THE BLIGHT OF UNDER REGULATION: THE DETRIMENTAL EFFECT OF NORTH DAKOTA'S SEED POTATO YEAR-OUT EXEMPTION

Katie J. Vculek†

† J.D., Drake University Law School, 2020; B.S. Agricultural Economics with a minor in Crop and Weed Sciences, North Dakota State University, 2017. The author would like to thank the editorial board and staff of the *Drake Journal of Agricultural Law* for their dedication in publishing this Note. The author would also like to thank her family for teaching her everything she knows about production agriculture, especially where it pertains to her favorite vegetable, the potato.

I. INTRODUCTION

When one thinks of a specialty crop, our mind tends to wander to states like Florida or California, where grape and orange production is prevalent. However, states like Idaho, Washington, and North Dakota have developed strong specialty markets of their own, specifically in potatoes. Whether it be a baked potato or a frozen french fry, years went into raising that product from seed to table. Throughout the years of potato production, disease prevention has been a significant focus of producers across the supply chain. Disease in one seed producer's crop can impact the industry as a whole.

Although it is widely cited that planting certified potato seed is the number one way to reduce the spread of disease, North Dakota law provides a "year-out exception," which allows producers to plant non-certified potato seed for a limited time.[1] The year-out exception could cause the spread of disease to neighboring producers' certified seed, resulting in reduced quality, marketability, and economic return. The existence of the year-out exception places a producer—who has spent extra time, effort, and money to purchase or raise certified seed—at greater risk of catching a disease from neighboring producers who utilize the exception. This note discusses the problems associated with allowing the year-out exception to remain in North Dakota. Further, the note analyzes the 2005 Legislative Bill that proposed removing the exception and what should be considered when if the exception is removed in the future. North Dakota has developed a strong reputation in the potato industry as a state with low disease and high-quality potatoes. The current year-out exception poses a threat to that reputation.

II. POTATO PRODUCTION

Understanding the negative impacts of disease and a year-out exception requires a discussion of potato industry basics in the United States. Potatoes are the "leading vegetable crop in the United States."[2] In 2017, the United States harvested 1.05 million acres of potatoes.[3] Idaho produces more potatoes than any of the other thirty potato producing states.[4] In fact, Idaho harvested 310,000 acres of potatoes in 2017.[5] Washington and North Dakota are the next leading states in

1. STEVEN BELYEA ET AL., COMMERCIAL POTATO PRODUCTION IN NORTH AMERICA 44 (William H. Bohl & Steven B. Johnson eds., Oct. 2010), https://perma.cc/A5XJ-SUV4.

2. *Potatoes*, AGRIC. MKTG. RES. CTR. (Oct. 2018), https://perma.cc/35SK-YZF9.

3. *Id.*

4. *Id.*

5. *About Potatoes USA: U.S. Growing Regions*, POTATOES USA, https://perma.cc/NX66-3WNK (archived Jan. 27, 2020).

potato production, with 164,000 and 74,000 acres harvested respectively.[6] Potato producers in the United States earned an average price of $9.10 per hundredweight in 2017.[7] In 2016, North Dakota potato producers alone earned $199,127,000 from the sales of their potato crop.[8]

Over 115 pounds of potatoes were utilized per person in the United States during 2017.[9] The potatoes utilized in the United States are comprised primarily of potatoes made into fresh table-stock, fresh chipping potatoes, frozen potato products, and dehydrated potato products.[10] All of these production markets are supported and supplied with potato seed produced by certified seed potato producers.[11]

A. Potato Seed Production

All potatoes produced for sale to an end user started as potato seed. Potato seed is a tuber, which is the edible part of the potato plant located underground,[12] rather than a true seed typically used for other vegetable crops.[13] Potato tubers are cut into seed pieces or planted as a whole potato tuber.[14] Generally, as long as there are a few eyes, or clusters of buds,[15] the potato tuber will grow sprouts that develop into a new potato plant.[16] The seed potato market is a small, but significant, portion of the potato production industry.[17] Seed potato producers supply their certified potato seed to farmers who raise the potatoes for an end user in the potato market.[18]

6. *Id.*

7. *Potatoes*, *supra* note 2.

8. DARIN JANTZI ET AL., NORTH DAKOTA AGRICULTURE 68 (2018), https://perma.cc/95CN-9RGH.

9. NAT'L POTATO COUNCIL, U.S. PER CAPITA UTILIZATION OF POTATOES, BY CATEGORY: 1970-2017, https://perma.cc/NF4U-KVLR (archived Jan. 27, 2020).

10. *About Potatoes USA: What We Do*, POTATOES USA, https://perma.cc/7DJJ-2STP (archived Jan. 27, 2020).

11. *Potato Products: U.S. Seed Potatoes*, POTATOES USA, https://perma.cc/89YK-GKXS (archived January 27, 2020).

12. CINDY HAYNES ET AL., POTATOES 1 (Cindy Haynes et al. eds., 2018), https://perma.cc/4F8U-QLKJ.

13. BELYEA ET AL., *supra* note 1, at 38.

14. *Id.*

15. *Id.*

16. CARINA DE LUCA, POTATO PROPAGATION, https://perma.cc/RL6R-LC9K (archived Jan. 27, 2020).

17. BELYEA ET AL., *supra* note 1, at 18.

18. *About Potatoes USA: Growing Practices*, POTATOES USA, https://perma.cc/CNM6-FJ65 (archived Jan. 27, 2020).

