

California Certified Seed Potato

Applicant Directory
2007



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CERTIFICATION LIST

2007

CALIFORNIA CROP IMPROVEMENT ASSOCIATION, INC
RULES OF CERTIFICATION
for
SEED POTATOES IN CALIFORNIA

PART I - GENERAL INFORMATION

- I. **Definition of terms used in California Rules of Certification for Seed Potatoes**
 - A. **General**
 1. **Certification**

The attaching of the official California certification tag to a sack or bulk container of seed potatoes certifies the potatoes have met the California Rules of Certification. Certification is not complete until all requirements have been fulfilled and the certification tag is attached.
 2. **Certified Seed**

Potatoes that have met the California Rules of Certification.
 3. **General Seed Certification Standards**

The set of California rules and regulations common to all certified seed grown in California.
 4. **Rules of Certification For Seed Potatoes in California**

The set of rules for seed potatoes grown in California.
 5. **California Crop Improvement Association, Inc. (CCIA)**

The certification of seeds in California is performed by the California Crop Improvement Association, a nonprofit corporation officially recognized as the seed certifying agency under the California Seed Law. Seed certification is conducted with the supervision and cooperation of the California Agricultural Experiment Station, the California Department of Food and Agriculture, members of Cooperative Extension, and County Agricultural Commissioners.
 6. **Inspector**

An individual authorized and trained by CCIA to perform and conduct various inspections or other evaluations of seed lots entered for certification.
 7. **Recertification**

The process of certifying a seed lot that was certified the previous year.

8. **Seed Potato Inspector Policies and Procedure Handbook**

A California Crop Improvement Association procedural handbook used by CCIA inspectors during the inspections of seed potatoes entered for certification.

B. Seed Potatoes

1. **Clonal Line Selection**

An improved variety developed by a grower through a series of plant (hill) selections, growouts and reselections based on plant and/or tuber characteristics. A tuber from each selection is laboratory tested for viral and bacterial pathogens. Only selections that test negative in laboratory tests listed in Table III are allowed to be replanted as units in a Nuclear class selection plot.
2. **Eligibility**

The term used to identify the acceptability of a particular seed lot to continue in the certification process that meets all the requirements of the California Rules of Certification relative to entry into the certification program.
3. **Farming Operation**

A seed potato enterprise that includes all land, equipment, storage facilities and labor that are utilized in a common effort to produce certified seed potatoes.
4. **Generation**

A classification scheme of seed potatoes based on the number of field production years completed. California has a scheme based on a maximum of six (6) field production years. Seed from each production year carries a different designation, i.e., Nuclear, Generation 1, Generation 2, Generation 3, Generation 4, or Generation 5. The terms "earlier" or "later" generation are comparative terms used to relate the number of years a particular seed lot has been in field production since its pre-nuclear origination.
5. **Limited-Generation Seed**

Seed potatoes grown for a specific maximum number of field production years. In California, the Limited-Generation Program provides for six (6) field production years. Seed stocks in this program originate from a pathogen-tested source. Limited-Generation seed carries the designation of Nuclear or Generation 1 through Generation 5.
6. **Seed**

The vegetatively propagated tubers used for potato production rather than true botanical seed sexually produced from potato flowers.

7. **Seed Farm**
A field or group of fields entered for certification on a single application. A farming operation may enter seed potatoes for certification from more than one seed farm.
8. **Seed Lot**
A field or a group of fields producing seed potatoes or the potatoes (tubers) harvested from a seed potato field.
9. **Seed Stock**
Seed potatoes intended for use as a planting source.

C. Certification

1. **Applicant**
The grower, growers or entity that enters seed potatoes for certification.
2. **Application**
The form an applicant completes and submits to CCIA to request certification, which includes a map of the field location.
3. **Certification Process**
The series of four (4) inspections to which all seed lots, except pre-nuclear, are subjected and which must be passed in order to be certified are as follows:
 - a. Two (2) field inspections
 - b. A storage inspection
 - c. A post harvest test.

Pre-nuclear seed lots are not subjected to the above inspections, but must pass at least two growing-season inspections to be certified.

