

1.1 **Department of Agriculture**

1.2 **Proposed Permanent Rules Governing Minnesota Seed Potato Certification**

1.3 **1510.2310 GENERAL GUIDANCE.**

1.4 Subpart 1. **Scope.** The provisions of this part govern the production of potatoes  
1.5 for use as certified seed potatoes.

1.6 Subp. 2. **Seed potato certification.** In order to produce certified seed potatoes, a  
1.7 grower must comply with the following procedures:

1.8 A. Potatoes entered for certification shall be inspected while growing in the  
1.9 field and again after harvest at the time of shipment. Certification shall be based upon  
1.10 visual inspection by the commissioner of sample plants and tubers from each field and  
1.11 lot, or for varieties that do not express visible symptoms of a specific pathogen, seed  
1.12 potatoes must be subjected to laboratory tests to determine the level of the pathogen in  
1.13 a seed lot. This testing may occur during the growing season, storage season, or winter  
1.14 testing. Certificates shall be issued to show the varietal purity, freedom from disease, and  
1.15 physical defects of the potatoes at the time of inspection.

1.16 B. Participation in the certified seed potato program shall be voluntary. The  
1.17 applicant may withdraw at any time. Farming and sanitation practices are the responsibility  
1.18 of the applicant. Certification and inspection under parts 1510.2300 to 1510.2355 shall be  
1.19 conducted by the commissioner. Failure of the applicant to comply with the requirements  
1.20 of ~~these parts~~ 1510.2300 to 1510.2355 shall be cause for rejection of any field or lot.  
1.21 Potatoes from rejected fields or lots cannot be sold as certified seed potatoes.

1.22 [For text of subp 3, see M.R.]

1.23 Subp. 4. **Certified seed potato classes.** Seed potato certification classes are  
1.24 differentiated by their compliance level with disease tolerances and varietal purity. The  
1.25 origin of the seed also determines the class. The classes, according to their origin, in the

2.1 generation system in descending order are: Prenuclear (PN), ~~Nuclear (N)~~, Generation 1  
2.2 (G1), Generation 2 (G2), Generation 3 (G3), Generation 4 (G4), ~~and~~ Generation 5 (G5)<sub>2</sub>  
2.3 and Generation 6 (G6). Equivalent to this in the clonal system in descending order are:  
2.4 Primary Foundation 1 (PF1), Primary Foundation 2 (PF2), Foundation 1 (F1), Foundation  
2.5 2 (F2), and Certified (C).

2.6 Subp. 5. **Certified seed potato grades.** Grades of certified seed potatoes are  
2.7 established according to the physical defects of the tubers. There are three grades used for  
2.8 shipping Minnesota certified seed potatoes.

2.9 [For text of items A and B, see M.R.]

2.10 C. The white tag certified seed potato grade is the third grade. The tolerances  
2.11 for physical defects of the tubers are determined by agreement between purchaser and  
2.12 seller of the certified seed potatoes. It may only be used for intrastate and interstate  
2.13 shipments of certified seed potatoes.

2.14 [For text of subps 6 and 7, see M.R.]

2.15 **1510.2320 SEED POTATOES ELIGIBLE FOR MINNESOTA CERTIFICATION**  
2.16 **PLANTING.**

2.17 [For text of subp 1, see M.R.]

2.18 Subp. 2. **Minnesota grown seed potatoes.** The following classes of seed potatoes  
2.19 grown in Minnesota are eligible for planting: Prenuclear, ~~Nuclear~~, Generation 1,  
2.20 Generation 2, Generation 3, Generation 4, Generation 5, Primary Foundation 1, Primary  
2.21 Foundation 2, Foundation 1, Foundation 2, and experimental status seed potatoes. The  
2.22 commissioner shall authorize the planting of Certified class or Generation 5 6 class seed  
2.23 potatoes if there is no source of higher classes than Certified class or Generation 5 6 class  
2.24 seed potatoes available to the grower, the lot has been winter tested, and the seed does  
2.25 not pose a serious disease threat.

3.1 Subp. 3. **Non-Minnesota grown seed potatoes.** Seed potatoes grown outside of  
 3.2 the state approved for certification planting by the certifying agency in another state or  
 3.3 a Canadian province may be planted if requirements for certification meet Minnesota  
 3.4 requirements for certified seed potatoes of classes higher than Certified class or Generation  
 3.5 5 6 class, as indicated on an import affidavit.