This makes the quality of seed potatoes critical to the entire potato industry.[19]

B. Generational Growth of Potato Seed

Potato seed is classified by generations.[20] Potato seed generations begin with the tissue culture processes,[21] which involve the potato to be "grown in artificial media under sterile conditions in the laboratory."[22] Disease-free plantlets then sprout in test tubes from a nutrient media.[23] After a period of time, the plantlets are removed from the test tube to be grown in sterile soil to complete the entire growth cycle, resulting in disease-free potato tubers.[24] These lab-raised potatoes are classified as nuclear seed potatoes, or generation zero.[25] The nuclear seed potatoes are sold to seed potato growers who will use it to begin their own seed potato lots.[26] A seed lot is a group of seed potatoes that are "of one variety, from one or more fields, grown on the same farm, and stored in physical separation from other lots."[27]

The lots are raised during the summer, increasing the number of potatoes in the lot each year.[28] Seed potato producers raise lots until a sufficient quantity of seed potatoes are available to sell to a potato producer, who will then raise the crop one more year for sale to an end user.[29] The seed lot is considered nuclear seed from the time it is purchased by the producer through the first year the tuber is planted in a field.[30] The second field year is considered generation one.[31] Each year

19. BELYEA ET AL., *supra* note 1, at 18-19; *See* Mark Halsall, *Why High-Quality Potato Seed Is Important*, SPUDSMART (Mar. 10, 2016), https://perma.cc/LE83-LZF6.

20. North Dakota will begin using "Field Years" to classify generations in 2020 to be more consistent with terminology used in the industry. *Seed Potato Certification*, ND STATE SEED DEPARTMENT, https://perma.cc/2HQ9-DBLG (archived Sept. 10, 2020) [hereinafter *Seed Potato Certification: Field Year*] ("The first field year will be FY1, followed by FY2, FY3, FY4, FY5, FY6, and C for the last possible year of the limited generation increase.") *Id.*

21. BELYEA ET AL., *supra* note 1, at 39.

22. *Id.*

23. DE LUCA, *supra* note 16.

24. *Id.*

25. BELYEA ET AL., *supra* note 1, at 39.

26. DE LUCA, *supra* note 16.

27. MINN. R. 1510.2305(10) (2019).

28. BELYEA ET AL., *supra* note 1, at 41.

29. *See id.*

30. N.D. ADMIN. CODE 74-04-01-07(2) (2019). *See Seed Potato Certification: Field Year*, *supra* note 20 (showing the 2020 terminology change from generations to fiscal years making nuclear seed changed to FY1 seed).

31. N.D. ADMIN. CODE 74-04-01-07(2); *see Seed Potato Certification: Field Year*, *supra*

the potatoes are planted, they will increase by one generational number.[32] The higher the generational number of a seed lot, the older the seed.[33] Generational classifications are also a good indication of the seed's likelihood of carrying disease.[34]

C. Potato Disease

Every high-quality potato crop must begin with good potato seed.[35] "If something's not right with the seed, it's really hard to fix anything else you do downstream–the yield is immediately compromised, and the quality of the crop is potentially compromised. So there's nothing you can really do to compensate for poor seed."[36] The quality of potato seed is primarily based on the prevalence of disease within it.[37] The less disease, the better quality seed.[38]

Potatoes raised for seed, or commercially, are constantly exposed to contamination by disease-causing pathogens.[39] Every year the seed lot is in production, the likelihood of contamination by pathogenic organisms increases.[40] Potato disease can cause wilting, leaf spots, storage rot, and reduce plant stand.[41] Additionally, soft and decayed tuber tissue, internal tuber browning, and internal tuber rotting are all common symptoms that can negatively impact the quality and economic return of a potato.[42] Once a disease has infected a potato, the disease is carried from one year to the next due to the generational growth of a seed lot.[43] The yearly disease presence results in reduced yields, potato quality, and economic return to the grower.

note 20 (showing generation one will be FY2 in 2020).

32. *Id.*; DE LUCA, *supra* note 16.

33. *See* DE LUCA, *supra* note 16.

34. *See* N.D. ADMIN. CODE 74-04-01-08(1)-(2) (2019).

35. *See* Halsall, *supra* note 19.

36. *Id.*

37. *Id.*

38. *Id.*

39. BELYEA ET AL., *supra* note 1, at 41.

40. *Id.*

41. STEVE LESSARD ET AL., CROP PROFILE FOR POTATOES IN NORTH DAKOTA 6 (Dec. 2000), https://perma.cc/WTM4-EWSU.

42. *See* JESSICA RUPP & BARRY JACOBSEN, BACTERIAL AND FUNGAL DISEASES OF POTATO AND THEIR MANAGEMENT 2-8 (Jan. 2017), https://perma.cc/H56J-USFE.

43. LESSARD ET AL., *supra* note 40.

1. Bacterial Ring Rot

Bacterial Ring Rot (BRR) is "one of the most serious diseases that affects potato plants."[44] The bacterial pathogen is transmitted from generation to generation via infected potato seed.[45] Symptoms of the disease include yellowing discoloration of the tissue, external cracking and swelling, brown discoloration, oozing masses of bacteria from the vascular ring, and secondary decay organisms in the vascular tissue.[46] BRR can hide its symptoms within an infected potato, making it challenging to manage.[47] The disease also has the ability to "spread easily and adhere indefinitely on all types of surfaces that it contacts."[48]

Washington State University Extension identifies "exclusive use of certified, ring rot-free seed potatoes, and . . . rigorous and thorough sanitation" as successful management practices.[49] Rigorous sanitation means eliminating the bacteria from "*all* conceivable potato production surfaces from planting through harvest and storage in order to protect otherwise healthy tubers and plants" that may come into contact with contaminated surfaces.[50]

2. Potato Virus Y

Another prevalent disease that has become a serious problem in the United States is the Potato Virus Y Strains (PVY).[51] Symptoms of this disease are also difficult to detect due to its mild symptoms, especially in seed potato fields.[52] Symptoms include browning of plant veins, plant stunting, and crinkly leaves.[53] The disease reduces potato yields because "affected plants produce fewer and smaller tubers, and the tubers have necrotic rings."[54]

44. DEBRA ANN INGLIS ET AL., BACTERIAL RING ROT ON POTATOES 1 (2013), https://perma.cc/QN3T-B2CT.

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

50. *Id.* (emphasis in original).