4. **Disqualification**
Removal of eligibility for certification status from seed potatoes entered for certification due to not meeting all of the specific requirements of the California Rules of Certification.
5. **Downgrading**
The process of changing the generation designation of a seed lot. This is due to failing to meet a specific tolerance of the generation for which the seed was entered for certification. The seed lot is given the next appropriate later generation designation for which the seed lot does not exceed certification tolerances.

6. **Post Harvest Testing**
Tubers, either submitted to CCIA or collected by CCIA, are tested by a CCIA-approved growout, or by direct tuber testing in an approved laboratory.
7. **Roguing**
The seed potato production practice of removing or destroying undesirable potato vines and tubers in a field.
8. **Tolerance**
Tolerance is a permissible allowance for a disease or an allowable mixture or defect as specified in certification standards of a particular generation.
9. **Volunteers**
Potato plants growing in a seed potato field that originate not from the seed planted, but from tubers remaining in the field during a previous year's harvest or from other sources of contamination.
10. **Zero Tolerance Factor**
Zero tolerance means that none is allowed in a seed lot. If one or more of a zero tolerance factor is found at any time in a seed lot, that lot will be disqualified for certification. **It does not mean, nor may it be construed to mean, that a lot that passed inspection is free from the zero tolerance factor. It means only that none was found during the normal course of the inspection process. Zero tolerance factors in California include, but are not limited to:**
 - a. Bacterial Ring Rot
 - b. Root-Knot Nematode

D. Storage

1. **Seed Lot Identification**
The tracking and documentation of eligible seed lots throughout production, harvesting, grading, storage and shipping. Seed lot locations are to be maintained during the storage season.
2. **Subdivision**
A portion of a storage or warehouse which is not permanently partitioned.
3. **Tagging**
The attaching of an official certification tag to a bag or bulk container of seed potatoes.

E. Diseases and Pests

1. **Bacterial Ring Rot**
Disease caused by the bacterium *Clavibacter michiganense ssp. sepedonicum*.
2. **Blackleg**
Disease caused by the bacterium *Erwinia carotovora ssp. atroseptica* or *Erwinia carotovora ssp. carotovora*.
3. **Corky Ring Spot**
Disease caused by tobacco rattle virus.
4. **Late Blight**
Late blight is a disease caused by the fungus *Phytophthora infestans*.
5. **Powdery Scab**
Disease caused by the fungus *Spongospora subterranea*.
6. **Root-Knot Nematode**
The plant parasitic nematodes *Meloidogyne spp.*
7. **Viruses and Viroids**
Viruses caused by potato leaf roll virus (PLRV), potato virus X (PVX), potato virus Y (PVY) and potato spindle tuber viroid (PSTVd).

II. Seed Classification

A. California follows a Generation program. The classes of seed in this program are as follows:

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

7. **Generation 4 (G4)**...5th field production and meets G4 tolerances
8. **Generation 5 (G5)**...6th field production and meets G5 tolerances

Each generation of seed is derived from planting the previous generation. At planting, the seed stock that was planted automatically progresses one generation. For example, PN becomes N, G3 becomes G4. Seed stocks must meet tolerances for the generation in which they are classified.

B. Experimental (EXP) Class

Non-released breeding selections and cultivars.

C. Line Selections

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

III. Application Due Date

- A. An application to grow potatoes for certification must be postmarked within three (3) weeks after planting. Late applications will be considered on an individual basis, and a late fee will be assessed.

IV. Potato Virus X (PVX) Testing Program

- A. **PVX Testing.** All lots to be tested shall be sampled by the CCIA or under the supervision of the CCIA in accordance with sampling requirements set forth in Table 1. Leaf samples shall be collected at or near the time of the second field inspection.
 1. All lots entered for Nuclear and Generation 1 shall be sampled and tested for PVX.
 2. Generation 2, 3, 4 and 5 may be tested at the option and upon request of the participant.
 3. Lots tested and meeting the requirements for the class entered shall be identified with the post-fix "PVX". Lots exceeding the tolerance for a given class will be downgraded to the appropriate class. However, in the case of optional testing, the grower may elect to drop the "PVX" designation rather than downgrade, provided all other requirements for the class are met.
 4. The sampling requirements and tolerances for each class shall be as follows:

Table I. PVX Testing

	Nuclear	Gen. 1	Gen. 2	Gen. 3	Gen. 4	Gen. 5
Required: Potato Virus X	1200 leaves min.	600 leaves min.				
Optional: Potato Virus X	--	--	150 Leaves min. or 50 leaves per acre	100 Leaves min. or 20 leaves per acre	100 Leave min. or 20 leaves per acre	100 Leaves min. or 20 leaves per acre

V. Procedure for Tagging and Sealing Bulk Seed Potatoes

A certification tag with the following information shall accompany the transporting vehicle.

