

# **NEW ZEALAND SEED POTATO CERTIFICATION AUTHORITY**

## **SEED POTATO CERTIFICATION SCHEME**

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## **PURPOSE**

The purpose of the Certification Scheme is to ensure that cultivars in any of the Authority's programmes are as free from disease and as true to type as is possible through visual field and tuber inspections. Any doubtful material is sent to a laboratory for verification. Certification does not mean the crop is absolutely free of off-types, disease or disease causing agents, but none were seen on the days of the routine inspections.

The Authority does not endorse or make any recommendations in respect of any varieties but certifies that the product measures up to the standards acceptable to the Potato Industry.

## **NEW ZEALAND SEED POTATO CERTIFICATION AUTHORITY**

The Seed Potato Certification Authority was set up by the Potato Product Group of the New Zealand Vegetable and Potato Grower's Federation (Inc) (now Horticulture New Zealand) in May 1988 when the Potato Growing Industry Act was repealed, leaving the industry without an official body to certify the potato seed.

The Potato Product Group is responsible to the potato industry for the appointment of members and staff to the Authority, and its financial servicing.

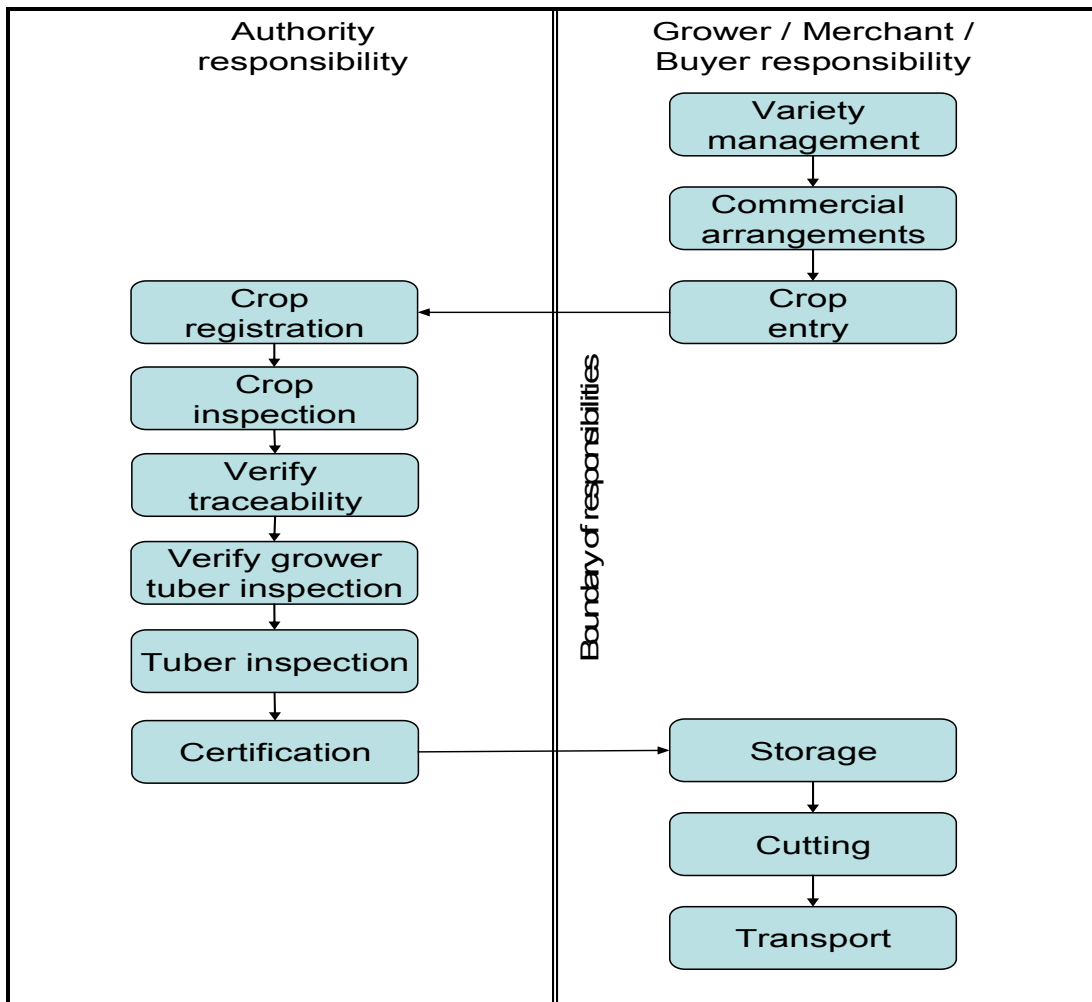
The Authority consists of 7 members, each serving a 3-year term. Elected members are representatives from Processor's, Growers and Merchants. A grower chairman is voted into the chair each year. Members may be re-elected.

