The North Dakota
Seed Journal
APRIL 2021
Newsletter of the North Dakota State Seed Department

Inside

The North Dakota Seed Journal is published and edited by the Seed Department, State of North Dakota, under the provisions of Chap. 258, S.L. 1931, as administrative and instrumental matter required for effective transaction of the Department's business and for properly fostering the general welfare of the seed industry in the state.

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Tips for Successful Certified Seed Production

***Joe Magnusson**, Certification Manager*

Deadlines for field inspection applications will be here sooner than you think. Here are a few pointers to help ensure success this season.

Plant eligible seed on eligible ground

Seed fields cannot be planted on fields that had the same crop the previous year unless it was the same variety and that field was inspected for certification. Foundation class durum planted for Registered seed production can't be planted on fields that had spring wheat the previous two years. We don't recommend planting durum on spring wheat for at least five years, as we have seen spring wheat regrow for several years in seed fields and broadleaf crops from previous years. Though it is not recommended, you can plant a crop on land that previously had an inseparable crop (small grains on previous small grain residue) with the exception of durum as stated above. If this is your only planting option, monitor the field for volunteers. If you notice patches of other crop plants, you can cancel the field prior to inspection. Some crop admixtures (wheat, barley and oats) can be removed from the seed lot with careful conditioning if the conditioner uses the appropriate equipment, such as an indent or disc machine, to remove small or short fractions (wheat from oats and barley etc.).

Apply for field inspection

In early May, applications for field inspection will be mailed to all growers who have applied for inspection the past two years. Field inspection is critical to the certification process. If you don't apply, we can't certify the seed. Complete and submit the application by the appropriate deadline. Enclose a copy of the proof of seed eligibility (bulk certificate or tag), an FSA map of the field (or equivalent) and the proper fee. Applications are also available in the Online Forms section of our website, at your local county Extension office, or by calling the Seed Department. Don't forget to sign and date the application.

Isolation is required

A minimum 5-foot isolation strip is required between inseparable crops and different varieties of the same crop. Isolation can be achieved by leaving a bare strip at planting time or by mowing or cultivating. A natural barrier such as a ditch, fencerow or roadway is acceptable. A field will be rejected if isolation is not in place at the time of inspection. **Growers may request a re-inspection after the isolation strip is in place, but a second inspection will incur additional fees.**

Weeds of concern

Field bindweed is the most common weed resulting in a failed inspection. It is a prohibited weed and difficult to remove from small grains due to similar size and density. Wild oats in oat and barley fields are also a concern as they are difficult to condition from these crops. Control these weeds before the inspector arrives to ensure your field will pass inspection. Thistles are a concern in field peas and

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From the Commissioner's Desk

Did you know people get paid big bucks to be a social media influencer?

Really, no kidding. By simply putting your stamp of approval on a product, brand or issue on a social media platform you can actually make a living. If you're really good, or maybe just a notable celebrity, millions. Does failure in an attempt to influence cause a loss of revenue and, therefore, reap unemployment benefits? Is there insurance coverage for this type of misfortune? Must a social media influencer have any expertise in his/her area of so-called influence? So many questions.

Decision-making of farmers, ranchers, and everyone else involved in agriculture is highly influenced by many factors on a daily and seasonal basis. Most planting decisions are up for debate and adjustment in springtime. With an early spring and start to planting this year, those decisions are being made right now as drills and seeders start moving in earnest throughout North Dakota.

Certainly, commodity markets are the major influencers driving planting decisions. USDA's Grain Stocks and Planting Intentions reports are biggies. This year, the U.S. Drought Monitor and weather forecasting services are huge.

Planting intention reports predict corn and soybean acres to increase 69% and 22%, respectively, in North Dakota. The USDA Drought Monitor shows the entire state in moderate to severe drought categories. If either report negatively impacts production of certified field seed crops in 2021, those bushels/pounds will be more valuable. Seed production will have to "buy acres" in the same manner the wheat markets compete with corn/soy production. If drought conditions persist and impact yields, all of these issues will contribute to seed supply/inventory reductions.

If I had any influence at all, I would be pushing seed growers to hang tough, stick with their planting plans and don't, under any circumstance, give up on those seed fields. Steve Sebesta wrote a great article (*Lost Opportunities Cost Money*) in the January issue of *Seed Journal* regarding the cost/benefit of seed inspections, and the low risk-high potential benefit assumed by the grower in applying for field inspection and completing final certification. The $2.50/acre invested in a field inspection is pretty cheap insurance to cover the potential of harvesting a certifiable, marketable and potentially valuable seed crop; even under low-yield conditions.

I'm thinking about entering the transfer portal as a social media influencer; apologies for mixing metaphors. In doing "research" for this article, I checked out the top 100 social media influencers. I recognized one name in the top 50 and gave up. Clearly, I need to change my name to Jefree or Aspyn and sign up on TikTok, Snapchat or Instagram and become a seed evangelist. Hard to say if I have an audience, which is required, but it's doubtful in my case, since Twitter is my only social media vice. As for influencing skills; the jury is out on that point.

