

A1946

Plant Back of Non-Certified Seed Potato Tubers

in North Dakota and Minnesota



Andrew P. Robinson, Assistant Professor and Extension Potato Agronomist
NDSU/University of Minnesota, Department of Plant Sciences, NDSU

Potato seed certification began in the early 1900s for the advancement of the potato industry. The focus was to control diseases and variety mixtures, improve varietal types and grant certificates based on varietal purity and cleanliness. This work continues today with improved practices, including laboratory testing procedures, more thorough inspection and winter grow out testing. Most states have a state agency that certifies the seed and has specific rules and laws pertaining to that state to ensure the cleanliness of seed. The success of the commercial industry is largely dependent on seed quality.

From time to time there are shortages in the seed supply and some growers want to plant back non-certified seed. The objective of this article is to cover these rules for North Dakota and Minnesota and discuss how to select the best seed tubers. The rules for planting back non-certified seed are different for North Dakota and Minnesota and are found at the end of this article.

Figure 1. PVY^{ntn} expressed in tuber.
(Andrew Robinson, NDSU)



If storing potato tubers for seed, there are some considerations that should be taken. Choose the best potato tubers that have the lowest known virus ratings and other pathogens. This can be determined from earlier seed generation reports or from field inspections. This is important because potato viruses can limit yield, cause tuber necrosis, and affect overall tuber quality. Additionally, non-certified seed lots with higher inoculum levels of virus planted back in certified seed growing areas can potentially threaten the seed supply for years to come. Virus in these non-certified fields can be vectored by aphids to certified seed fields, potentially causing rejection from certification, thus limiting future certified seed supply. Inspect tubers for diseases such as bacterial ring rot, late blight and other diseases that could cause crop losses. A laboratory test is the best way to verify pathogen presence. Other tuber traits to that need to be taken into consideration are selecting tubers that are free from excessive bruising, freeze damage, rot and other problems that would prevent long-term storage and quality issues. These damaged tubers will likely suffer quality loss in storage and could cause slow emergence and reduce plant establishment when planted the next growing season.

Select a storage building that has not used CIPC (chlorpropham) in the past three years. Residues of CIPC remain in storages in many places, and they can inhibit sprout from growing when planted in the field. Typical storage conditions for storing seed should be around 38 to 40 °F with 90 to 95% relative humidity. Cool storage conditions will slow metabolism and help prevent sprouting, while high humidity will prevent water loss and help keep tubers firm. If tubers are being stored for seed begin to sprout, there are some products that can be used to burn off sprouts. Be sure to check with the label of any products used for proper treatment rates and the necessary time interval between treatment and planting.

NDSU

EXTENSION

North Dakota Century Code 4.1-55-05

<http://legis.nd.gov/cencode/t04-1c55.pdf>

4.1-55-05. Seed potatoes - Certification - Exception.

1. a. A person may not plant seed potatoes unless the seed potatoes:
 - (1) Have been certified by the seed commissioner as meeting the standards of this state;
 - (2) Have been certified by another state or province having seed potato standards that are determined by the seed commissioner to meet or exceed the standards of this state; or
 - (3) At the request of the producer, were field inspected and approved for planting by the seed commissioner.
- b. Subdivision a does not apply to a person who:
 - (1) Plants less than one acre [405 hectare] of seed potatoes; or
 - (2) Is within twelve months of having that person's own certified parent seed potatoes.
2. The seed commissioner shall permit a North Dakota producer to sell or otherwise transfer certified seed potatoes to another North Dakota producer. The recipient producer may plant the seed potatoes only for commercial production. The seed potatoes may not be recertified or retained for use in the following production cycle.
3. If the seed commissioner determines that seed potatoes meeting the requirements of this section are not available in sufficient quantities to fulfill planting needs, the seed commissioner may permit the planting of seed potatoes with a higher disease content, provided that bacterial ring rot is not present and that no other serious disease threat is posed.
4. For purposes of this section, a "North Dakota producer" means a person that grows potatoes on property located within this state.

To clarify the Century Code 4.1-55-05, 1.a.(1) potatoes planted on more than one acre must be certified seed. While, 1.b.(2) means a commercial producer may replant his own seed, on his own farm, for one year provided that the replant seed was grown from certified seed the previous year.

In North Dakota all seed laws provide for enforcement authority/penalty provisions giving the regulatory agency (ND State Seed) authority to levy fines up to \$10,000 per violation.

Minnesota Statutes

www.revisor.mn.gov/statutes/cite/21.1195

21.1195 MINIMUM STANDARDS FOR PLANTING.

Seed potatoes may not be planted in the state in lots of ten or more acres unless the seed meets the minimum disease standards prescribed by the commissioner. Seed potatoes may meet the standards by being certified in accordance with this chapter and rules adopted by the commissioner, or under the certification program of another state or province which, in the judgment of the commissioner, provides equivalent assurances of seed potato quality. Seed potatoes may be planted without certification if they have had at least field inspection as required for certified seed potatoes, have passed the field inspection standards of disease tolerance, and are free from ring rot. A person that plants seed potatoes in violation of this section is subject to a civil penalty of \$20 per acre for each acre or part of an acre planted in violation of this section. Failure to maintain complete and accurate records in accordance with this section or rules adopted by the commissioner is an additional violation resulting in a separate civil penalty of \$200 for each failure.

If there is not available to be planted in this state, in any year, a sufficient volume of potato seed meeting certified seed potato disease standards, in any or all varieties, the commissioner may, upon application by one or more growers, permit seed that does not comply with this section to be planted for that growing season if the seed does not pose a serious disease threat.

Each grower shall keep records of each lot of seed potatoes planted. For each growing season, the records must include, by field, the variety and source of the seed potatoes. Each grower shall file records as prescribed by the commissioner. All records must be made available for inspection by the commissioner or the commissioner's agents during normal business hours.

In addition to the enforcement powers and penalties in this section, the commissioner may issue a subpoena to a grower in order to compel delivery of records which are required under this section. These subpoenas are enforceable by any court of competent jurisdiction.

Figure 2. Late blight in seed tuber. (Andrew Robinson, NDSU)



NDSU Extension does not endorse commercial products or companies even though reference may be made to tradenames, trademarks or service names.

NDSU encourages you to use and share this content, but please do so under the conditions of our Creative Commons license. You may copy, distribute, transmit and adapt this work as long as you give full attribution, don't use the work for commercial purposes and share your resulting work similarly. For more information, visit www.ag.ndsu.edu/agcomm/creative-commons.

For more information on this and other topics, see www.ndsu.edu/extension

County commissions, North Dakota State University and U.S. Department of Agriculture cooperating. NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost for Title IX/ADA Coordinator, Old Main 201, NDSU Main Campus, 701-231-7708, ndsu.eoaa@ndsu.edu. This publication will be made available in alternative formats for people with disabilities upon request, 701-231-7881.