The Authority acts as the official and independent agent of the Potato Industry for the certification of seed tuber potato crops. There is no compulsion for vendors, proprietors or agents of a seed tuber production venture to use the services of the Authority.

The Authority contracts out the services for administration, field and tuber inspections. The contracted agencies have the responsibility to ensure that suitably trained personnel are available to perform the duties required on behalf of the Authority.

The certification provided by the Authority relates to the seed tubers at the point of final tuber inspection. Production activities are verified through the growing cycle (identification of sown crops, separation of varieties) and virus inspections are undertaken to ensure tolerances are not exceeded. The authority also requires that growers operate a tuber quality assurance programme. This quality assurance programme is checked through an Authority tuber inspection conducted immediately prior to issuance of certification.

The authority has no role in commercial arrangements between merchants, growers, seed cutting operations or transport companies. Seed quality is assured at the time of inspection; however cutting, storage and transport can affect the quality of seed planted by a ware grower later in the season. Buyers should work closely with growers and merchants to make known their requirements and confirm arrangements regarding storage, cutting and transport.



## CERTIFICATION PROGRAMMES

There are two certification programmes operated by the Authority.

a) Pyramid Multiplication: using virus tested seed stocks where each year, disease free true to type material provides new starting stock. Each year, seed passes to a following lower class. On reaching the lowest class, it can no longer be certified under the rules of the Authority.

- There are 2 distinct schemes operating within this programme: “PT” and Open.
- PT: “PT” ® pathogen tested seed is released from a joint venture operating at the Crop and Food Research Centre, Lincoln, and multiplied through field generations until sufficient quantities are available to be released to Merchants. Enquiries may be made to: The Secretary, “Pathogen Tested Seed Advisory Committee”, PO Box 29-184, Fendalton, Christchurch.
- Open: pathogen tested seed not part of the “PT” scheme. This programme is open to producers or multipliers of seed. Eurogrow Potatoes Limited varieties are grown under this banner.

b) Group: where lines of seed are continually maintained on the farms at a set standard.

## **SCHEME REGISTRATION**

Growers and Merchants must complete the 'Registration Of Participation In The New Zealand Seed Potato Certification Scheme' before applications to grow or acceptance of new varieties into the scheme will be processed. Registration forms are available from the administration service.

## **GROWING DISTRICTS**

Multiplication of certified seed crops may only be undertaken in the districts approved by the Authority. A map showing the growing districts is held by the administration service. Applications to multiply crops outside of these districts must be made to the Authority.

## **FARM NUMBERS**

Properties where certified crops are grown must be registered with the administrator.

A property map must be supplied when requesting a new farm number. The administrator will issue a unique farm number and paddock identification letters for the property.

## **GROWERS**

- Applications to produce certified seed will only be accepted on the official application form.
- A seed label from the planted seed line must be included with the application.
- The grower must ensure each line is readily identifiable both in the paddock during the growing season and when in storage after harvest for the inspection officer.
- Good crop hygiene and husbandry must be followed to minimise the risk of infection and spread of infection.
- Good crop storage procedures must be followed.
- A unique 9 digit seed line reference number is allocated to each seed line entered. This number must be printed on labels attached to containers that the harvested crop is stored in.
- A crop diary must be kept for each seed line. The diary must be available to view by inspection staff at anytime.

## MERCHANTS

- New varieties must be registered with the administrator before grower applications will be accepted.
- Tubers of new varieties must be sent for Powdery Scab testing.
- Where there is a total loss of a classification of a variety, a portion (not to exceed the area of the lost classification) of the next lower classification may be held back in that classification, provided that it meets the field health standard of the higher classification that it is to replace. Where there is a significant partial loss of classification, to such an extent that stocks of the classification will be so short that hardship through the lack of stock will result, a portion (not to exceed the area of that lost), of the next lower classification may be held back in that classification provided that it meets the field health standard of the higher classification that it is to replace. The administrator must be notified when an application for recovery of a variety class production failure has been made.

## POTATO CYST NEMATODE (PCN)

All crops entered into the seed potato certification scheme **MUST** also be entered into the PCN compliance programme. The crop must meet the requirements of the PCN compliance programme. Failure to do so will result in the crop being rejected. Contact an Independent Verification Agency (IVA) for details and procedures.

## SCHEME RULES

- Virus tested programme.
- Group programme.

The following general rules are subject to revision at any time and apply to both programmes unless otherwise stated.