51. Margaret McGrath, *Potato Virus Y*, CORNELL UNIV. COLL. OF AGRIC. & LIFE SCI., https://perma.cc/TW8R-RWC8 (archived Jan. 27, 2020).

52. *Id.*

53. *Id.*

54. *Id.*

D. Spreading of Disease

"[S]oil movement, rain, wind, drainage water, insects, infested equipment, movement of the actual diseased portion of the plant, and nematodes" all contribute to the spread of disease causing fungi and bacteria.[55] Viruses are produced by a host cell and spread by insects, nematodes, contact between plants or plant sap, and movement by humans.[56] Suggested disease management practices include proper seed handling, regular and rigorous sanitation of equipment, and controlling aphids, leafhoppers, and nematodes.[57]

Once a potato has become physiologically mature, a producer will harvest the crop and prepare for winter storage.[58] Specialized equipment—designed to protect the potato from damage during harvest, handling, and transport—is used by potato producers in the harvesting process.[59] Following harvest, potatoes are transported to processing facilities or climate-controlled storage facilities.[60] These facilities allow producers to meet product demands throughout the year.[61]

However, these centralized storage facilities are also a major cause for concern when it comes to the spread of potato disease. Seed cutting operations are a major avenue for BRR to spread, due to failure to adequately clean all cutting knives, belts, or machinery coming into contact with the bacteria.[62] BRR is capable of living in dried potato "slime" for up to five years.[63] PVY can be combated through similar means, such as disinfecting all equipment used for cutting and planting seed lots.[64] Storage temperature also impacts the crop's health. Building temperature not only ensures proper potato storage but can also assist in minimizing pathogens transported into the storage facility on the soil attached to the potatoes.[65]

The spread of disease is of particular concern to a seed potato producer.

55. BELYEA ET AL., *supra* note 1, at 67.

56. *Id.*

57. *Id.*

58. *See About Potatoes USA: Growing Practices*, *supra* note 18.

59. *See id.*

60. *See id.*

61. Adam Clarke, *10 ways to improve potato storage management*, FARMERS WEEKLY (Jan. 9, 2019), https://perma.cc/ZL37-FNNA.

62. INGLIS ET AL., *supra* note 44, at 3.

63. *Id.*

64. *See* McGrath, *supra* note 51.

65. R. E. VOSS ET AL., PROPER ENVIRONMENT FOR POTATO STORAGE 1, https://perma.cc/S6YD-Q9DS (archived Jan. 27, 2020).

When disease can be spread by wind, nematodes, rain, and live on uncleaned surfaces for years—there is a constant threat to seed producers.[66] Certified seed producers must meet certain standards established by the North Dakota State Seed Department. Not meeting standards, especially zero-tolerance disease standards, can disqualify an entire seed lot from eligibility to a certification program.[67] Even one-tenth of BRR found in a certified seed producer's seed lot will render that lot unsellable and call into question disease levels on the entire farm.[68] A disqualified seed producer would take a loss on all the expenses they took to raise that seed lot over the previous years.

Although disease prevention is an important step, avoiding disease from the beginning produces the best results. The number one recommended disease prevention practice according to the Extension Service of the Potato Association of America, and numerous others, is the use of certified seed potatoes.[69] The suggestion of planting certified seed is aimed at reducing the overall amount of disease present within a crop from the beginning.[70]

III. POTATO SEED REGULATION

Around the year 1850, potato yields were so low that production was uneconomical in the United States.[71] The low yields were caused "largely by high levels of tuber-transmitted virus diseases in existing [seed] stocks and [a] lack of proper seed maintenance methods."[72] This concern promoted discussions over the regulation of seed potatoes in North America in 1914.[73] Seed potato certification requirements were enacted in twelve states by 1920 to provide higher quality certified seed stock and make the industry more competitive.[74] Initially, certification was implemented to control viruses.[75] Today, potato seed certification has evolved into assuring variety purity and managing a wide variety of disease

66. BELYEA ET AL., *supra* note 1, at 67.

67. *See* N.D. ADMIN. CODE 74-04-01-08 (2019).

68. *See id.*; *See also* N.D. ADMIN. CODE 74-04-01-05 (2019) (calling into question whether a certified seed producer was adequately following the sanitation, field separation, and other disease prevention requirements).

69. BELYEA ET AL., *supra* note 1, at 67; INGLIS ET AL., *supra* note 44, at 1; McGrath, *supra* note 51.

70. BELYEA ET AL., *supra* note 1, at 43.

71. *Id.* at 7.

72. *Id.*

73. *Id.* at 43.

74. *Id.* at 38.

