send written notice by certified mail with return receipt requested to the seed Grower whose application is deemed to be in violation. This notice shall explain the reason for rejection and notify the seed Grower of the right to appeal.

9.7 Revocation of Certification

1. There are circumstances when a Certification of a seed crop or seed lot has been approved including the issue of certification labels, but information may become available after the issuance, deeming it necessary to revoke the certification and labels.
2. With respect to **an individual crop or lot**. Certification may be revoked at any time if the certification officer determines that the crop was subject to any of the following circumstances:
 - has been exposed to sprout inhibitors or other harmful chemicals; or
 - is not deemed to be fit for purpose; or
 - has lost its identity; or
 - has lost its ability to propagate; or,
 - is infected with a restricted disease.
3. With respect to **all of the crops** produced on a farm unit, Certification may be revoked at any time under any of the following circumstances:
 - the certification officer determines that any one of the lots is infected with a restricted disease;
 - any one of the lots has come in contact with a restricted disease or any common equipment used on a potato operation which was infested with a restricted disease unless an certification officer has verified that a clean-up and disinfection of the equipment had been completed before use of the equipment on the farm unit;
 - the certification officer determines that non-certified potatoes from another farm unit are stored with the certified seed potatoes; or,
 - the certified seed potatoes are stored, graded or handled with common equipment that has not been satisfactorily cleaned and disinfected after being used to handle non-certified potatoes.
4. If Certification is to be revoked, the basis for which shall be supplied to the Grower in writing.

5. In circumstances where certification has been revoked, AuSPICA has the right to recall certification labels from the Grower and purchasers of affected seed potatoes. In doing, so AuSPICA may disclose the basis for the revocation of certification to other parties.

9.8 Maintaining Potato Variety Purity

1. It is the grower's responsibility to maintain variety purity within acceptable tolerances. This responsibility is specifically outlined in the **AuSPICA Certified Seed Growers Code of Professional Conduct** reads as:

Item 12 Members must ensure that potato variety is correct as stated on the official certification label. If a variety mix is determined for a seed lot that is supplied to another grower under a black label, AuSPICA will provide mediation between the affected parties and may impose a crop compliance fee of up to \$5000 to the producer of the defected seed lot. In so doing, DNA fingerprinting may be used by AuSPICA to confirm the identification of variety mixes and origin of seed stocks.

2. In the event of a dispute between growers involving a variety mix, AuSPICA will provide mediation services to the parties and may impose a crop compliance fee of up to \$5000 in the event that it is found that a grower has supplied seed lots that have excessive variety mixes. AuSPICA reserves the right to withhold the supply of labels to growers that have repeatedly supplied lots with variety mixes.

- a. In the event of mediation, DNA fingerprinting may be used by AuSPICA to confirm the identification of variety mixes and origins of seed stocks.

9.9 Plot Markers

There is a mandatory requirement for plot markers (including generation and variety) to be included in the fields and inspection may be withdrawn until adequate labelling of plots.

10 INSPECTIONS OF THE GROWING POTATO CROP SUBMITTED FOR CERTIFICATION

10.1 Access for AuSPICA Certification Officers

1. Certification Officers may inspect submitted crops unaccompanied but should always have made an appointment with the grower.
2. It is the responsibility of the Grower to ensure the access to areas for the certification is free of obstructions or hazards that has potential to cause injury to the certification officer. AuSPICA reserves the right to withdraw services if it is deemed to be unsafe for AuSPICA staff to provide services. The Scheme Manager of AuSPICA shall send written notice (which includes email) to the Grower if such circumstances apply.

10.2 Field crop inspections criteria

1. There will be a minimum of two inspections of the growing crop by AuSPICA Certification Officers
2. Crops, which fail to meet the standards for field inspection (**Table 3**), will not be certified.
3. The first, post-emergence, will be made close to or at flowering and preferably before row closure.
4. The second, pre-senescence, will be made close to, but before the crop starts to mature, or just prior to top removal.
5. All rogued material (tops and tubers) must be removed from the field and destroyed.
6. Roguing levels shall be at the discretion of AuSPICA. However, as a general guide, a maximum roguing level of 1% above the defined tolerance should be achievable in a certified crop.
7. Group 1 disease (i.e. those which are specifically excluded automatically preclude the crop from being certified.

10.3 Final Inspection and top removal

1. The final inspection shall take place close to crop maturity or just prior to top removal. AuSPICA aims to conduct the final inspections while the crops are still green and before they yellow-off. **Growers should contact their Certification Officer before the crop is ready for inspection.**

2. Where a Grower has requested a final inspection with intent to remove the tops to limit tuber size, the Grower is responsible for removing the tops within 7-10 days of the final field inspection. Where crops are left standing after that time AuSPICA may require an additional field inspection to be carried out which will be at the Grower's additional expense.
3. AuSPICA reserves the right to reject any crop that is unsuitable for inspection.

10.4 GROUP 1 Restricted Diseases (PCN, Bacterial Wilt, PSTVd, *Dickeya dianthicola*)

A **ZERO TOLERANCE** will apply to the following diseases, which automatically precludes the crop from being certified. (A nil tolerance applies)

- a) Brown Rot (Bacterial wilt) (*Ralstonia solanacearum*)
- b) Blackleg caused by (*Dickeya dianthicola*)
- c) Potato Cyst Nematode (PCN) (*Globodera rostochiensis* or *G. pallida*)
- d) Potato spindle tuber viroid
- e) Potato wart (*Synchytrium endobioticum*)
- f) Ring rot (*Clavibacter michiganensis sepedonicus*)
- g) Tobacco Rattle Virus
- h) Zebra Chip Complex

The discovery of any restricted disease automatically rejects the crop for certification.