3.6 [For text of subps 4 and 5, see M.R.]

3.7 **1510.2330 REQUIREMENTS FOR PRODUCTION OF DIFFERENT CLASSES**  
 3.8 **OF CERTIFIED SEED POTATOES.**

3.9 Subpart 1. **Prenuclear class certified seed potatoes (PN).**

3.10 A. A lot grown as and intended to be Prenuclear must be grown from plants  
 3.11 tested and shown to be free from the following pathogens:

3.12 (1) *Clavibacter michiganensis ssp. sepedonicus* (ring rot);

3.13 (2) ~~*Erwinia carotovora*~~ *Pectobacterium atrosepticum ssp. Atrosepticum,*  
 3.14 *carotovora* (blackleg);

3.15 [For text of subitems (3) to (9), see M.R.]

3.16 [For text of item B, see M.R.]

3.17 C. One percent of each lot or ten plants or tubers from each lot, whichever is  
 3.18 greater, must be tested during the growing season to verify that the crop is free from  
 3.19 potato virus X, potato virus Y, potato leaf roll virus, *C. michiganensis*, and ~~*E. carotovora*~~  
 3.20 *P. atrosepticum*.

3.21 [For text of items D to F, see M.R.]

3.22 Subp. 2. ~~**Nuclear**~~ **Generation 1 class certified seed potatoes (N) (G1).** Nuclear  
 3.23 Generation 1 class seed potatoes must meet the following requirements:

3.24 [For text of items A to D, see M.R.]

4.1 E. The allowable tolerances for disease and varietal mixture for seed potatoes  
4.2 classified as ~~Nuclear~~ Generation 1 are in Table 1 in subpart 11 under column N.

4.3 Subp. 3. **Generation ~~1~~ 2 class certified seed potatoes (~~G1~~) (G2)**. Generation ~~1~~ 2  
4.4 class seed potatoes must originate from ~~Nuclear~~ Generation 1 class seed potatoes. Each  
4.5 field may be tested during the growing season for potato virus X at grower's request. For a  
4.6 lot to be tagged "virus tested (VT)," no more than three percent of the plants tested may be  
4.7 infected with potato virus X. The allowable tolerances for disease and varietal mixture are  
4.8 in Table 1 in subpart 11 under column ~~G1~~ G2.

4.9 Subp. 4. **Generation ~~2~~ 3 class certified seed potatoes (~~G2~~) (G3)**. Generation ~~2~~ 3  
4.10 class seed potatoes must originate from Generation ~~1~~ 2 class seed potatoes. The allowable  
4.11 tolerances for disease and varietal mixture are in Table 1 in subpart 11 under column  
4.12 ~~G2~~ G3.

4.13 Subp. 5. **Generation ~~3~~ 4 class certified seed potatoes (~~G3~~) (G4)**. Generation ~~3~~ 4  
4.14 class seed potatoes must originate from Generation ~~2~~ 3 class seed potatoes. The allowable  
4.15 tolerances for disease and varietal mixture are in Table 1 in subpart 11 under column  
4.16 ~~G3~~ G4.

4.17 Subp. 6. **Generation ~~4~~ 5 class certified seed potatoes (~~G4~~) (G5)**. Generation ~~4~~ 5  
4.18 class seed potatoes must originate from Generation ~~3~~ 4 class seed potatoes. The allowable  
4.19 tolerances for disease and varietal mixture are in Table 1 in subpart 11 under column  
4.20 ~~G4~~ G5.

4.21 Subp. 7. **Generation ~~5~~ 6 class certified seed potatoes (~~G5~~) (G6)**. Generation ~~5~~ 6  
4.22 class seed potatoes must originate from Generation ~~4~~ 5 class seed potatoes. The allowable  
4.23 tolerances for disease and varietal mixture are in Table 1 in subpart 11 under column  
4.24 ~~G5~~ G6.

4.25 [For text of subps 8 to 10, see M.R.]