1. Seed crops may only be certified when grown within the designated areas.
2. Areas planted in the North Island must be above an altitude of 305 metres.
3. A minimum of **5 harvest seasons** is required since the last potato crop was grown in the paddock.
4. Each line must be confined within one field. Also:
  - a) Individual varieties in the field must be kept separate: (At least the equivalent of one clear row between different varieties). This rule does not apply to G1 and G2 planted crops

- b) At least 5 metres of clear row must be left at each of the first row of each line of the same variety, and be clearly marked, visible from the centres (cleared marked means a flag or visible post or marker etc. at each end).
5. No table or uncertified seed crops are to be planted on the same property as seed grown to be certified (unless sown with certified seed, in which case the crop must not be closer than 5 metres from a crop to be certified).
6. A Crop diary must be kept for each seed line. Minimum information recorded shall be: planting dates/s, spray applications, names of spray, rates of applications and burn off date. The diary must be available to view by inspection staff at anytime.
7. New varieties will only be accepted for certification on the authority of the breeder, Rights holder, or authorised agents. If an overseas variety then a statement of origin must accompany the application to enter the new variety.
8. A sample of tubers from a newly introduced cultivar must be tested for powdery scab susceptibility indexing before the cultivar can be certified.
9. Entries of areas sown with a selection from an established variety may be accepted at the discretion of the authority.
10. A statement of origin is required when entering a cultivar for the first time to be certified in New Zealand in either of the programmes. A special entry fee to assist with crop identification details is payable to the Authority (details and conditions from the administrator).
11. Minimum size of seed acceptable for certification is 28mm. Exceptions will be allowed for trial plots or multiplication plots of mini tubers etc.
12. A certification tag from the planted seed line must accompany a grower application for further certified seed multiplication.
13. Exceptions to rule 12 are: a 'nucleus' line for bulking up or a cultivar new to New Zealand entering for trial purposes or bulking.
14. Farm numbers and paddock letters are required on entry applications for paddock identification.
15. The closing date for entries is 21 days after planting. Where planting is spread over an extended period, ensure applications for the early plantings are completed on time. The 'Summary of Payment' form may be completed after the last crop is planted.
16. All Seed Potato Crops must be entered for PCN and Wart inspection through the 'Export Compliance Programme for the Provision for Potato Cyst Nematode (PCN) and Potato Wart Additional Declarations'.
17. Roguing of diseased plants, foreign varieties and off types should be completed as early as practicle. Regular observation of the crop is recommended.

18. All plant tops and tubers of diseased, foreign varieties and off types must be removed from the field. Crops badly affected by chemicals and or weeds may be rejected.
19. There is a minimum of two inspections for each line entered. The first as early, and the second as late as is practical and applicable for the variety concerned (the varieties, Red King Edward, Jersey Bennes, Russet Burbank and Russet Ranger require three inspections).
20. The certification fees cover two inspections only. Where a third inspection is required, or re-inspections are carried out, additional charges will apply. Certification fees are set by the Authority and published each year in a newsletter.
21. Should an inspector find a combination of virus and rogue plants present in excess of that shown in the table below on the first inspection, the field will be rejected from certification, but the decision to reject the field is subject to an appeal by the grower.

<b>Class Planted</b>	<b>Maximum <u>combined</u> virus and rogues</b>
G3 (old class = Pre-Basic, 'SE')	1.0%
G4 (old class = Basic, 'E', Group)	1.5%
G5 (old class = 1 <sup>st</sup> , Open A)	2.0%

22. Where a seed crop fails to reach the standard for its appropriate class, it may be down-graded to a lower classification, or, if not up to the standard of the lowest classification it will be rejected.
23. Where a grower wishes to appeal the decision of the Inspector to reject a crop from certification, on either the first or second inspection, an appeal must be lodged with the Secretary of the Authority within 24 hours of being told of an inspector's decision.
24. Labelling at Harvest: To ensure traceability of seed lines and to avoid contamination, all seed bins must be labelled prior to leaving the paddock at harvest. Minimum information on the label is the Seedline reference number, ROP number and paddock letter.
25. Inspectors will reject lines at tuber inspection that contain levels of Rhizoctonia above the following: Maximum Level is 5% of the individual tuber surface on 5% of the inspected sample (.i.e. 100 tubers inspected, rejection will occur if more than 5 tubers with a minimum of 5% surface coverage are found).
26. Growers must maintain a documented procedure for a tuber inspection system for monitoring the quality and certification standard of seed tubers during grading. The Authority has developed a guide for growers to follow.
27. The New Zealand Seed Potato Certification Authority will issue certification tags, identifying New Zealand Certified Seed Potatoes, to seed lines that have passed an inspection by the Certification Authority inspectors. Tags are issued signifying the final stage of certification and must be attached to the container.
28. Seed tubers not bearing an official tag cannot be sold as Certified Seed.

## APPEALS PROCEDURE

Where a grower wishes to appeal the decision of the inspector to reject a crop from certification, on either the first or second inspection, an appeal must be lodged with the administrator of the Scheme within **24 hours** of being told of the inspector's decision.

A bond of \$1000 dollars is payable at the time of lodging an appeal. Where an appeal is unsuccessful, the bond is retained to cover expenses. If the appeal is successful, the bond will be returned.