10.5 Crop Standards

1. Irrespective of the generation, crops will be rated from 1 to 4, according to the following tolerances for foreign varieties, viruses, and other diseases: Full list of tolerances in given in Table 4.

Table 3. Maximum Tolerances for Diseases and Foreign Varieties (Summary).

% of Plants	Rating 1		Rating 2		Rating 3		Rating 4	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd
Inspection								
Foreign Varieties (Group 4)	0.05	0.00	0.10	0.01	0.10	0.10	0.10	0.10
Virus diseases (Group 3)	0.10*	0.01	0.25	0.10	1.00	1.00	4.00+	4.00+
Other diseases (Group 2)	0.25	0.10	0.50	0.25	2.00	2.00	2.00	2.00
Total Diseased plants	0.25	0.10	0.50	0.25	2.00	2.00	6.00+	6.00+
Blackleg ⁴ (caused by <i>Pectobacteria parmentarie</i> , <i>P. caravovororum</i> subsp. <i>brasiliense</i> , <i>P. atrosepticum</i> , <i>P. polaris</i>)	0.01	0.01	0.1	0.1	1	1	2	2

*0.10 = 1 plant in one thousand + Potato Virus Y only all other virus tolerance as per rating 3

2. **Any generation of seed intended for further multiplication in the AuSPICA seed Scheme must be of a rating that is equal to or higher than that of the next generation.** Seed with a rating of 2, for example, cannot be upgraded to a rating of 1 in the subsequent generation. Any seed having a field rating of 3 or 4 cannot be further multiplied for certified seed.
3. The highest number rating in any category shall determine the overall rating for that crop. (E.g. for a foreign variety rating of 1, virus rating of 2, and other diseases rating of 3, then the overall rating = 3).

⁴ Note conditions apply to blackleg as listed in section 21.2

4. A certified seed crop can have a rating down grade based on other factors (e.g. weeds) at the discretion of the Scheme Manager of AuSPICA.
5. Rating 4 only applies to Blue Label seed.

Table 4 Tolerances of diseases for seed potato certification at final field inspection

Disease	Causal organism	Nuclear TC	Final inspection rating			
			R1	R2	R3	R4
Group 1 Restricted diseases⁵						
Brown rot (Bacterial wilt)	<i>Ralstonia solanacearum</i>	Nil	0%	0%	0%	0%
Blackleg caused by <i>Dickeya dianthicola</i>	<i>Dickeya dianthicola</i>	Nil	0%	0%	0%	0%
Potato Cyst Nematode ⁶	<i>Globodera rostochiensis</i> or <i>G. pallida</i>	Nil	0%	0%	0%	0%
Potato Spindle Tuber Viroid	Pospiviroidae	Nil	0%	0%	0%	0%
Potato Wart	<i>Synchytrium endobioticum</i>	Nil	0%	0%	0%	0%
Ring rot	<i>Clavibacter michiganensis sepedonicus</i>	Nil	0%	0%	0%	0%
Tobacco Rattle Virus	Tobacco Rattle Virus	Nil	0%	0%	0%	0%
Zebra Chip	Candidatus <i>Liberibacter solanacearum</i>	Nil	0%	0%	0%	0%
Group 2 Crop assessment (Bacterial and Fungal Diseases)						
Fusarium Wilt	<i>Fusarium</i> spp.	Nil	0.1%	0.25%	2%	2%
Verticillium wilt	<i>Verticillium dahliae</i> and <i>V. albo-atrum</i>	Nil	0.1%	0.25%	2%	2%
Blackleg (not <i>D. dianthicola</i>)	<i>Pectobacteria parmentarie</i> , <i>P. caravovorum</i> subsp. <i>brasiliense</i> , <i>P. atrosepticum</i> , <i>P. polaris</i>	Nil	0.01%	0.1%	1%	2%
Total Group 2 Bacterial and fungal diseases		Nil	0.1%	0.25%	2%	2%
Group 3 Crop assessment (Viral Diseases)						
Potato Leaf Roll Virus		Nil	0.01%	0.1%	1%	4%
Potato Virus Y ⁷		Nil	0.01%	0.1%	1%	4%
Potato Virus X		Nil	0.01%	0.1%	1%	4%
Potato Virus A		Nil	0.01%	0.1%	1%	4%
Potato Virus S		Nil	0.01%	0.1%	1%	4%
Tobacco Mosaic Virus		Nil	0.01%	0.1%	1%	4%
Tomato Spotted Wilt Virus		Nil	0.01%	0.1%	1%	4%
Purple top Wilt		Nil	0.01%	0.1%	1%	4%
Total Group 3 virus diseases		Nil	0.01%	0.1%	1%	4%
Group 4 Foreign Cultivars		Nil	0%	0.01%	0.10%	0.10%

⁵ This list of restricted diseases will by necessity have to change if the status of any diseases on the list changes.