75. *Id.*

issues through both visual inspection and laboratory testing.[76] The primary purpose of seed potato certification is to provide assurance of variety purity and reducing the seed-borne pathogens.[77] Today, all commercial potatoes raised in the United States are grown exclusively from certified seed.[78]

Seed certification requirements are set by the states individually.[79] The states have delegated legal authority to implement certification requirements to land-grant university within the state, state departments of agriculture, or grower associations.[80] Due to each state managing its own seed certification programs, differences in program rules and regulations are a given.[81] However, state certification officials meet regularly to discuss certification methods and potato seed testing practices to develop uniform regulations.[82]

A. Current North Dakota Seed Certification Law

North Dakota's official seed-certifying agency is the North Dakota Seed Department located on North Dakota State University's campus.[83] The State Seed Commission governs the department.[84] Members of the commission consist of the North Dakota Agricultural Commissioner and individuals appointed by various North Dakota commodity associations.[85] The State Seed Commissioner (Commissioner), appointed by the commission, manages the seed department and its employees to carry out the duties as required by the North Dakota Century Code.[86] The Seed Commissioner is to "[e]stablish a system for the certification of seed potatoes."[87]

Although the Commissioner is charged with the creation of a certification process, the code specifies when a potato must be certified.[88] North Dakota statute prohibits the planting of seed potatoes unless the potatoes were certified by the Commissioner, certified by another state or providence if determined by the Seed

76. *Id.*
77. *Id.*
78. *About Potatoes USA: Growing Practices*, *supra* note 18.
79. BELYEA ET AL., *supra* note 1, at 38.
80. *Id.*
81. *Id.*
82. *Id.*
83. N.D. CENT. CODE § 4.1-52-01 (2017).
84. N.D. CENT. CODE § 4.1-52-03 (2017).
85. *Id.*
86. N.D. CENT. CODE § 4.1-52-10 (2017).
87. N.D. CENT. CODE § 4.1-55-02 (2017).
88. *See* N.D. CENT. CODE § 4.1-55-05 (2017).

Commissioner to meet or exceed state standards, or field inspected and approved by the Seed Commissioner upon request by the producer.[89]

1. Certification Exceptions

There are two exceptions to the seed potato certification requirement.[90] The first being individuals who plant less than one acre of seed potatoes.[91] Therefore, individuals with small plots of potatoes do not fall under the regulatory requirements. The second exception applies to those who plant seed potatoes within twelve months of having their own certified parent seed potatoes.[92] The second exception is often referred to as the "year-out" exception.[93] The year-out exception is of particular importance to a producer who intends to plant the potatoes produced by the certified seed the following year without re-certification.[94]

In years where the Commissioner determines there is a lack of seed potatoes meeting the certification requirements, the Commissioner may authorize the planting of seed potatoes that have not been certified—as long as no BRR or other serious disease threats are present.[95] Commissioner authorization of non-certified seed potatoes is rare.[96] Historically, the Commissioner has required an official written request to plant uncertified potato seed.[97] Upon receiving the request, the State Seed Commission will assist the producer in locating alternatively certified seed potatoes, search surrounding states for certified seed supply, and, finally—upon determining there is a real shortage—allow the requesting producer to plant the uncertified seed if it is free of BRR.[98]

2. Sale of Certified Seed Potatoes

A North Dakota potato seed producer may sell or transfer certified seed potatoes to another producer who may plant the seed potatoes for commercial

89. *Id.*

90. *See id.* at (1)(b).

91. *Id.* at (1)(b)(1).

92. *Id.* at (1)(b)(2).

93. *2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, 59th Leg. Assemb. 1 (N.D. 2005) (statement of Ken Bertsch, State Seed Comm'r).

94. *See* CENT. § 4.1-55-05(1)(b)(2).

95. *Id.* at (3).

96. Telephone Interview with Ken Bertsch, N.D. State Seed Comm'r (Oct. 22, 2018).

97. *Id.*

98. *Id.*

production only.[99] The potatoes sold "may not be recertified or retained for use in the following" year.[100] Therefore, North Dakota law outlines a seed producer's ability to raise certified potato seed, then sell it to another farmer to be raised one more year, before being sold to an end user. The farmer purchasing the seed potatoes is not able to recertify or retain the purchased seed potatoes after purchase.

3. Sales of Seed Potatoes Between States

All seed potatoes sold into the state of North Dakota are required to be health certified, "indicating that the seed potatoes were field inspected by an official certifying agency and meet standards that are determined by the [Commissioner] to be similar to those established" by North Dakota law.[101] All seed potatoes sold to other states from North Dakota must be grade certified and health certified if required by the importing state.[102]

4. North Dakota State Seed Certification Process

Certification is defined as the "act of endorsing that the potatoes have met the standards or requirements specified [by North Dakota law] for seed potatoes."[103] The North Dakota Potato Seed Certification Program inspects an average of 15,000 to 20,000 acres of potato seed each year, making North Dakota the second-largest seed potato program in the country.[104] The North Dakota State Seed Department (NDSSD) and the potato producer work together to meet certification requirements for each potato generation and variety on a farm.[105]

The NDSSD is responsible for documenting seed class and generation, inspecting fields for disease throughout the growing season, laboratory virus testing, and shipping-point inspection.[106] Alternatively, it is the responsibility of the applicant to maintain sanitation practices and raise, store, and package the potatoes responsibly.[107] The applicant is also required to maintain the genetic purity and identity of the potatoes throughout planting, harvesting, storing, and

99. CENT. § 4.1-55-05(2).

100. *Id.*

101. *Id.*

102. N.D. CENT. CODE § 4.1-55-08 (2017).

103. N.D. ADMIN. CODE 74-04-01-01 (2019).

104. *Potato Seed Certification*, N.D. ST. SEED DEP'T, https://perma.cc/JFN4-TGYG (archived Jan. 27, 2020).