1. Variety
2. Generation
3. Lot number
4. Grower

VI. Sacking Seed Potatoes

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

VII. Sanitation

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

VIII. Disclaimer of Warranty

Certification does not constitute a warranty of either the California Crop Improvement Association or the grower of certified seed potatoes regarding the quality or freedom from disease of the seed potatoes beyond the express representation that the potatoes were produced, inspected, and shipped under the standards of the CCIA, and did qualify, prior to shipping, as to all certification requirements of the rules and regulations of the CCIA. The reliability of the inspections performed on these potatoes is subject to the normal limits of accuracy. By acceptance of these seed potatoes, buyer expressly agrees that the exclusive remedy against CCIA, its membership, and those parties utilizing CCIA services for breach of any warranty shall be limited in all events to a return of the purchase price of the seed.

RULES OF CERTIFICATION
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PART II - SEED POTATO CERTIFICATION STANDARDS

I. General Certification Standards

The CCIA "General Certification Standards," together with these specific potato certification standards, constitute the standards for certification of seed potatoes in California.

2. Seed Farm Eligibility Requirements

To be eligible for certified seed potato production, all acreage on a Seed Farm must have been planted with Certified seed stock.

III. Laboratory and Greenhouse Facility Requirements

- A. Laboratory and greenhouse facilities used for production of plantlets or minitubers shall be maintained free of potato pests or vectors of potato pathogens. Failure to keep such pests under control may be cause for rejection of all lots maintained in the facility. All potting or growth media shall be sterile. Water sources used in a laboratory or greenhouse operation shall be treated or otherwise rendered free of potato pathogens by the applicant.
- B. Suitable precautions shall be taken in micropropagation practices and in the potting, planting, irrigating, movement and use of equipment, and other laboratory and greenhouse practices to guard against the spread of disease or pests into and within facilities used within this certification program.
- C. Records to document the progress of certified plant material through all increases are required.

IV. Seed Stock Eligibility Requirements

- A. Limited-generation seed stocks are eligible for certification for six (6) field production years. Generation 6 seed stocks, the 7th field production year, are not eligible for certification.
- B. All seed stocks purchased by a farming operation from another farming operation and subsequently entered for certification, must be tagged unless the purchaser was a co-applicant for certification of that seed.
- C. The eligibility of seed purchased for recertification must be verified by one of the following; Tags, Bulk Sale Certificates, or an invoice from the seed. *The invoice must include variety, pounds sold, generation of seed, and lot number.*

- D. Bacterial ring rot found in a seed lot of a seed farm will be cause to remove the lot from certification. All fields on that seed farm planted with the same seed lot as the rejected field will also be refused certification. All other seed lots associated with or planted after the rejected lot will not be eligible for recertification, but will be eligible for commercial planting if all other certification requirements are met.
- E. Nuclear, G1 or G2 seed lots disqualified for certification in the post harvest test because of seed-borne chemical injury, may only be recertified by the original applicant(s) during the next growing season.
- F. Seed lots containing tubers proven to be powdery scab infected shall not be eligible for certification.

V. Land Requirements

- A. A field will not be eligible to produce certified seed potatoes if noncertified potatoes or potatoes proven to be Bacterial Ring Rot infected were grown in this field within one previous growing season.
- B. A field must be farmed for 1 (one) year with a crop other than potatoes immediately following the growing season in which potatoes were disqualified for Bacterial Ring Rot.

VI. Field Isolation Requirements

- A. Potatoes entered for certification must be separated by at least a skip row from potatoes not entered for certification.
- B. There must be clear demarcation between different varieties and classes of seed potatoes.
- C. Different lots must be separated from each other by steel posts or heavy wooden stakes that are tall enough to be seen above the crop and placed at 500 ft. intervals.