⁶ All crops for certification within the AuSPICA seed Scheme require PCN test by a soil sample collected on a 10 x10 m grid with composite sample of 500g taken for every 2 Ha

⁷ All crops for certification within the AuSPICA seed Scheme require mandatory leaf and or tuber testing especially for PVY

10.6 Laboratory based leaf testing for virus assessment

1. All seed potato lots for sale or transfer and requiring a AuSPICA certification Label must have a leaf sample tested for Potato Virus Y and other viruses as the discretion of the certification officer and or as determined by the seed buyer.
2. Crops greater than 0.25 ha require a minimum of 200 leaf samples (10 leaves in 20 groups). Each multiple of 5 ha will require an additional test. Thresholds for this testing are listed on page 32.
3. For crops less than 0.25 ha in area will require a minimum of 20 leaves (10 leaves in 2 groups). In this case, both samples need to be tested negative to enable certification. A single positive will mean that a certification label cannot be issued however the crop can be either re-tested using 200 leaf samples to identify the percentage of infestation or the crop can be retained by the member for inclusion in the following year. Furthermore, seed crops tested using a 20 leaf test which only have one positive may be retained by the grower but is ineligible for certification label. If retained by the grower the following crop derived from the seed must have a 200 leaf test done.
4. AuSPICA uses diagnostic laboratories that are NATA accredited and approved. NATA provides third-party on-site assessment of the laboratories competence and capability to deliver reliable results. When available, all results must have NATA logo to indicate that they are from an accredited laboratory.

11 GRADING, PACKING, TUBER INSPECTION AND CERTIFICATION

11.1 Tuber standards

11.1.1 Tuber inspections

1. The Grower must notify AuSPICA when the seed potato tubers are ready for certification.
2. A certification officer authorised by the Authority will inspect the unwashed tubers for diseases and defects by examining random samples from each lot of produce presented for inspection. In the case of bulk containers, inspect a sample of 100 tubers and, in bagged lots, inspect all the tubers in the bag. The sample size will be determined as follows:



Minimum number of samples = 2

Maximum number of samples = 16 (80 tonnes)

ALL SAMPLES MUST MEET PRESCRIBED TOLERANCES

For example:

1. 20 tonnes for certification in 1 tonne boxes = 20 divided by 5 = 4 samples (4 boxes)
2. 3 tonnes for certification in ½ tonne bins = 2 samples (minimum number of samples)
3. Tubers are to be practically free of soil and must be of good characteristic shape for the variety.
4. **If the potatoes meet or are below the tuber tolerances at the time of inspection, the seed lot will be approved for final certification and sale.**
5. **If the potatoes do not meet the final grade requirements (i.e. exceed the tolerance prescribed), the grade certificate shall not be issued unless the potatoes are regraded to meet the requirements.**
6. When a seed lot is rejected or re-graded, it is the Grower's responsibility to return used Labels to the certifying authority.

11.1.2 Criteria for post-harvest potato tuber inspection (prescribed tolerances)

1. Certified seed shall be graded by size, weight, or number of tubers.
2. Irrespective of the generation assessed, seed will be graded AA or BB provided it does not exceed the maximum prescribed tolerances in Table 5.
3. **Any Certified seed lots remaining on the farm for 30 days after Certification must be re-inspected prior to leaving the farm.** However, AuSPICA reserves the right to re-inspect seed lots remaining on farm when the integrity of the seed is comprised or at the discretion of the Scheme Manager.
4. Disease/Defect Tolerances relating to post harvest assessments
 - a) The following tolerances in Table 5 apply to each group of diseases/defects: Assessment of diseases/defects will be based on **visual inspection of unwashed tubers.**
 - b) Tuber samples may be taken for disease testing at an approved laboratory, at the Grower's expense.
 - c) Tubers shall be practically free of soil and as such soil contamination should not impede the ability to visually inspect the tubers.
 - d) For rating AA the total acceptable tolerance for Group 5 will be 2.0%. For rating BB (Blue Label) the total acceptable tolerance for group 5 will be 4%.
 - e) For rating AA the total acceptable tolerance for all diseases in Group 6 is 2.0%. For rating BB (Blue Label) the total acceptable tolerance for group 6 will be 4%.

Table 5 Post-harvest tuber assessments.

Disease	Causal organism	Nuclear TC	Rating AA (% by tuber count)	Rating BB (% by tuber count) ⁸
Group 5 Tuber assessment – Diseases				
Dry Rots	<i>Fusarium</i> spp., <i>Phoma</i> sp.	Nil	2%	2%
Black scurf ⁹	<i>Rhizoctonia solani</i>	Nil	-	-
Silver Scurf ⁹	<i>Helminthosporium solani</i>	Nil	-	-
Black dot ⁹	<i>Colletotrichum coccodes</i>	Nil	-	-
Common scab	<i>Streptomyces</i> spp.	Nil	2%	4%
Powdery scab	<i>Spongospora subterranea</i>	Nil	2%	4%
Root Knot Nematode	<i>Meloidgyne</i> spp.	Nil	2%	4%
Soft rots	e.g. <i>Pythium</i> spp.	Nil	0.25%	0.25%
Pink Rot	<i>Phytophthora ethyroseptica</i>	Nil	0.25%	0.25%
Group 6 Tuber assessment – Insects and Defects				
Potato Moth damage ¹⁰	<i>Phthorimaea operculella</i>	Nil	2%	2%
Insect damage ¹¹	Other than <i>Phthorimaea operculella</i>	Nil	2%	2%
TOTAL INSECT		<i>Nil</i>	2%	4%
Malformed Tubers		n/a	2%	4%
Mechanical damage ¹²		n/a	2% ¹²	4%
Skinning ¹³		n/a	5% ¹³	5% ¹³
Stem end discoloration		Nil	2%	2%
Miscellaneous (eg. sunburn and/or frost)		Nil	1%	1%
Foreign cultivars		Nil	0%	0%
Group 7 Tuber sizing				
Sizing				
Oversize		n/a	Difference Lower and Upper of size range = 15mm variation size tolerance 4% >15 mm variation size tolerance 2%	
Undersize		n/a		

Only one defect

⁸ Only one nominated defect i.e. tolerance permitted for powdery scab only not combinations of defects. Crop must have a R1 or R2 to be eligible for blue label.