105. *See* N.D. ADMIN. CODE 74-04-01-02 (2019).

106. *See Potato Seed Certification*, *supra* note 103.

107. N.D. ADMIN. CODE 74-04-01-02(1)(b)(2) (2019).

handling the crop.[108] This consists primarily of ensuring a producer has records of where seed potatoes are at all times throughout the growing and storage process.

5. Generational Limitations

States with seed potato certifications have limited the years a seed lot is eligible for seed certification.[109] The restriction is called a limited generation, or "flush through," system.[110] Depending on the state, potato seed lots are limited to being raised from five to nine years.[111] North Dakota limits seed potatoes to "seven years of reproduction in the field."[112] Therefore, in North Dakota, the seed producer's first year would begin when they plant the nuclear potato in a field.[113] Producers can then raise that same potato seed lot for six consecutive years, increasing the lot size each year until the seventh year, when it would be sold to a commercial producer to be raised once before being sold to the processor or end user.[114] The seed lot sold to producers following the sixth field year would be considered a fifth generation seed lot.[115] Seed lots may only be planted for seed production beyond the seventh year if the state seed department has granted prior approval and determined the seed lot has been post-harvest tested and eligible for recertification.[116]

6. Seed Potato Certification Requirements

In order for a potato to be eligible for the certification program it must have previously been in a certification program or be a nuclear seed proven to be free of nine different pathogens through lab testing.[117] The initial requirement of preventing non-certified seed from entering the certification process demonstrates the certifier's desire to maintain control of certification quality. Upon being determined eligible for the certification process, potato seed lots are field inspected, post-harvest tested, graded, and labeled.[118] All of these steps are aimed

108. *Id.*
109. BELYEA ET AL., *supra* note 1, at 38-40.
110. *Id.*
111. *Id.*
112. N.D. ADMIN. CODE 74-04-01-07(1) (2019).
113. *See* Davidson, *supra* note 109, at 42; *see Seed Potato Certification: Field Year*, *supra* note 20 (showing nuclear as FY1 in 2020).
114. *Id.* at 41.
115. *See* N.D. ADMIN. CODE 74-04-01-07(1).
116. *Id.*
117. *Id.*; N.D. ADMIN. CODE 74-04-01-02(2)(a) (2019).
118. N.D. ADMIN. CODE 74-04-01-02(2).

at maintaining North Dakota's reputation for "disease free, vigorous seed [production]."[119]

i. Post-Harvest Testing

All potato lots the "grower intends to plant" or "sell to growers who intend to enter the lot[s] for certification the following year" must go through post-harvest testing.[120] Post-harvest testing, or winter testing, determines the eligibility of a potato lot for recertification.[121] The NDSSD collects lot samples from growers and ships the samples to Homestead, Florida in early November.[122] The lot samples are planted one to two weeks after shipping and are raised in Florida for field inspection.[123] By January, the lot samples have grown enough for field inspections to be conducted in a similar manner to the summer field inspections.[124] The plant inspection primarily focuses on viruses, but herbicide damage, vigor, and other factors are considered during the winter test.[125] Additional laboratory tests are done on samples, especially in varieties known to "mask virus symptoms."[126] Seed lots failing the winter test, likely due to excessive amounts of virus,[127] will result in lot ineligible for planting under the certification program.[128] Passage of the sample lots confirms for the grower, NDSSD, and other state certification programs that the seed lot is eligible planting and certification the following summer.[129]

ii. Field and Laboratory Inspection

Upon passing the winter testing, a potato lot is free to be grown by the producer in North Dakota. Seed certification requires a seed lot to be inspected in the field during the regular growing season.[130] The NDSSD inspects each seed lot at least three times before the potato crop is harvested.[131] The three different

119. *Potato Seed Certification*, *supra* note 103.

120. N.D. ADMIN. CODE 74-04-01-09(1) (2019).

121. *Post-Harvest Testing*, N.D. ST. SEED DEP'T, https://perma.cc/Z3P2-PK7N (archived Jan. 27, 2020).

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*; N.D. ADMIN. CODE 74-04-01-09(2)-(3).

126. N.D. ADMIN. CODE 74-04-01-09(2); *Post-Harvest Testing*, *supra* note 121.

127. N.D. ADMIN. CODE 74-04-01-09(7).

128. *Id.* at (5).

129. *Post-Harvest Testing*, *supra* note 121.

130. N.D. ADMIN. CODE 74-04-01-02(2)(b) (2019).

131. *Field Management and Inspection*, N.D. ST. SEED DEP'T,

inspections are spread across the growing season, focusing on specific areas of concern each time.[132] The first inspection is roughly forty-five days after planting, followed by the second inspection ten days later.[133] Both inspections focus on detecting "virus levels, presence of disease, varietal purity and other factors associated with seed quality."[134] The final inspection is completed toward the end of the season, primarily in order to detect any presence of BRR.[135]

In addition to field testing, laboratory testing can be conducted to discover harmful pathogens.[136] Producers can even request a voluntary laboratory testing of their seed lots.[137] Inspectors may also suggest lab testing in potato varieties that tend to be "symptomless or that show very mild symptoms."[138] The lab can test for nine different viruses in potatoes, including PVY.[139]

iii. Grades and Labeling

Field and lab inspection results are used to grade and label each potato seed lot. Certification is not considered complete until a potato lot is properly labeled and has received an official seed grade inspection certificate.[140] Labels include the year a crop was produced, grower's name, variety, generation, class, and certification number of the seed lot.[141] Upon receiving any seed lot, purchasers of a seed lot must receive a proper and accurate label.[142] Accurate labeling informs the seed purchaser of basic information and ensures they receive the same quality of seed as they purchased.