VII. Field Inspection Requirements

- A. For all field plantings, at least two inspections will be made during the growing season, prior to harvest. Seed potatoes entered for certification shall not exceed the tolerances in Tables II and III.

Table II. Field Inspection - 1st Inspection Tolerances

Factor	Pre-nuclear (Greenhouse)	Nuclear	Generation 1	Generation 2	Generation 3	Generation 4	Generation 5
Potato Leafroll Virus	0	0	0.05	0.20	0.50	0.50	0.50
Mosaic	0	0	0.10	0.30	2.00	2.00	3.00
Other Virus or Virus-Like Diseases	0	0	0.10	0.30	2.00	2.00	3.00
Total Visible Virus	0	0	0.10	0.50	2.00	2.00	4.00
Spindle Tuber Viroid	0	0	0	0	0	0	0
Blackleg*	0	0	0.10	0.30	3.00	3.00	3.00
Varietal Mixture/ Off-type	0	0	0	0.20	0.50	0.50	2.00
Bacterial Ring Rot	0	0	0	0	0	0	0
Root Knot Nematode	0	0	0	0	0	0	0

Table III. Field Inspection - 2nd Inspection Tolerances

Factor	Pre-nuclear (Greenhouse)	Nuclear	Generation 1	Generation 2	Generation 3	Generation 4	Generation 5
Potato Leafroll Virus	0	0	0.05	0.10	0.25	0.25	0.25
Mosaic	0	0	0.10	0.20	1.00	1.00	2.00
Other Virus or Virus-Like Diseases	0	0	0.10	0.20	1.00	1.00	2.00
Total Visible Virus	0	0	0.10	0.20	1.00	1.00	3.00
Spindle Tuber Viroid	0	0	0	0	0	0	0
Blackleg*	0	0	0.10	0.20	1.00	1.00	1.00
Varietal Mixture/ Off-type	0	0	0	0.10	0.25	0.25	0.5
Bacterial Ring Rot	0	0	0	0	0	0	0
Root Knot Nematode	0	0	0	0	0	0	0
PVX (Optional for Gen. 2,3,4,5)	0	0	0.2	1.0**	2.0**	3.0**	4.0**

*This tolerance is based on the presence of a typical, inky black stem system. Tolerance does not take into consideration the presence of blackleg bacteria that may be present on the plant but not causing disease symptoms or other symptoms caused by *Erwinia carotovora* such as stem rot, below ground stem decay, decay, early dying disease. Tolerance is no indication that this is a true value for the amount of blackleg in a seed lot.

**Lots over 1% (percent) PVX will be downgraded or the grower may request the PVX designation dropped and classified TC stock.

B All disease or problem determinations shall consist of a visual inspection of the plants in question, except in the case of latent viral infections, where a serological test such as ELISA may be used to supplement the visual inspection.

C Inspection for bacterial ring rot is visual and shall be confirmed by laboratory diagnosis to determine the presence and shall be based on such tests and diagnostic procedures determined appropriate by the California Crop Improvement Association, including those currently approved by the Potato Association of America.

D Fields shall be considered ready for inspection at all times. Additional inspections may be made at the discretion of the inspector, but will not be made in order to allow growers to rogue fields which will not pass inspection.

E. Chemical Injury:

1. The inspector is given authority to withhold certification pending the outcome of the winter test plot growout or refuse certification on a field or portion of a field sprayed or contaminated with a chemical that causes seed-borne injury to seed potatoes.

2. Those portions of a field that do not show enough chemical injury to interfere with field inspections but still may be contaminated to the degree that seed-borne chemical injury may occur in the next crop, shall be harvested and stored separately from other potatoes in that seed lot.

3. Under the direction of an inspector, a separate winter test sample shall be collected and submitted from those potatoes with the possible chemical injury.

4. Certification will be withheld until winter test readings are completed.

F. Fields may be refused certification due to unsatisfactory appearance caused by weeds, poor growth, poor stand, disease, insect damage, and any other condition which prevents accurate inspection or creates doubt as to the identity of the variety.