- Where a crop is to be rejected the Inspector needs to discuss his reasons for doing so with the grower.
- Notice of rejection is to be given in writing by the Inspector to the grower and the Administrator.
- Growers must lodge an appeal with the Manager within 24 hours of the final decision by the Inspector.
- The appeal has to be dealt with within 72 hours of receipt of the appeal.
- The Authority will appoint personal to review the appeal.
- Wherever possible the Inspector is to be involved in the appeal hearing.
- The grower must not improve the crop in any way before the appeal referees visit.

## FIELD STANDARDS

The standards applied at field inspection for the following diseases are listed in the tables below.

- Virus Diseases: Primary Leaf Roll, Secondary Leaf Roll, Mosaic (Potato Virus Y), Mild Mosaic (Potato Virus X), and Severe Mosaic.
- Bacterial Diseases: Blackleg (*Erwinia Carotovora* var. *atroseptica*).
- Fungal Diseases: Verticillium Wilt, Fusarium Wilt, Pink Rot.
- Rogues: Any plant not of the variety presented for inspection.

Chemical Damage: Any crop showing the effects of chemical damage will be rejected if the number of affected plants are very obvious and extensive and the affected area cannot be isolated for re-inspection.

### Group Programme:

Tolerances Permitted	Group (%)
Maximum Virus. (PV X, Y, PLRV etc)	0.1
Maximum Rogues (off types)	0.0
Maximum Bolters	1.0
Max. Blackleg & Wilt. ( <i>E. Carotovora</i> & <i>Verticillium</i> Wilt)	5.0

## Pyramid Programme

Tolerances Permitted	G1	G2	G3 (Pre-Basic, SE)	G4 (Basic, E)	G5 (1 <sup>st</sup> Gen, Open A)	G6 (2 <sup>nd</sup> Gen, Open B)
Maximum Virus PV X, Y, PLRV etc	0	0.05 (1 in 2000)	0.05 (1 in 2000)	0.05 (1 in 2000)	0.1 (1 in 1000)	0.2 (1 in 500)
Maximum Rogues (off types)	0	0	0	0	0	0.025 (1 in 4000)
Maximum Bolters	0	0.1 (1 in 1000)	0.1 (1 in 1000)	0.1 (1 in 1000)	0.2 (1 in 500)	0.5 (1 in 200)
Maximum Blackleg E. Carotovora Maximum Wilt Verticillium Wilt	0	0.1 (1 in 1000)	0.1 (1 in 1000)	0.1 (1 in 1000)	0.1 (1 in 1000)	0.5 (1 in 200)

Should an inspector find a combination of virus and rogue plants present in excess of that shown in the table below on the **first inspection**, the field will be rejected from certification, but the decision to reject the field is subject to an appeal by the grower.

Class Planted	Maximum combined virus and rogues
G3 (old class = Pre-Basic, 'SE')	1.0%
G4 (old class = Basic, 'E', Group)	1.5%
G5 (old class = 1 <sup>st</sup> , Open A)	2.0%

The table below is a guide showing the number of plants at differing % tolerance levels based on a plant number of 45,000 per hectare.

Tolerance %	Plant Numbers		
1	1 in 100	In 45,000 plant/Ha crop	450.00
0.1	1 in 1,000	"	45.00
0.01	1 in 10,000	"	4.50
0.001	1 in 100,000	"	0.45
2	2 in 100	In 45,000 plant/Ha crop	900.00
0.2	2 in 1,000	"	90.00
0.02	2 in 10,000	"	9.00
0.002	2 in 100,000	"	0.90
5	5 in 100	In 45,000 plant/Ha crop	2250.00
0.5	5 in 1,000	"	225.00
0.05	5 in 10,000	"	22.50
0.005	100,000	"	2.25

## TUBER STANDARDS

For every 100 tuber sample inspected.	Maximum %
Potato Tuber Moth	4
Dry Fusarium/Gangrene	1
Damaged (not infected)	4
Mis-shapen tubers	4
Stem end rot	2
Wet rot	0.1
Combined maximum defects	5

Scabby Tubers: If scab is present (regardless of type) on more than 2 tubers in any of the 100 tuber samples drawn, an additional randomly selected sample of 500 tubers is to be drawn.

Where more than 2 tubers in the 500 samples show any presence of scab, the line is to be endorsed as “scabby” and must be detailed accordingly on the Graded Tuber Inspection Report (SPC4). It is the grower’s responsibility to have the scab identified for type.

Rhizoctonia: Inspectors will reject lines at tuber inspection that contain levels of Rhizoctonia above the following: Maximum Level is 5% of the individual tuber surface on 5% of the inspected sample (.i.e. 100 tubers inspected, rejection will occur if more than 5 tubers with a minimum of 5% surface coverage are found).