5.1 Subp. 11. **Table 1.**

5.2 **TABLE 1**

5.3 **TOLERANCES FOR DISEASES AND VARIETAL**

5.4 **MIXTURE FOR GENERATION CLASSES**

5.5 **CLASSES**

5.6		PN	N	G1	G2	G3	G4	G5
5.7	Severe Mosaic	0	0.1	0.2	0.2	0.3	0.3	0.4
5.8	Leaf roll	0	0.1	0.2	0.2	0.3	0.3	0.4
5.9	Total	0	0.1	0.2	0.2	0.3	0.3	0.4
5.10	Total other viruses							
5.11	(S and X excluded)	0	0.1	0.2	0.2	0.3	0.3	0.4
5.12	Mycoplasmas	0	0.1	0.2	0.2	0.3	0.3	0.4
5.13	Total	0	0.1	0.2	0.2	0.3	0.3	0.4
5.14	Mild Mosaic (S)	0						
5.15	Mild Mosaic (X)	0	VT:1	VT:3	VT:3	VT:3	VT:3	VT:3
5.16	Blackleg	0	0	0.2	0.5	1.0	exe.	exe.
5.17	Varietal Mixture	0	0	0	0	0.1	0.1	0.2
5.18	Ring Rot and Spindle Tuber	0	0	0	0	0	0	0
5.19	Winter Test:							
5.20	Virus, Ch. Dam.		0.5	0.5	0.5	0.5	0.5	
5.21	BRR, PSTV		0	0	0	0	0	
5.22	Summer Test:							
5.23	PVX, VT*	0	1.0	3.0	3.0	3.0	3.0	3.0
5.24	Virus, BRR, PSTV	0						

5.25 **TABLE 1**

5.26 **TOLERANCES FOR DISEASES AND VARIETAL**

5.27 **MIXTURE FOR GENERATION CLASSES**

5.28 **CLASSES**

5.29		<u>PN</u>	<u>G1</u>	<u>G2</u>	<u>G3</u>	<u>G4</u>	<u>G5</u>	<u>G6</u>	<u>C</u>
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6.1	<b><u>Tolerances:</u></b>								
6.2	<u>Severe Mosaic</u>	<u>0</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>1</u>
6.3	<u>Leaf Roll</u>	<u>0</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>1</u>
6.4	<b><u>Total</u></b>	<b><u>0</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>1</u></b>
6.5	<u>Other viruses (S and X excluded)</u>	<u>0</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>
6.6	<u>Mycoplasmas</u>	<u>0</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>
6.7	<b><u>Total</u></b>	<b><u>0</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>
6.8	<u>Mild Mosaic (S)</u>	<u>0</u>							
6.9	<u>Mild Mosaic (X)</u>	<u>0</u>	<u>VT:1</u>	<u>VT:3</u>	<u>VT:3</u>	<u>VT:3</u>	<u>VT:3</u>	<u>VT:3</u>	<u>VT:3</u>
6.10	<u>Blackleg</u>	<u>0</u>	<u>0</u>	<u>0.2</u>	<u>0.5</u>	<u>1</u>	<u>exc.</u>	<u>exc.</u>	<u>exc.</u>
6.11	<u>Varietal mixture</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.1</u>	<u>0.1</u>	<u>0.2</u>	<u>0.2</u>
6.12	<u>Ring Rot and Spindle Tuber</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
6.13	<b><u>Winter Test:</u></b>								
6.14	<b><u>Virus, Ch. Dam.</u></b>		<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>	<b><u>0.5</u></b>
6.15	<u>BRR, PSTV</u>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
6.16	<b><u>Summer Test:</u></b>								
6.17	<u>PVX, VT* virus</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	
6.18	<u>BRR, PSTV</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

6.19 Numbers represent percentages

6.20 VT means Virus Tested

6.21 Mycoplasmas: Haywire, Witches Broom, Yellow Dwarf

6.22 Severe Mosaic: PVY, PVA, PVM

6.23 BRR means Bacterial Ring Rot

6.24 PSTV means Potato Spindle Tuber Viroid

6.25 Ch. Dam. means Expressing symptoms of chemical damage

6.26 \* For the classes G1 G2 and lower, the summer test for PVX is done on request of the

6.27 grower only. The lot may be labeled "Virus Tested," if the tolerance of one percent for