G. The following are seed lot disqualifying conditions:

1. Seed lots or portions thereof may be disqualified for certification because of any condition that interferes with the inspection of the potato plants.

2. Bacterial Ring Rot and Root-Knot Nematode are zero tolerance factors. Any seed lot, regardless of generation, is automatically disqualified from certification when any of these factors are found at any time.

3. Evidence of failure to remove daughter tubers from rogued hills.

4. When Bacterial Ring Rot is found in a seed lot, all potatoes grown by that farming operation from that seed source shall be disqualified.

H. The following are conditions that may disqualify a seed lot:

1. The presence of any new or exotic disease to the state of California.
2. Failure to list on an application, all seed sources that were used to plant a particular seed lot.

VIII. Post Harvest Testing Requirements

- A. Each seedlot of Nuclear and Generation 1, and any lot of Generation 2,3, and 4 which may be entered for recertification the following season, shall be tested in a winter test plot or greenhouse, or both. Lots not tested are ineligible for recertification and, additionally, may not be eligible for recertification in another state or country. As a means of monitoring program effectiveness, the CCIA may test all lots entered for production as California certified seed potatoes.
- B. Each seed lot will be tested on a sample basis. The following are minimum sizes of samples based on the lot acreage, which shall be furnished to the CCIA for testing in a winter test plot or greenhouse (each seed tuber should be less than or equal to 2 oz. in size):
 1. Winter test samples must be submitted in bags weighing no more than approximately 50 pounds.
 2. Small seed lots: 4 tubers per hundred weight, with a minimum of 50 tubers.

Larger lots:

Field Acres	Number of Samples	Total Tuber Number
1 to 5	1	220 tubers
6 to 10	2	440 tubers
11 to 20	3	660 tubers
21 to 40	4	880 tubers
41 to 80	5	1100 tubers

- C. **Disease Tolerance.** Seed potatoes entered for certification shall not exceed the tolerances in Table IV. The presence of diseases shall be determined visually except in the case of latent viral infections, where a serological test such as ELISA may be used to supplement the visual inspection. Compliance with the specified tolerances is based upon the sample inspected. The zero tolerance has been chosen for reasons of convenience and practicality and is not to be construed to

Mean that the lot inspected is free of these pests or factors. It does mean that no bacterial ring rot or root-knot nematode was found during the inspection process.

Table IV Factor	Post Season Test disease Tolerance					
	Nuclear	Gen. 1	Gen. 2	Gen. 3	Gen. 4	Gen. 5
Leafroll	0	0.50	0.50	0.50	1.00	****
Mosaic-Other Varieties	0	0.50	0.50	1.00	2.00	****
Mosaic-Russet Norkotah and Cal White	0	0.50	0.75	1.00	5.00	****
Spindle tuber viroid	0	0	0	0	0	0
Other visible virus	0	0.50	0.50	1.00	2.00	****
Total visible virus- other varieties	0	0.50	0.50	1.00	2.00	****
Total visible virus-R-Norkotah and Cal White	0	0.50	0.75	2.00	5.00	****
Ring Rot and Root-Knot	0	0	0	0	0	0
Nematodes						
Chemical injury: Severe	***	0.50	0.50	0.50	1.00	****
Chemical injury: Mild	***	0.50	1.00	3.00	3.00	****
Varietal Mixtures	0	0	0.25	0.50	1.00	****

***Does not apply.

****Acceptance of the seed lot will be based on buyer/seller agreement.

9. Disease/Virus Testing

- A. The California Crop Improvement Association may grow and test samples of seed to determine the amount of virus or other disease in such seed. A reasonable amount of seed for testing shall be furnished when requested by the CCIA. CCIA may also take plants and/or tubers from any planting or storage for inspection and testing purposes. Disease/virus-testing shall be performed using laboratory serodiagnostic and/or plant indicators, molecular hybridization, or other methods as may be determined to be suitable by the CCIA including those currently approved by the Potato Association of America. A list of the approved tests shall be maintained by and made available from the California Crop Improvement Association.