As stated above, the generation classification of a seed potato is based on the years it took to raise the seed lot. Each generation, from zero to six, has disease tolerance standards the seed lot must meet.[143] Each of the six diseases considered

https://perma.cc/G9L8-Y4N5 (archived Jan. 27, 2020).

132. *See id.*

133. *Id.*

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.*

139. *See Potato Virus Testing*, N.D. ST. SEED DEP'T, https://perma.cc/LB2F-AJNJ (archived Jan. 27, 2020).

140. N.D. ADMIN. CODE 74-04-01-02(2)(e) (2019).

141. *Id.* at (2)(g).

142. *Id.* at (2)(f).

143. N.D. ADMIN. CODE 74-04-01-08(2) (2019).

allow for varying percentages at each generational level.[144] For example, two-tenths percent PVY can exist in a generation zero certified seed potato.[145] The allowed percentage can increase a small percentage each year.[146] However, BRR cannot exist in any percentage at any generational classification.[147] Due to BRR's seriousness and ease of transfer, the North Dakota seed certification programs have a "zero tolerance" inspection standard.[148] If a seed lot is not able to meet its generational level disease tolerance requirements, the seed can be advanced a level, indicating it is less desirable than a younger generation.[149]

Aside from generational classifications, grade classifications are also given by the state seed department. Grades are based on "physical defects, size, shape, and cleanliness" of a seed lot.[150] Grades give a purchaser an indication of seed quality based on quality factors other than just disease.

Additionally, all farms raising certified seed potatoes are held to a higher standard than farm raised potatoes for an end user. All the potatoes on a certified seed producer's farm must be in the certification program.[151] A seed producer's equipment and storage facilities can only come into contact with potatoes in the certification program and must be thoroughly cleaned and disinfected.[152] Certified seed potato fields must be adequately isolated from non-certified fields.[153] Finally, all potato cull piles must be properly destroyed due to the disease that can develop in unmanaged potatoes.[154]

IV. 2005 SENATE BILL

In 2005, North Dakota Senate Bill 2326 "was developed at the request of the Seed Certification sub-committee of the North Dakota Certified Seed Potato Growers Association."[155] One portion of the bill proposed removing the year-out exception under section 4.1-55-05(1)(b)(2) of the North Dakota Century Code.[156]

144. *Id.*
145. *Id.*
146. *Id.*
147. N.D. ADMIN. CODE 74-04-01-08 (2019).
148. *Id.* at (2); INGLIS ET AL., *supra* note 44, at 1.
149. N.D. ADMIN. CODE 74-04-01-07(8) (2019).
150. N.D. ADMIN. CODE 74-04-01-11 (2019).
151. N.D. ADMIN. CODE 74-04-01-05(1) (2019).
152. *Id.* at (2), (7).
153. *Id.* at (4).
154. *Id.* at (8); McGrath, *supra* note 51.
155. *2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 93, at 1.
156. N.D. CENT. CODE § 4.1-55-05(1)(b)(2) (2017); *See* S. 2326, 59th Legis. Assemb.

The Senate passed the bill with only minor, non-substantive changes, while the House amended the bill to ensure the year-out exception remained in effect.[157] The bill was ultimately passed and signed with the year-out exception remaining.[158]

A. Supporters of Removing the Year-Out Exception

Supporters of removing the year-out exception gave testimony during the North Dakota Senate and House Agriculture Committee hearings on Senate Bill 2326.[159] The North Dakota State Seed Department and the Northern Plain Potato Growers, a group representing potato growers in North Dakota and Minnesota in potato research, promotion, and legislation,[160] both spoke in support of Senate Bill 2326.[161] Ken Bertsch, the Commissioner and Administrator of the NDSSD, outlined the NDSSD's reasons for supporting the bill changes.[162]

Bertsch testified that the NDSSD's desire was to remove the year-out exception because of its importance to potato quality in North Dakota, trade prospects, and federal crop insurance protection for potatoes.[163] Prevention of the exception was primarily focused on reducing potato disease magnified by the use of non-certified seed potatoes.[164] Diseases, specifically BRR, were highlighted by Bertsch as reasons the year-out exception should be removed.[165] The disease can transfer by physical contact or spread from field to field with symptoms which may not be visible.[166] The use of certified seed prevents or suppresses the existence of BRR in potatoes.[167] Removing the year-out exception would require all producers to plant certified seed, and therefore "assist in limiting the proliferation of diseases like BRR."[168]

(N.D. 2005).

157. *See* S. 2326.

158. *See id.*; CENT. § 4.1-55-05(1)(b)(2).

159. *See 2005 Testimony: Hearing on S.B. 2326 Before S.B Agric. Comm.*, *supra* note 93, at 1.

160. *About NPPGA*, NORTHERN PLAINS POTATO GROWERS ASS'N, https://perma.cc/2DHN-98QD (archived Jan. 27, 2020).

161. *2005 S. Standing Comm. Minutes: Hearing on S.B 2326 Before S. Agric. Comm.*, 2005 Leg., 59th Assemb. 2-3 (N.D. Jan. 27, 2005).

