



# BADGER MEMO

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## Water Sampling for Soft Rot and Blackleg Bacteria

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### Inside This Issue

- 1 Water Sampling
- 1 Research Station Help
- 2 Recertification Requirements
- 2 Colorado Shipping
- 3 Licensed Varieties
- 3 Pre-approval of Seed Lots
- 3 Requesting a Variance
- 4 Upcoming Events
- 4 State Farm Updates
- 4 State Farm Available Seed

*Dickeya* has been perplexing the potato industry since its first detection in the United States in 2014. While we have learned much about this pathogen since that time, including great strides in detection and management, there is still limited understanding of where *Dickeya* initially comes from and how it enters the seed potato production system. Unlike *Pectobacterium*, the other major pathogen responsible for blackleg and soft rot, *Dickeya* is not believed to survive well in soil and disinfectants routinely used for sanitization on seed potato farms seem to perform well against *Dickeya*. Water, however, provides another potential source for both *Dickeya* and *Pectobacterium*. *Dickeya* species have been detected in various water sources, especially surface water, in the United States and other potato growing regions around the world. This summer and next summer, my research program will be testing water sources around Wisconsin to understand their possible role in the spread of *Dickeya* and *Pectobacterium* and we are asking for your help in our research.

We will be working with the Wisconsin Seed Potato Certification Program inspectors to collect samples and keep grower information private. If you are interested in participating, you can contact your inspector and they will have the materials needed to assist with gathering your sample and labeling it with a tracking code that allows us to process the sample without knowing any identifying information, such as source grower or location. While surface water is expected to be the most likely reservoir for these pathogens, we are happy to test any water source in which you are interested, including well water.

Water samples we receive will be processed to increase our chances of detecting *Dickeya* and *Pectobacterium*, if present, and then tested using two different methods. The first method involves extracting DNA from the water sample and performing molecular detection assays, similar to the ones done by Brooke Babler in the WSPCP's diagnostic lab. The second method involves plating the samples onto selective microbiological media, which forms pits in the presence of soft rot bacteria. With these assays we will be able to determine whether or not *Dickeya*, and specifically *Dickeya dianthicola*, is in a water sample and also provide information on the presence of *Pectobacterium* species in each sample. When we are able to isolate either pathogen from a sample, we will try to identify the species and determine the isolate's aggressiveness on potato tubers.

If you are interested in participating by submitting samples or have questions about this research, please feel free to contact me ([rrioux@wisc.edu](mailto:rrioux@wisc.edu), 608-358-5101) or another WSPCP team member. Thank you in advance for your support of this project!

## Research Station Help

The Langlade county research station has a part time position available; this individual will assist in field operations throughout the planting, growing, and harvest seasons. To get further information about this position please contact Cole Lubinski (715)350-1691.

## Testing Requirements for Recertification in US and Canada

	Lab Test PVY		Soil sampling	Other Requirements to import into these states/provinces
	All Varieties	Latent * Varieties		
<b>US Agency</b>				
Alaska	-	-		
California	-	-		
Colorado	✓ <sup>A</sup>	-		Late blight incubation, PHT growout required all seed, <sup>A</sup> virus test for 1.0% PVY <sub>NTN</sub> PHT Tolerance
Idaho	✓	✓		BRR G1 and later gen, PVY, PLRV (visual or ELISA)
Maine	-	✓		
Michigan	-	✓		
Minnesota	-	-		
Montana	NA	NA		Montana does not allow seed import into certification
North Dakota	-	-		
Nebraska/WY	✓	✓	CRKN	Columbia Root Knot Nematode from areas of known to be present/unknown, all russets must be PVY ELISA.
New York	-	-		
Oregon	-	-		
Washington	-	-		
Wisconsin	-	✓		Growout (field or greenhouse) required for recertification.
<b>Canada Agency</b>	-	-	PCN	BRR
-New Brunswick	✓	✓	PCN	BRR, PLRV
-PEI	✓	✓	PCN	BRR, PVY & PLRV testing 200 tuber/ 40 ac (16 ha) +20 add'l tubers per ha over 16 ha. Total virus cap 3% max PLRV is 2%).

Above is the list of testing requirements for recertification in another State or Province.