⁹ The tolerance for these diseases may be negotiated between the seed Grower and the seed buyer. + Only a single defect.

¹⁰ This tolerance relates to the **insect feeding damage only**. No live insect is permitted.

¹¹ The tolerance relates to the insect feeding damage caused by insects other than *Phthorimaea operculella*. No live insects are permitted.

¹² Mechanical damage is considered countable if the damage is greater than 2mm deep (i.e. can be removed with two passes of a potato peeler).

¹³ no more than 5% of tubers with 5% of surface area affected.

11.2 Seed size tolerances

1. The standard method of sizing certified seed potatoes is based on size dimensions.
2. Unless otherwise agreed to by the buyer and seller prior to delivery, seed shall be graded to a standard of 35 mm to 75 mm using a square holed template as the standard. For all other lots, the size of the seed tubers certified must be shown on the certification label of the respective seed stock.
3. If grading is to be by weight, then tubers will usually be graded within the limits of 35 g to 250 g, unless otherwise agreed to by the buyer and seller.
4. In determining the tolerances for seed size, the following principle is to be applied.
5. Difference Lower and upper of size range;
 - = 15mm variation size tolerance 4%
 - > 15 mm variation size tolerance 2%

e.g. a grade 35 mm to 50 mm will have a upper and lower tolerance of 4 % (4% of counted tubers can be below 35 mm and an additional 4% of tubers can be oversize) however the total variation can be no greater than 4% of tubers outside prescribed range of size. Whereas a grade with 35 mm to 55 mm will have a will have a upper and lower tolerance of 2 %.

11.3 Summary of Seed Grades sold or transferred to other seed Growers

1. Generations can be transferred and/or traded (1 to 4 in a five-year Scheme) between registered certified seed Growers, with an official "Black" Label. Such seed will have a field rating of 1 or 2, and a tuber rating of AA.
2. All black labeled seed within the AuSPICA seed Scheme must originate from a field that has a negative PCN soil test.

11.4 Seed containers used to pack certified seed potatoes

Seed potatoes must be packed in containers with the official Label.

11.4.1 Small lots

All containers used to pack certified seed potatoes that are less than 500 kg net capacity must be new

11.4.2 Bulk bags

Only new bulk bags must be used.

11.4.3 Bulk containers

1. Used bins must always be washed, in good repair, free of soil and plant debris and may be accompanied by a signed AuSPICA Clean Bin Declaration Form (BINDEC) or an equivalent plant health certificate issued by Government agency in accordance with the relevant phytosanitary regulations.
2. It is the Grower's responsibility to ensure that the seed is only packed into clean bins.
3. New bins do not require the signed declaration.
4. Seed that has been repacked will not be recognized as certified seed unless such repacking maintains the identity and integrity of the seed to the prior written agreement of the Scheme Manager.
5. Certified seed which has been packed in bulk containers will continue to be recognised if:
 - a) it remains in the original containers; and
 - b) the original Labels remain attached; and
 - c) the produce matches the description of the lot certified; and,
 - d) a Label containing the Grower's name and address identifies the seed lot.

11.5 Bulk loads

1. A single Label is to accompany a bulk load of certified seed potatoes. Only one Label is to be given to the driver, to represent that lot of certified seed.

12 OFFICIAL CERTIFICATION LABELS

12.1 Growers Responsibilities in relation to official certification labels

1. Official Labels shall be issued by AuSPICA to the Grower or a designated agent. The Grower, to whom the official certification Labels were issued, shall be responsible for the proper use and application of the official Labels issued by AuSPICA. The certification Label constitutes a warranty by the Grower that the seed potatoes in the container were harvested from a certified crop and complied at the time of inspection of the tubers with the standards prescribed for certified seed potatoes.
2. The seed Grower must keep a record of the official Label numbers used which should be made available to AuSPICA upon request. AuSPICA reserves the right to audit all official Labels that have been issued. In so doing, AuSPICA may check if the tonnage of seed certified aligns with the plot area submitted for certification. If a discrepancy is found, AuSPICA will seek clarification from the grower and may request the Grower resubmit their original application and in so doing incur any associated costs, as determined by the authority.
3. It is a breach of the Conditions of the Scheme for an AuSPICA member to use an official AuSPICA certification Label that has previously been used on certified seed or is not related to the seed lot to which it is applied. If a load is rejected, the grower has the option to regrade and in so doing the grower may utilise the previously issued Labels for the seed lots with the prior approval from AuSPICA.