162. *See 2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 93, at 1-2.

163. *See id.*

164. *Id.* at 2.

165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.*

The second justification for removing the year-out exception focuses on the possibility of expanding potato exports and trade from North Dakota. The National Potato Council, an organization representing potato farmers on legislative and regulatory matters,[169] "facilitate[ed] the development of a Memorandum of Understanding (MOU) between [United States Department of Agriculture Animal and Plant Health Inspection Service] (USDA-APHIS) and state [seed] certification agencies."[170] The MOU set minimum uniform requirements state certification programs must meet to sign onto the MOU.[171] The uniform standards help facilitate interstate and international trade of potatoes.[172] Overall, the MOU was developed to help the USDA "negotiate market access agreements with foreign importers on behalf" of those who sign onto the MOU.[173] The NDSSD, based on their interpretation of the MOU at the time, believed USDA-APHIS would not allow North Dakota to sign until the year-out exception is eliminated.[174] Duane Mautz, President of the Northern Plains Potato Growers, echoed the North Dakota Seed Department's support for Senate Bill 2326.[175] However, North Dakota was allowed to sign onto the MOU in 2010 making the second concern a non-issue.[176]

Finally, Bertsch identified the year-out exception as a problem for federal crop insurance coverage of potatoes in North Dakota.[177] In the past, producers had been denied crop insurance when the producer planted seed under the year-out exception.[178] However, court cases have resulted in insurance companies being forced to pay producer claims on the basis of the seed being legally raised under the year-out exception.[179] The NDSSD's concern is this precedent will result in insurance companies raising potato insurance costs, reducing coverage, or reducing availability for potato producers.[180]

Bertsch ended his committee hearing remarks by acknowledging the concern

169. *NPC History*, NAT'L POTATO COUNCIL, https://perma.cc/A9LT-8BGD (archived Jan. 27, 2020).

170. *2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 93, at 2.

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.*

175. *2005 S. Standing Comm. Minutes: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 161, at 3.

176. Telephone Interview with Ken Bertsch, *supra* note 96.

177. *2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 93, at 2.

178. *See id.*

179. *Id.*

180. *Id.*

for added regulation within the realm of potato seed certification.[181] Despite the realistic concerns for increased prices or decreased availability of seed potatoes upon the elimination of the year-out exception, Bertsch reminded the committee of his ability to allow the planting of non-certified seed potatoes in situations of seed shortage.[182] The strong support from the NDSSD and the Northern Plains Potato Growers demonstrated the industry's desire for the legislature to eliminate the year-out exception. However, once the bill reached the House, the Northern Plains Potato Growers pulled their support for the elimination of the year-out exception.[183]

B. Changes in House Due to Opposition

The Northern Plains Potato Growers withdrawing their support for removing the year-out exception is likely the reason the House Agriculture Committee removed the amendment.[184] Another contributing factor is likely producer opposition to removing the exception. The Northern Plains Potato Growers estimates that only ten to fifteen percent of total potato production in North Dakota utilizes the year-out exception.[185] However, only a few large commercial potato operations that opposed removing the year-out exception make up that ten to fifteen percent.[186] Bertsch stated, these few producers "just don't want to have [their] tools taken away."[187] As a result, the producers' opposition resulted in the Northern Plains Potato Growers pulling their support, and ultimately prevented the year-out exception from being eliminated.[188]

V. FUTURE ATTEMPTS TO REMOVE THE YEAR-OUT EXCEPTION

Although the 2005 Senate Bill's attempt to remove the year-out exception failed, the issue has not disappeared. The deterrence of the unnecessary spread of disease and, ultimately, an economic loss to potato seed producers in North Dakota

181. *Id.*

182. *2005 S. Standing Comm. Minutes: Hearing on S.B 2326 Before S. Agric. Comm.*, *supra* note 161, at 3; *see* N.D. CENT. CODE § 4.1-55-05(3) (2017).

183. *2005 H. Standing Comm. Minutes: Hearing on S.B. 2326 Before H. Agric. Comm.*, 2005 Leg., 59th Assemb. 1 (N.D. Mar. 17, 2005).

184. *See generally id.*

185. *2005 H. Standing Comm. Minutes: Hearing on S.B. 2326 Before H. Agric. Comm.*, 2005 Leg., 59th Assemb. 4 (N.D. Feb. 25, 2005).

186. Telephone Interview with Ken Bertsch, *supra* note 96.

187. *2005 H. Standing Comm. Minutes: Hearing on S.B. 2326 Before H. Agric. Comm.*, 2005 Leg., 59th Assemb. 2 (N.D. Mar. 17, 2005).

188. *See generally id.*; Telephone Interview with Ken Bertsch, *supra* note 96.

should be a goal for the industry. In the future, two avenues could be considered to remove the year-out exception. The first option, at risk of facing the same past opposition, is another attempt at passing a law. Alternatively, the year-out exception could be rendered practically unusable through producer crop insurance contracts.

A. Propose New Legislation

Removing the exception through legislation may result in the same opposition large commercial processes voiced in 2005. However, it has been fifteen years since the 2005 North Dakota Senate proposed removal of the year-out exception.[189] Another attempt at a law change is worthwhile, at least to test if strong opposition would come from the same commercial producers.