Additionally, the Potato Association of America maintains a list of latent varieties, varieties with poor virus symptoms. This list includes: Alpine Russet, Austrian Crescent, Banana, Blazer Russet, CalWhite, Caribou Russet, Chieftain, Chipeta, Classic Russet, Crestone Russet, Dakota Diamond, Easton, French Fingerling, Gem Russet, Green Mountain, Innovator, Ivory Russet, Keystone Russet, LaRatte, Mesa Russet, Pike, Purple Peruvian, Rose Finn Apple, Russet Norkotah, Sage Russet, Shasta, Shepody, Silverton Russet, Winema, Snowden

*Contact the office if you require additional testing to be done. For example PLRV tests, if required can be completed in Hawaii from the same leaves.*

## Shipping to Colorado? Late Blight

A requirement for all seed sent to Colorado (San Luis Valley) is a Late Blight Incubation Test. This has been a requirement for years now, and without a test, their department of agriculture inspectors will not allow the seed truck or totes to be offloaded. We run this test within the department and may take up to 30 days to complete. The basic process is a 21-day incubation at temperatures conducive to late blight development.

Contact the office for details. This test is a part of Colorado's broader Quarantine rule for Late Blight. For more information:

<https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=8029>

**Side note: Any lot entering Colorado with greater than 1% PVY virus also require a PVY test for the N strain of virus.**

## Licensed Varieties

Many new varieties developed by public breeding programs have new requirements for licensing and production. We request that you provide a license or communication with the licensor prior to requesting a variety for field production in our program. The crop directory has every variety requiring a license labeled as such.

We also will be requiring a license or material transfer agreement (MTA) be held by your farm prior to receiving the seed from our foundation seed program. Many of the new varieties being released from US and foreign programs require variety tracking. We appreciate your cooperation! This license requirement is always listed on the program's seed request form.

Caribou russet is amongst the new varieties required to have a license to obtain seed. No new licenses are being granted at this time.

## Pre-approval of Seed Lots

ATCP 156 requires the pre-approval of all seed lots entering our certification program. Please get your North American Seed Potato Health Certificates or Nuclear Material Affidavits to us as soon as possible. Thank you. Foundation seed potatoes certified by another state, under standards equivalent to those in this chapter, and pre-approved by the college.

## Requesting a Variance

**Under ATCP 156 a grower may request a variance to replant seed for given.**

1. Special conditions justify the certification
2. The lot will probably meet certification in the following season, which does not exceed 1% summer readings, and 5% post-harvest mosaic tests
3. Freedom from Bacterial Ring Rot
4. Causes no harm to seed quality, does not pose risk to potato industry and customers

**Special conditions that justify variance for recertification are:**

- This is the only source of this variety
- No other source exists (widespread problems with a variety)
- Virus readings are very close to tolerances <0.75%

The likelihood that a lot will meet certification status the following year is variety dependent, is related to the field condition, and cultural practices used (rogue, tuber unit, crop protection). In general, for problem varieties (Silverton, Norkotah) lots with up to and including 0.75% will be eligible for recertification. For other lots, up to 1% mosaic is possible under special conditions listed above. All variances require a letter from the grower addressing the four conditions above. A sample format can be provided upon request.

## Upcoming Events

- April 14 Virtual Associate Division Meeting
- June 18 Spud Seed Classic, Bass Lake Country Club
- July 15 State Farm Tour & Program

## April 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

www.a-printable-calendar.com

## State Farm Updates

Pre-loading Requirements for State Farm Seed

### It is the seed growers responsibility prior to arrival to:

1. Clean, power wash and disinfect tires, chassis, frame etc., to be free of dirt.
2. Drivers side of cab to be cleaned and disinfected.
3. Clean, power wash and disinfect the bulk bed or pallet boxes.
4. Loading is the responsibility of the driver.

### It is the State Farm responsibility to:

1. Inform the seed grower of the above requirements.
2. State Farm staff will power wash and disinfect the vehicle tires upon arrival.
3. Provide plastic boots and gloves for the driver.

**The State Farm staff has the right to refuse to load any truck that does not meet these requirements.**

## Open Seed Potatoes State Farm

The following seed is in excess from harvest or is available from a down adjustment in seed request.

**Goldrush (E2)** ~200 cwt

**Caribou (E2)** ~200-250

**Mercury (E1)** ~250-300 cwt

**Kennebec (E2)** 30 cwt

**Red Endeavor** 21 cwt (E1) & 78 cwt (E2)

Please contact Alex for further information and pricing. [abcrockford@wisc.edu](mailto:abcrockford@wisc.edu) or 715-610-4668. If there is no interest, seed will be made publicly available in February.