B. Pre-nuclear Testing Requirements:

1. The applicant shall annually test all (100 percent) entry level explants, mother plants and base cultures prior to increasing through micropropagation techniques. All stock shall test negative for potato viruses A (PVA), M (PVM), S (PVS), X (PVX), Y (PVY) and leafroll; spindle tuber viroid (PSTVd); *Erwinia carotovora subsp. carotovora* and *Erwinia carotovora subsp. atroseptica* (Erw); and *Clavibacter michiganensis subsp. sepedonicus* (Cms).

2. The applicant shall sample test micropropagated seed potatoes during the final stage of multiplication prior to distribution. Stock shall test negative for PVA, PVM, PVS, PVX, PVY and PLRV, and Cms and Erw. Leaf tissue shall be sampled from two (2) percent of the plantlets and additionally, when appropriate, microtubers or tubercles shall be collected from one (1) percent of the plantlets.
3. The applicant shall sample test mass propagated seed potatoes during the final stage of multiplication prior to distribution. Samples shall be collected prior to kill down or shipment of plantlets. Stock shall test negative for PVS, PVX, PVY and PLRV, and Cms and Erw. Leaf tissue shall be tested from two (2) percent of the plants and tuber sampled shall be tested from one (1) percent of the plants.
4. Tests shall be conducted by an independent diagnostic laboratory approved by the CCIA. A list of approved laboratories is available upon request from the California Crop Improvement Association.

X. Harvesting, Grading, and Storage Facility Requirements

- A. Precautions shall be taken during harvesting, grading and storage to prevent contamination by bacterial ring rot and other potato pathogens.
- B. Storage inspections will be conducted at any time on all storage facilities containing seed potatoes eligible for certification.
 1. Seed potatoes shall be stored in sanitized storage areas after harvest and shall not be stored in the same storage facility with potatoes known to be infected with bacterial ring rot and root knot nematode.
 2. Each lot of seed potatoes shall be harvested, graded and stored separately in such a manner as to preclude intermixing.
 3. Each lot of stored seed potatoes shall be clearly identified in a manner approved by the CCIA.
 4. All containers shall be new, for Nuclear and Generation 1. Containers for Generations 2, 3, 4 and 5 must be cleaned and sanitized if they have been previously used to contain potatoes.
 5. Storage where sprout inhibitors were used in the previous season is not to be used to store certified seed.

Limited Generation Certified Seed Potatoes Comparison¹

Agency	1 ²	2	3	4	5	6	7	8
Alaska	G1 ³	G2	G3	G4	G5	G6	G7	G8
California	N	G1	G2	G3	G4	G5		
Canada	PE	E1	E2	E3	E4	F	C	
Colorado	G1	G2	G3	G4	G5	G6		
Idaho	N	G1	G2	G3	G4	G5	G6	
Maine	N1	N2	N3	N4	G1	G2	G3	G4
Michigan	N	G1	G2	G3	G4	G5		
Minnesota	N	G1	G2	G3	G4	G5	C	
Montana	N	G1	G2	G3	G4			
Nebraska	N	G1	G2	G3	G4	G5		
New York ⁴	N1	N2	G1	G2	G3	G4	G5	G6
North Dakota	N	G1	G2	G3	G4	G5	C	
Oregon	N	G1	G2	G3	G4	G5		
Utah	N(G1)	G2	G3	G4	G5	G6		
Washington	N	G1	G2	G3	G4	G5		
Wisconsin	E1	E2	G1	G2	G3	G4	C	

1. The purpose of this table is to express equivalency of terms used by various certification agencies for seed potatoes harvested from a series of successive field plantings. For specific criteria relating to disease tolerances and other requirements, the
2. The first field planting utilizes laboratory-tested stocks which may be tissue-cultured plantlets, greenhouse-produced minitubers, stem cuttings, or line selections. Contact agencies for detail as to types of stocks planted in their programs.
3. Term used by agency for seed potatoes for a particular year in the field: C=Certified, E=Elite, F=foundation, G=Generation, N=Nuclear, PE=Pre-elite.
4. If lots originate at Cornell-Uihlein Farm, the first three generations (G1-G3) are also designated by a "U" to denote source.