6.28 N G1 and three percent for the lower classes is met.

6.29 Subp. 12. **Table 2.**

TABLE 2

TOLERANCES FOR DISEASES AND VARIETAL MIXTURE FOR  
CLASSES ORIGINATING FROM CLONAL MULTIPLICATION

	CLASSES					C	
	CLONE	PF1	PF2	F1	F2		
7.6	Severe Mosaic	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	1.00
7.7	Leaf roll	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>1.00</u>
7.8	Total	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>1.0</u> <u>1.00</u>
7.9	Total other viruses	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	0.5
7.10	(S and X excluded)						
7.11	Mycoplasmas	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	0.5
7.12	Total	0	<u>0.1</u> <u>0.5</u>	<u>0.2</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	<u>0.3</u> <u>0.5</u>	0.5
7.13	Mild Mosaic (S)						
7.14	Mild Mosaic (X)						
7.15	Blackleg		0.1	0.2	exc.	exc.	exc.
7.16	Varietal Mixture				0.1	0.2	0.2
7.17	Ring Rot and Spindle						
7.18	Tuber	0	0	0	0	0	<u>0</u>
7.19	<b>Winter Test:</b>						
7.20	Virus, Ch. Dam.		0.5	0.5	0.5	0.5	<u>0.5</u>
7.21	BRR, PSTV		0	0	0	0	<u>0</u>
7.22	<b>Summer Lab Test:</b>						
7.23	Virus, <del>BRR</del> , <del>PSTV</del>	0					
7.24	<u>BRR</u>	<u>0</u>					
7.25	<u>PSTV</u>	<u>0</u>					

7.26 Numbers represent percentages

7.27 VT means Virus Tested

7.28 Mycoplasmas: Haywire, Witches Broom, Yellow Dwarf

7.29 Severe Mosaic: PVY, PVA, PVM

8.1 BRR means Bacterial Ring Rot

8.2 PSTV means Potato Spindle Tuber Viroid

8.3 Ch. Dam. means Expressing symptoms of chemical damage.

8.4 **1510.2355 MINNESOTA CERTIFIED SEED POTATO GRADES AND**  
8.5 **TOLERANCES.**

8.6 Subpart 1. **Minnesota certified seed potato grades.** Before potatoes are eligible  
8.7 for grading as certified seed potatoes, the requirements of parts 1510.2315 to 1510.2330  
8.8 must be met.

8.9 Subp. 2. **Minnesota blue tag certified seed potato grade.** To be graded as  
8.10 Minnesota blue tag certified seed potatoes, the potatoes must meet the requirements in  
8.11 items A to C.

8.12 [For text of item A, see M.R.]

8.13 B. Size. For round or intermediate shaped varieties, the maximum size ~~shall be~~  
8.14 ~~not more than~~ is 12 ounces (340.2 grams) and, unless otherwise specified, the minimum  
8.15 size shall be not less than 1-1/2 inches (38.1 millimeters) in diameter. For long varieties,  
8.16 the maximum size ~~shall be not more than~~ is 14 ounces (396.9 grams) and, unless otherwise  
8.17 specified, the minimum size shall be not less than 1-1/2 inches (38.1 millimeters) in  
8.18 diameter. For all varieties, size "B," the minimum diameter shall be not less than 1-1/2  
8.19 inches (38.1 millimeters) and the maximum size shall be not more than 2-1/4 inches  
8.20 (57.1 millimeters) in diameter. The department may grade potatoes that do not meet the  
8.21 maximum and minimum size specifications as Minnesota blue tag certified seed potatoes  
8.22 if the buyer agrees to accept potatoes of alternate size specifications from the grower and  
8.23 these specifications are listed on the tag or bulk certificate issued by the department.

8.24 [For text of item C, see M.R.]

8.25 [For text of subps 3 and 3a, see M.R.]

9.1 Subp. 4. **Minnesota white tag certified seed potato grade.** Minnesota white tag  
9.2 certified seed potato grade consists of certified seed potatoes that are graded according to  
9.3 agreement between the seller and the purchaser as to size and defects, except that not more  
9.4 than one-half percent of soft rot, frozen, or wet breakdown and two percent dry rot, of  
9.5 which not more than one percent late blight tuber rot is allowed.

9.6 ~~The use of the white tag certified seed potato grade must be restricted to intrastate~~  
9.7 ~~shipments.~~

9.8 [For text of subps 5 to 7, see M.R.]

9.9 **REPEALER.** Minnesota Rules, parts 1505.0610; 1505.0620; 1505.0630; 1505.0640;  
9.10 1505.0650; 1505.0660; 1505.0670; 1505.0680; 1505.0730; 1505.0732; 1505.0734;  
9.11 1505.0740; 1505.0750; 1505.1300; 1505.1310; 1505.1320; 1505.1330; 1505.1340;  
9.12 1505.1350; 1505.1360; 1505.1370; 1505.1380; 1505.1390; 1505.1400; 1505.1410;  
9.13 1505.1420; 1505.1430; 1505.1440; and 1505.1450, are repealed.