12.2 Official Certification Labels

12.2.1 General Information

1. The certification Labels issued to any certified seed potatoes indicates only that, at the time of inspection, the potatoes inspected met the requirements for certification as stated in the said Conditions.
2. Seed sold as Certified seed. Generations 1 to 5 can be sold as certified seed, with an official “red” Label. Such seed will have a tuber rating of AA, a minimum field rating of 3, and will be sold as “Certified AA”.
 - i. The official Label will be printed with the generation (optional) and the field rating of the associated seed crop.
 - ii. All official Labels must have included the date packed (to be entered by the Grower).
3. All AuSPICA Labels remain the property of AuSPICA and are licensed to the Grower for use.
4. No mutilation of official Labels by writing or marking over, or otherwise altering original information printed thereon, shall be permitted unless requested in writing by the Grower and approved by AuSPICA.
5. The Grower, to whom the official Labels were issued, shall be responsible for the proper use and application of the Labels.
6. Unless the produce carries an official certification Label, the contents are not be officially recognised as certified seed.
7. **Any certified seed remaining on the farm for 30 days after Certification must be re-inspected prior to leaving the farm at additional cost to the Grower.** However, AuSPICA reserves the right to re-inspect seed lots remaining on farm when the integrity of the seed is comprised or at the discretion of the Scheme Manager.
8. For the supply of all official certification Labels Growers should allow a minimum of 5 working days to allow for printing and postage.
9. An application form for domestic Labels (DOMLAB) and export Labels (EXLAB) must be completed for each certified seed stock and be submitted to AuSPICA.
10. All containers will carry an official certification Label and will document:
 - Certification authority (e.g. AuSPICA).
 - Country and area of production (e.g. Ballarat, Victoria Australia or Mount Gambier, South Australia, Australia).
 - Variety name (e.g. Atlantic).
 - Field generation (if requested by the applicant, generation number 1, 2, 3, 4, or 5).
 - Field Rating (R1, R2, R3 or R4).
 - Crop registration number including producer’s identification number.

- Declared net weight (only included in export labels)
- Size (mm diameter range of seed based on square rings)
- Date of packing (closing).
- Unique Serial number of the label.
- Harvest date (export only)
- Seed treatment (if applicable) (export only).

12.2.2 Black Labels

1. Black Labels are for seed sales or transfer to registered Certified seed Growers: All certified seed sold to AuSPICA Member Growers for further planting in a seed Scheme is to be labelled using the “Black” Label. Black Labels are the “passport” required to move certified seed from one seed Grower to another seed Grower. Black Labels must show the field crop rating, generation and registered crop number.
2. It shall be permissible to use official Black labels on potatoes containing an excess of oversize, undersize, and/or sprouts and other defects providing that the official tuber inspection report indicates that the potatoes exceed the tolerance and that approval is granted from the Manager of the AuSPICA Scheme. It shall be the responsibility of the Grower to submit written evidence that the purchaser is willing to accept such a grade.

12.2.3 Red Labels

Red Labels are used to Label Certified seed that is to be sold to commercial Growers.

12.2.4 Blue Labels

Blue Labels are used to Label Certified seed that is to be sold to commercial Growers.

12.2.5 Labels for export

Labels for export certified seed potato lots

1. Official labels for export certified seed potato lots are printed and supplied by AuSPICA on demand by the grower and or agent/exporter. Growers will be invoiced by AuSPICA for the supply and printing of Export Labels.
2. Export Label order forms for AuSPICA certified seed potatoes are available from the AuSPICA web site and the AuSPICA office.
3. Additional information, to that of the domestic certification labels, may be included on export labels to meet conditions of trade or other requirements
4. Complete traceability of seed lots are required at all times to ensure the integrity of the certified seed potatoes. This may require the issue of domestic labels prior to packing for export.
5. Official AuSPICA export certification labels will not be used for Certified seed potatoes that are directly produced under other certified seed potato Schemes. The grower or agent/exporter must make prior arrangements with the original certification authority to supply the associated export labels. AuSPICA may conduct inspections and assessments on seed potato lots that are destined for export that are produced under another certification Scheme in consultation with the original authority.
6. Growers/exporters must ensure consecutive use of the official certification labels so that the entire consignment of certified seed potatoes is traceable and auditable to seed origin.
7. It is the onus of the grower and or agent/exporter to determine if the certified seed potatoes are eligible for the intended export market. At the request of the grower or agent/exporter AuSPICA may supply documentation and details to support market access but in so doing AuSPICA makes no claims or provides any warranties about the eligibility of the seed lots for the intended export market.

13 OTHER GENERAL RULES IN RELATION TO SEED POTATO CERTIFICATION

13.1 Hygiene management

1. Packing sheds are to have a concrete or sealed floor.
2. Lighting over the grading table should be to the satisfaction of AuSPICA.
3. Agricultural chemicals are not to be stored in the same storage area used for certified seed potatoes.
4. Sprout suppressants are not to be used or stored in or near the seed potato grading or storage areas.

5. The shed surrounds are to be kept tidy, free of rubbish and weeds. AuSPICA retains the right to refuse the provision of services if the environment is considered to be unsafe and present a perceived hazard to staff.
6. Soil and crop debris is not allowed to accumulate in sheds. Waste potatoes, soil and crop debris are to be regularly removed from the shed and surrounding areas and disposed of in a dedicated pit or waste disposal facility.
7. Waste should not be returned to potato fields to be used for certified seed potato production.
8. All containers used for storage (e.g. bins) of certified seed should be washed between seasons, or more frequently as required.
9. Machinery should be cleaned with a suitable disinfectant as required.
10. A designated area should be provided for cleaning and disinfection of machinery and equipment.
11. Packing sheds and machinery should be thoroughly cleaned between seasons or as required.

13.2 Records relating to the production of certified seed potatoes

1. The grower should maintain a record of each day's planting and harvest.
2. The Grower should maintain a record of all agricultural chemicals used to produce the crop including any post-harvest treatments applied.
3. A register is to be maintained that details the seed potato lots certified, the labels issued, and the destination.