In his 2005 Senate and House Ag Committee testimony, Bertsch cited BRR as one of many diseases negatively impacting the industry that could be spread when seed is planted under the year-out exception.[190] Today, Bertsch still considers BRR a threat to the industry.[191] Yet, Ken Bertsch would consider PVY—a disease that in the past fifteen to twenty years has become a major problem for potato production in the United States[192]—to be more serious of a threat to the marketability of potatoes than BRR.[193]

PVY "is one of the most damaging potato viruses and is a serious threat to the successful production of an acceptable seed lot around the world."[194] PVY yield losses have been reported to range from ten to eighty percent.[195] Tubers affected by PVY are rendered unusable for propagation, or the furtherance of potato seed operations.[196] "PVY is a complex disease and one that is becoming of greater concern than ever to potato producers in Canada and the U.S."[197] One producer

189. S.B. 2326, 59th Leg. Assemb. (N.D. 2005).

190. *2005 Testimony: Hearing on S.B. 2326 Before S. Agric. Comm.*, *supra* note 93, at 2.

191. Telephone Interview with Ken Bertsch, *supra* note 96.

192. Cassandra N. Funke et al., *Strain-Specific Resistance to Potato virus Y (PVY) in Potato and its Effect on the Relative Abundance of PVY Strains in Commercial Potato Fields*, 101 PLANT DISEASE 20, 20 (2017).

193. Telephone Interview with Ken Bertsch, *supra* note 96.

194. Khalil Al-Mughrabi, *Disease Watch: Potato Virus Y*, SPUDSMART (Jan. 15, 2018), https://perma.cc/64J6-A2NR.

195. *Id.*

196. *Id.*

197. *Id.*

with PVY in their field can easily spread the devastating disease to neighbors when aphids fly from an infected field into a nearby certified seed field.[198] Bertsch suggests the threat of PVY may be enough of a concern for even the commercial producers to reconsider their previous position of keeping the year-out exception.[199]

B. Surrounding State Certification Changes

North Dakota's potato seed certification system does not operate in a vacuum. It is not uncommon for producers to raise potatoes in multiple states across the country.[200] Producers raising potatoes in multiple states are required to ensure they follow each respective state's certification laws. As other states relax or strengthen seed potato certification laws, producer's views on North Dakota seed potato certification laws are also altered. This creates complexities when trying to determine why a potato producer would oppose removing the year-out exception. However, it is likely a producer located in Minnesota and North Dakota would want to keep the North Dakota year-out exception because Minnesota does not offer an equivalent exception. Having the exception allows a potato producer in Minnesota, if they qualify under the North Dakota year-out exception, to transfer the Minnesota potatoes into North Dakota to be produced one more year.[201] One producer located in both states would not be selling or transferring their seed potatoes to another producer. Therefore, producers could transfer the exempt seed into North Dakota to be raised without requiring inspection.[202]

VI. FEDERAL CROP INSURANCE

The alternative to preventing the year-out exception would not require a change of North Dakota law. The Risk Management Agency (RMA), a division of the USDA which manages the Federal Crop Insurance Corporation (FCIC), could not insure potatoes raised under the year-out exception.[203] RMA considers potatoes insurable if they are planted with certified seed.[204] Under that requirement,

198. *See id.*

199. Telephone Interview with Ken Bertsch, *supra* note 96.

200. *See Farm Locations*, BLACK GOLD FARMS, https://perma.cc/6NGP-2Q24 (archived Jan. 27, 2020); *See Our History*, R.D. OFFUTT FARMS, https://perma.cc/RN82-NP2Y (archived Jan. 27, 2020).

201. N.D. CENT. CODE § 4.1-55-05(1)(b)(2) (2017).

202. *See* N.D. CENT. CODE § 4.1-55-07(2) (2017).

203. *About the Risk Management Agency*, USDA: RISK MGMT. AGENCY, https://perma.cc/R9TD-6ZEW (archived Jan. 27, 2020).

204. *Potatoes*, USDA: RISK MGMT. AGENCY (Jan. 2017), https://perma.cc/H2RP-V87S.

producers receive payment for losses of potatoes raised under the year-out exception.[205] In 2005, Bertsch testified that the crop insurance industry had denied a producer's crop insurance claim for potatoes raised under the year-out exception.[206] The Court ruled in the potato producer's favor based on the argument the potatoes were legally raised under North Dakota certified seed law.[207] By changing policies, RMA could effectively remove the year-out exception simply by refusing to provide insurance for potatoes raised under the exception. Removing the ability to insure potatoes raised under the year-out exception essentially renders the provision obsolete because many producers require crop insurance to manage the risks of potato production.[208]

VII. CONCLUSION

Seed potato producers face the risk of disease in planting, raising, harvesting, and storing their crops.[209] The year-out exception allows a producer to raise a potato that has not been certified and confirmed as free of PVY or BRR.[210] BRR infection in a seed potato producer's lot would prevent seed certification and, ultimately, the ability to sell the lot to a commercial producer in North Dakota.[211] The risk of hurting the small, but important, seed potato market in the third largest potato raising state in the country—outweighs protecting a tool utilized by a few large commercial growers. The year-out exception creates an unnecessary disease risk and economic hardship for seed producers raising a crop near a neighbor choosing to use the exemption. It is time for North Dakota to remove the year-out exception in order to protect the future of potato production within its borders.

205. *See 2005 Testimony: Hearing on S. 2326 Before S. Agric. Comm.*, *supra* note 93, at 2.

206. *Id.*

207. *Id.*

208. Telephone Interview with Ken Bertsch, *supra* note 96.

209. LESSARD ET AL., *supra* note 40, at 3.

210. N.D. CENT. CODE § 4.1-55-05(1)(b)(2) (2017).

211. *See* INGLIS ET AL., *supra* note 44, at 1-3.