ABBREVIATIONS

O.V. = Other Varieties BL = BlackLeg
 MO = Mosaic CAL = Calico
 LR = Leaf Roll

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
Asterix									
Zuckerman Family Farm, Inc	07-5465-76	4	1	0.11	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-76	4	2	0	0.03	0	0	0.03	G4
Zuckerman Family Farm, Inc	07-5465-77	5	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-77	5	2	0	0	0	0	0.02	G4
Total Acres Approved		9							
Banana									
Zuckerman Family Farm, Inc	07-5465-91	1	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-91	1	2	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-92	3	1	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-92	3	2	0	0	0	0	0.01	G5
Zuckerman Family Farm, Inc	07-5465-195	1	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-195	1	2	0	0	0	0	0	G4
Total Acres Approved		5							
Beacon Chipper									
Kirschenmann Farms, Inc	07-5830-25	0.1	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-25	0.1	2	0	0	0	0	0	G4
Total Acres Approved		0.1							
CalWhite									
Kirschenmann Farms, Inc	07-5830-13	10	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-13	10	2	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-14	10	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-14	10	2	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-15	10	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-15	10	2	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-16	10	1	0	0.07	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-16	10	2	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-17	10	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-17	10	2	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-18	10	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-18	10	2	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-19	10	1	0	0	0	0	0	G4

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
Kirschenmann Farms, Inc	07-5830-19	10	2	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-01	13	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-01	13	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-02	14	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-02	14	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-03	10	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-03	10	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-04	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-04	3	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-05	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-05	3	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-06	5	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-06	5	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-07	5	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-07	5	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-08	11	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-08	11	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-101	13	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-101	13	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-102	11	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-102	11	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-103	10	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-103	10	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-104	7	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-104	7	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-105	6	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-105	6	2	0	0	0	0	0	G3
Total Acres Approved		181							
Cherry Red									
Kirschenmann Farms, Inc	07-5830-20	10	1	0	0.04	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-20	10	2	0	0	0	0	0	G4
Total Acres Approved		10							

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
Chieftain									
Stastny Farms, Inc	07-1926-402	20	1	0	0	0	0	0	G4
Stastny Farms, Inc	07-1926-402	20	2	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-46	5	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-46	5	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-47	5	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-47	5	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-48	5	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-48	5	2	0	0	0	0	0	G4
Total Acres Approved		35							

CW 2912

Zuckerman Family Farm, Inc	07-5465-55	1	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-55	1	2	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-56	2	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-56	2	2	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-57	0.1	1	0	0	0	0	0	G1
Zuckerman Family Farm, Inc	07-5465-57	0.1	2	0	0	0	0	0	G1
Zuckerman Family Farm, Inc	07-5465-193	1	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-193	1	2	0	0	0	0	0	G2
Total Acres Approved		4.1							

Dakota Diamond

Kirschenmann Farms, Inc	07-5830-26	0.1	1	0	0	0	0	0	G2
Kirschenmann Farms, Inc	07-5830-26	0.1	2	0	0	0	0	0	G2
Total Acres Approved		0.1							

FL1533

Kirschenmann Farms, Inc	07-5830-25	10	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-25	10	2	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-26	4	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-26	4	2	0	0	0	0	0	G3
Total Acres Approved		14							

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
French Fingerling									
Zuckerman Family Farm, Inc	07-5465-93	0.6	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-93	0.6	2	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-94	1	1	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-94	1	2	0	0.25	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-194	1	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-194	1	2	0	0	0	0	0	G3
Total Acres Approved		2.6							
Golden Sunburst									
Kirschenmann Farms, Inc	07-5830-27	0.1	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-27	0.1	2	0	0	0	0	0	G4
Total Acres Approved		0.1							
Granola									
Kirschenmann Farms, Inc	07-5830-09	5	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-09	5	2	0	0.05	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-63	2	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-63	2	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-192	4.5	1	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-192	4.5	2	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-196	4	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-196	4	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-197	2	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-197	2	2	0	0	0	0	0	G3
Total Acres Approved		17.5							
Jacqueline Lee									
Kirschenmann Farms, Inc	07-5830-22	3	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-22	3	2	0	0	0	0	0	G3
Total Acres Approved		3							
Kenita									
Kirschenmann Farms, Inc	07-5830-28	0.1	1	0	0	0	0	0	G2
Kirschenmann Farms, Inc	07-5830-28	0.1	2	0	0	0	0	0	G2
Total Acres Approved		0.1							