13.3 Storage of Certified Seed Potatoes

1. Each generation of seed potato must be separated, to prevent seed from being mixed.
2. Certified seed potatoes must always be separated from the storage of commercial ware potatoes.
3. Seed lots (generations and varieties) must be clearly and accurately labelled showing the variety, generation and date of harvest.

13.4 Grading Certified Seed Lots Off-Farm

1. Approval to grade seed lots off-farm may be granted by AuSPICA if the following requirements are met:
 - a) prior notice is given to AuSPICA in relation to the need to grade seed off-farm (a minimum of 10 days' notice);
 - b) each container of potatoes that is to be moved off farm (e.g. to another Grower's shed) must be clearly labelled showing the Grower's name, the variety and the generation;
 - c) the grader (all parts thereof) and surrounding floor area are to be cleaned of all loose soil, debris and potatoes prior to and after grading;
 - d) the grader is to be washed and disinfected prior to grading;
 - e) the property associated with the facilities whereby seed is to be graded off-farm must be known to be PCN free and no associated linkages to infested fields e.g. sharing of machinery etc.

13.5 Repacking of Certified seed

1. Repacking of Certified seed into smaller containers for retail sales may be permitted at premises approved for the purpose by AuSPICA. A fee will be charged to cover audit and inspection services.

13.6 Breeding lines of potato

1. Breeding lines derived from the Breeding Programs may be multiplied by Growers for evaluation purposes provided that:
 - a. They are kept separate by two blank rows from Certified and G4 seed crops and 20 metres from G1, G2 & G3 seed crops;
 - b. They conform to the standards of varietal purity and disease freedom as required for certified generation seed. As plant descriptions are not available for breeding lines, AuSPICA will inspect the growing crops for uniformity but not for varietal identity; and,

- c. Crops that meet the field and tuber standards for Certified seed may be labelled as “*Breeders seed*”.

13.7 Grow-on of samples for quality verification

Growers may choose to retain identified samples of certified seed lots sold and grow them on for quality verification purposes. Such plots are to be identified in the field and treated as commercial crops for the purpose of isolation. The produce is not to be sold as certified seed.

13.8 Failure to observe Conditions of AuSPICA Scheme

Growers who fail to observe the Conditions governing the production of seed potatoes or who act in any way against the successful conduct of the AuSPICA Seed Potato Certification Scheme may be excluded from the Scheme.

13.9 Right of appeal

1. A Grower shall have right of appeal with respect to services provided by AuSPICA by providing written notice to the Scheme Manager of AuSPICA no later than 48 hours from the date of the service being provided.
2. In the case of field inspections, provided that the Scheme Manager is not the Certification Officer who has provided the service, the Scheme Manager or an approved appointee, shall within 5 working days of receiving the notice of appeal from the Grower, attend with the Grower to inspect the crop and determine whether the crop meets the Conditions of the Scheme.
3. In the event that the Scheme Manager of AuSPICA is the Certification Officer who has rejected the crop or provided the service, the Board of AuSPICA shall appoint a suitably qualified person to inspect the crop. The person so appointed shall attend with the Grower to inspect the crop for compliance with the Conditions of the Scheme.
4. The suitably qualified person appointed by the Board of AuSPICA shall be deemed to be authorised by AuSPICA to administer the Conditions of the Scheme for the purposes of conducting the appeal.

14 COMPLAINT AND ISSUES FROM PURCHASERS OF CERTIFIED SEED POTATOES

AuSPICA recommends that the original purchaser of the seed thoroughly examine the seed & if they have any concerns regarding the seed, forward a written complaint particularising the concerns to both the Grower & AuSPICA within 7 days of receipt.

15 EXPULSION OF MEMBER FROM THE SEED SCHEME

As per the current THE RULES FOR AUSTRALIAN SEED POTATO INDUSTRY CERTIFICATION AUTHORITY)

16 BOARD OF MANAGEMENT

The members of the Board of Management and their background skills can be found on the AuSPICA website, www.auspica.org.au

17 KEY CERTIFICATION RULES (SUMMARY)

Minimum rotation	<ul style="list-style-type: none"> ✓ G1 TO G3 5 years without potatoes ✓ G4 TO G5 3 years without potatoes
Approved seed sources	<ul style="list-style-type: none"> ✓ Growers own certified seed grown under an approved seed Scheme and ✓ Must be field rating 1 or 2 and ✓ Purchased seed must have an official “Black Label” accompanied with a PCN certificate
Isolation	<ul style="list-style-type: none"> ✓ Between Generations – minimum of one row ✓ G1 to G4 crops 20 metres from any commercial crop ✓ G5, 20 metres from commercial crop not planted with certified seed potatoes ✓ G5, minimum 1 blank rows from crops planted with certified seed potatoes ✓ G1, G2 & G3 must be 5 metres from G5 crops
Application forms	<ul style="list-style-type: none"> ✓ Send in at the end of each month for that months planting ✓ NO APPLICATION FORM - NO INSPECTION
PCN sampling	<ul style="list-style-type: none"> ✓ Prior to planting or after harvest. Zero tolerance
1st field inspection	<ul style="list-style-type: none"> ✓ GROWER to notify AuSPICA before the crop is at the right stage ✓ Ideally just before row closure and when crop is flowering
2nd field inspection	<ul style="list-style-type: none"> ✓ GROWER to notify AuSPICA when the crop is at the right stage ✓ While the crop is still green or just before top kill ✓ Kill foliage within 7 to 10 days after leaf sampling for virus testing and/or final inspection
Harvest	<ul style="list-style-type: none"> ✓ Keep records to enable trace back at harvest and grading ✓ Order labels from AuSPICA office. Only order what you need each season

18 INTERPRETATION OF ELISA LEAF SAMPLES (Virus testing)

Interpretation of ELISA testing using 20 groups of 10 leaf samples. Calculated using online statistical tool provided free by the International Seed Testing Association (ISTA) (<http://www.seedtest.org/en/stats-tool-box-content---1--1143.html>).

Number of positives	200 leaf sample (10 x 20)
1	0.53
2	1.05
3	1.61
4	2.21
5	2.84
6	3.50
7	4.22
8	4.98
9	5.80
10	6.70
11	7.67
12	8.76
13	9.97
14	11.34
15	12.94
16	14.87
17	17.28
18	20.57
19	25.89
20	100.00

19 LIST OF FORMS USED IN THE CERTIFICATION PROCESS BY AUSPICA

1. PCN request form	Used to document fields that are to be tested for PCN
2. PCN survey form	Used to identify lab samples collected for PCN soil sample testing
3. Seed on Hand report	Identified the certified seed stocks on hand to a Grower at the end of the season
4. Seed application form	Used by Growers to submit seed crops for certification
5. Field Inspection Report	Used by Certification officers to record crop observations in field
6. Lab Sample Report	Used by Certification officers to submit general samples to laboratory
7. Client Service Record	Used by certification officers to record recommendations to Growers/client
8. Tuber Inspection report	Used by certification officers to record tuber assessments for certification
9. Certified Seed Statement	Used by Growers to summarise certification of seed stocks and their destination
10. Domestic Label form	Used by Growers to order official certification Labels for domestic markets
11. Export Label form	Used by Growers to order official certification Labels for export markets
12. Seed certification Statement	Used by AuSPICA to provide additional information regarding a seed stock generally used for export markets

20 REFERENCES AND FURTHER READING

1. ISO/IEC 17020:2012 Conformity assessment -- Requirements for the operation of various types of bodies performing inspection
2. ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories
3. ISPM Pest free potato (*Solanum* spp.) micro-propagative material and minitubers for international trade (2010)
4. UNECE STANDARD S-1 concerning the marketing and commercial quality control of SEED POTATOES 2014 EDITION

	Revision		Approval
1/09/2019	Changed reference from ViCSPA to AuSPICA including logos	NC	CSC 30/08/2019
1/09/2019	Table 1 inclusion of Mop Top Virus and Tobacco Rattle Virus	NC	CSC 30/08/2019
1/09/2019	Deletion of internationally proven from the definition of QA	NC	CSC 30/08/2019
1/09/2019	Addition of 6.11 Maintaining Potato Variety Purity	NC	CSC 30/08/2019
1/09/2019	Addition of Blackleg caused by <i>Dickeya dianthicola</i> to 7.4	NC	CSC 30/08/2019
1/09/2019	Addition of Blackleg to Table 3	NC	CSC 30/08/2019
1/09/2019	Updated references to other agencies if name change has occurred	NC	CSC 30/08/2019
1/09/2019	Reference to of Professional Code of Conduct to 6.1	NC	CSC 30/08/2019
8/10/2020	Deletion of QA Program throughout, minor editorial changes Updated limitations and warranties Added annex for restricted diseases	NC	CSC 30/08/2019
17/03/2021	Revision of 4.5.2 Structural conditions for minituber production 12.2.5 Labels for export		Board 107 17/03/2021

21 ANNEX 1 – Restricted Diseases (Zero Tolerance)

A **ZERO TOLERANCE** will apply to the following diseases, which automatically precludes the crop from being certified. (A nil tolerance applies)

- a) Brown Rot (Bacterial wilt) (*Ralstonia solanacearum*)
- b) Blackleg caused by (*Dickeya dianthicola*)
- c) Potato Cyst Nematode (PCN) (*Globodera rostochiensis* or *G. pallida*)
- d) Potato spindle tuber viroid (PSTVd)
- e) Potato wart (*Synchytrium endobioticum*)
- f) Ring rot (*Clavibacter michiganensis sepedonicus*)
- g) Tobacco Rattle Virus
- h) Zebra Chip Complex

The discovery of any restricted disease automatically rejects the crop for certification.

21.1 Brown rot (Bacterial wilt)

1. Bacterial Wilt caused by *Ralstonia solanacearum* is not known to occur in the certified seed production regions in the AuSPICA Scheme.
2. There is to be no visual symptoms of Bacterial Wilt caused by *Ralstonia solanacearum* in crop inspections. Therefore, implying a zero tolerance applies to Bacterial Wilt.
3. Any field with visual symptoms of Bacterial Wilt, which are confirmed by lab tests, will be rejected for certification. For fields observed with confirmed Bacterial Wilt the remaining seed within the immediate field is rejected for certification.
4. For all other linked fields (share common machinery and or management) certification is based on a negative core test (200 tubers per 25 t).
5. If a positive core test, then the directly associated seed plot is rejected for certification. The surrounding seed plots, within the immediate field, may be considered for certified based on the evidence of a diagnostic tuber core test that includes a minimum sample of (200 tubers per 25 t).
6. Fields with known infestations of Bacterial Wilt are suspended for inclusion in the seed certification Scheme for a minimum of 6 years, with no host crops grown in the rotation during that period of time.