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
La Chipper									
Kirschenmann Farms, Inc	07-5830-10	3	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-10	3	2	0	0.1	0	0	0	G3
Total Acres Approved		3							
La Rouge									
Kirschenmann Farms, Inc	07-5830-11	3	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-11	3	2	0	0	0	0	0	G4
Total Acres Approved		3							
Marcy									
Kirschenmann Farms, Inc	07-5830-12	10	1	0	0	0	0	0	G3
Kirschenmann Farms, Inc	07-5830-12	10	2	0	0	0	0	0	G3
Total Acres Approved		10							
Megachip									
Kirschenmann Farms, Inc	07-5830-24	10	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-24	10	2	0	0.81	0	0	0	G4
Total Acres Approved		10							
Paloma Blanca									
Zuckerman Family Farm, Inc	07-5465-21	2	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-21	2	2	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-22	4	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-22	4	2	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-23	6	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-23	6	2	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-24	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-24	3	2	0	0	0	0	0.05	G3
Zuckerman Family Farm, Inc	07-5465-25	4	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-25	4	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-131	10	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-131	10	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-132	9	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-132	9	2	0	0	0	0	0	G3
Total Acres Approved		38							

2007 CROP

Applicant	Cert. No.	Acres	Insp	%O.V.	%MO	%LR	%BL	%CAL	Class
Provento									
Zuckerman Family Farm, Inc	07-5465-64	10	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-64	10	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-65	4	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-65	4	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-66	0.7	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-66	0.7	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-67	5	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-67	5	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-151	11	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-151	11	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-152	4	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-152	4	2	0	0	0	0	0	G3
Total Acres Approved		34.7							
Red LaSoda									
Kirschenmann Farms, Inc	07-5830-23	7	1	0	0.04	0	0	0	G5
Kirschenmann Farms, Inc	07-5830-23	7	2	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-41	12	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-41	12	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-42	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-42	3	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-43	13	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-43	13	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-44	11	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-44	11	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-171	10	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-171	10	2	0	0	0	0	0	G3
Total Acres Approved		56							
Russian Blue									
Zuckerman Family Farm, Inc	07-5465-96	3	1	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-96	3	2	0	0	0	0	0	G5
Zuckerman Family Farm, Inc	07-5465-191	2	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-191	2	2	0	0	0	0	0	G4
Total Acres Approved		5							

2007 CROP

Applicant Cert. No. Acres Insp %O.V. %MO %LR %BL %CAL Class

White Rose

Zuckerman Family Farm, Inc	07-5465-31	7	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-31	7	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-32	8	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-32	8	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-33	4	1	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-33	4	2	0	0	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-121	14	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-121	14	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-122	14	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-122	14	2	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-123	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-123	3	2	0	0	0	0	0	G3
Total Acres Approved		50							

Yukon Gold

Kirschenmann Farms, Inc	07-5830-21	8	1	0	0	0	0	0	G4
Kirschenmann Farms, Inc	07-5830-21	8	2	0	0.08	0	0	0	G4
Stastny Farms, Inc	07-1926-401	34	1	0	0	0	0	0	G4
Stastny Farms, Inc	07-1926-401	34	2	0	0.01	0	0	0	G4
Zuckerman Family Farm, Inc	07-5465-161	3	1	0	0	0	0	0	G3
Zuckerman Family Farm, Inc	07-5465-161	3	2	0	0	0	0	0	G3
Total Acres Approved		45							

ZM #13-4

Zuckerman Family Farm, Inc	07-5465-16	4	1	0	0	0	0	0	G2
Zuckerman Family Farm, Inc	07-5465-16	4	2	0	0	0	0	0	G2
Total Acres Approved		4							

Directory

Kirschenmann Farms, Inc.	PO Box 577, Lamont, CA 93241	(661) 845-0100
Stastny Farms	32121 Highway 50, Malin, OR 97632-9701	(541) 723-3771
Zuckerman Family Farms, Inc.	PO Box 487, Stockton, CA 95201	(209) 469-7979