21.2 Blackleg caused by *Dickeya dianthicola*

1. When blackleg symptoms are detected in a crop, laboratory analysis will determine if the casual pathogen is *Dickeya dianthicola*. If it is determined the crop is affected by *Dickeya dianthicola* the AuSPICA board has adopted a zero tolerance, meaning any detection of *Dickeya dianthicola* will make the crop ineligible for certification. All the other species associated with blackleg that are found to be *Pectobacterium brasiliense*, *Pectobacterium parmentieri*, *Pectobacterium caratovorum* or *Pectobacterium atrosepticum* will be permitted the under tolerances.
2. As of the 2019/2020 season there is the requirement that all Black Label seed from Tasmania must have a “blackleg” tuber laboratory test to show the absence of *Dickeya dianthicola*. A 400-tuber sample using protocols adapted from overseas will be used to test Black label seed lots from Tasmania. A copy of the laboratory report will need to be forwarded to AuSPICA when crops are submitted for certification.

21.3 Potato Cyst Nematode (PCN)

All AuSPICA certified seed potato crops must be produced in fields that have been soil sampled for PCN and laboratory tested negative from both species of PCN.

21.3.1 What is PCN?

PCN (Potato cyst Nematode) is caused by two species of nematode *Globodera rostochiensis* and *Globodera pallida*. Only *G. rostochiensis* has been reported in Australia.



Cysts of *Globodera rostochiensis* on potato roots

21.3.2 Soil sampling methods used for PCN by AuSPICA

The following procedures apply when collecting soil samples in the field for PCN:

- Soil sampling is carried out using a soil sampling corer.
- The area to be sampled must be cultivated enough to allow the persons collecting the sample to walk in a safe manner.
- Samples are collected either after cultivation and before planting, or immediately after planting. In some circumstances a sample can be collected immediately after top removal (post-harvest).
- The sample is collected on a 10 m x 10 m grid.
- The soil collected from an area of two hectares is combined to make a composite sample of 500 grams.
- All samples should be sealed using anti-tamper proof tape and labelled appropriately.

21.4 Potato Spindle Tuber Viroid (PSTVd)

1. To provide assurance that PSTVd is known not to occur in certified seed potatoes in Australia, AuSPICA conducted targeted surveillance for PSTVd in potato crops submitted for certified seed production since 2016. The sampling protocol used is adopted from the method used by Sun *et al* 2004¹⁴. Briefly, samples of potato leaves were collected from 10% of all seed crops submitted for certification per farm. A leaf sample will include fifty randomly collected leaves. The samples will be sent to an approved laboratory for analysis using RT-PCR with NATA accreditation.
2. Any seed crops found to be infected with PSTVd would be deemed ineligible for certification. This would include all common seed crops submitted by the Grower.
3. Reference information on PSTVd in terms of the identification and diagnostics are available at Plant Health Australia
 - a. Fact Sheet <https://www.planthealthaustralia.com.au/wp-content/uploads/2015/08/Potato-spindle-tuber-viroid-FS.pdf>

¹⁴ Sun, M., Siemsen, S., Campbell, W. et al. Am. J. Pot Res (2004) 81: 227.
<https://doi.org/10.1007/BF02871753>

Diagnostics Protocol <https://www.plantbiosecuritydiagnostics.net.au/app/uploads/2018/11/NDP-7-Potato-Spindle-Tuber-Viroid-V1.3.pdf>

21.5 Potato Wart (*Synchytrium endobioticum*)

1. Potato Wart, caused by *Synchytrium endobioticum* is not known to occur in Australia. Currently, AuSPICA maintains a zero tolerance for Potato Wart in the seed scheme.
2. Reference information on Potato Wart in terms of the identification and diagnostics are available at Plant Health Australia
 - a. <https://www.plantbiosecuritydiagnostics.net.au/app/uploads/2018/11/NDP-16-Potato-Wart-Synchytrium-endobioticum-V2.pdf>

21.6 Ring Rot (*Clavibacter michiganensis sepedonicus*)

1. Ring rot, also called Bacterial Ring Rot is caused by *Clavibacter michiganensis sepedonicus* is not known to occur in Australia. Currently, AuSPICA maintains a zero tolerance for Ring Rot in the seed scheme.
2. Reference information on Potato Wart in terms of the identification and diagnostics are available at Plant Health Australia
 - a. <https://www.planthealthaustralia.com.au/pests/bacterial-ring-rot/>

21.7 Tobacco Rattle Virus

1. Tobacco Rattle Virus is not known to occur in Australia. Currently, AuSPICA maintains a zero tolerance for Tobacco Rattle Virus in the seed scheme.
2. Reference information on Tobacco Rattle Virus in terms of the identification is available on the UNECE Guide to Seed Potato Diseases
 - a. <https://spg.softwareobjectives.com.au/#!/catalogues/virus/browser/selected/36>

21.8 Zebra Chip

1. The Zebra Chip disease complex is known not to occur in Australia. Certification Officers and growers should be aware of the disease symptoms. Candidatus *Liberibacter solanacearum* (CLso) and the vector Tomato Potato Pysllid (TPP, *Bactericera cockerelli*) is known not to occur in the certified seed production regions in the AuSPICA Scheme. Currently, AuSPICA maintains a zero tolerance for CLso in the seed scheme.
2. Reference information on Zebra Chip in terms of the identification and diagnostics are available at Plant Health Australia
 - a. Fact Sheet: <https://www.planthealthaustralia.com.au/wp-content/uploads/2018/07/Zebra-chip-FS-Potatoes.pdf>
 - b. <https://www.planthealthaustralia.com.au/pests/zebra-chip/>