Best wishes on a safe and healthy planting season.

Ken Bertsch.....State Seed Commissioner
Steve Sebesta.....Deputy Seed Commissioner
Kent Sather.....Director, Potato Program
Jason Goltz.....Field Seed Program Manager
Joe Magnusson.....Field Seed Program Manager
Jeanna Mueller.....Seed Laboratory Manager
Starr Thies .....Business Manager
Mike Oosterwijk.....Potato Program Supervisor

2021 NDSU Field Days

As of press time, NDSU field days are back, live and in person, as shown below. Be sure to check ASF and REC websites closer to actual dates.

July 13 - Hettinger REC
July 14 - Dickinson REC
July 14 & 15 - Williston REC
July 19 - Agronomy Seed Farm
July 20 - Carrington REC
July 21 - North Central REC
July 22 - Langdon REC

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crops of similar size. Even though seed of these weeds may not be viable, it is difficult to remove the seed heads from the crop seed. Inspectors will reject all areas found with patches of thistle and require you to avoid these areas at harvest.

Harvest

It is the seed grower's responsibility to ensure each seed field has been inspected and has passed before harvest. Do not harvest a field if you are unsure. Call your inspector or the Seed Department to confirm the status. Review field inspection reports for any corrections or areas to avoid during harvest. Make sure all your equipment and bins are clean prior to harvest. If you utilize custom harvesters, don't assume their equipment is clean. Inspect it yourself to be sure. If you don't, you may be introducing contaminants (other crop seed or weed seed) into your seed and noxious weeds such as Palmer Amaranth that can remain in your fields for years to come.

Late Field Inspection Applications Cost You Money

***Steve Sebesta**, Deputy Commissioner*

Seed growers paid more than $22,000 in late fees in 2020. Every year, we receive phone calls from seed growers asking for an extension to the application deadline. In years past, we have been lenient, and granted those requests. Unfortunately, our efforts to display flexibility has enabled some growers to repeatedly take advantage of our goodwill.

North Dakota Administrative Rules Chapter 74-03-01-09, which covers field inspection, specifically states that penalties will be applied for applications submitted after the published deadlines. Those deadlines are clearly stated in the rules, on field inspection applications as well as our website, the Seed Department wall calendar and on the inside back cover of the *Seed Directory*. The department is obligated to charge late fees on late applications and we are not allowed to grant waivers to individuals.

In case of an emergency or unusual circumstances due to weather or crop conditions, rules permit the commissioner to extend the application deadline and waive the penalties. We monitor planting progress and weather conditions every spring to determine whether the commissioner will need to extend the deadlines. Those conditions did not exist last year. In fact, examination of the planting dates for the 2,490 fields on all the applications from 296 applicants in 2020 revealed that in almost all cases, the fields on late applications were planted in a timely manner, often earlier than the average of all the fields that were submitted on time. In many cases, those late applications were submitted after our inspectors had already begun inspections. On average these applications were a full two weeks after deadlines. Deadlines are in place to help manage work processes. Late applications negatively impact our efficiency and our ability to keep field inspection fees economical.

Potato Quarantine Issues

***Kent Sather**, Director, Potato Programs*

Each year, seed potato certification officials receive updates about quarantine pests that affect the potato trade. Representatives from the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) provide updates about Pale Cyst Nematode (PCN) (*Globodera pallida*) infestations in Idaho and Golden Nematode (GN) (*Globodera rostochiensis*) in New York. Canadian Food Inspection Agency (CFIA) representatives report on PCN and GN surveys in several provinces, and Potato Wart (*Synchytrium endobioticum*) found on Prince Edward Island (PEI). Our respective national quarantine programs are important.

USDA-APHIS describes their Plant Protection and Quarantine (PPQ) program as “safeguarding U.S. agriculture and natural resources against the entry, establishment, and spread of economically and environmentally significant pests, and facilitates the safe trade of agricultural products.” Plant quarantine is defined as the legal enforcement of the measures aimed to prevent pests from spreading or to prevent them from multiplying further in case they have already gained entry and have become established in new restricted areas. The importance of imposing restrictions was realized in the late 1800’s. Grape phylloxera was introduced to France on grape cuttings from the US. Colorado potato beetle was introduced to Germany. The San Jose scale was introduced to US fruit growing areas. While these examples represent insects, new plant pathogens are also a threat. Restrictions and laws multiplied, affecting local and international markets. As scientific knowledge developed, international cooperation in scientific research and coordinated plant protection regulations were harmonized. Eventually, international quarantines were established, utilizing an exchange of scientific information about pests, with respect to control and prevention. The United States passed the Plant Quarantine Act of 1912 after several more serious pests had been introduced into the country.

Since PCN was identified in Idaho in 2006, international quarantines required soil sampling in all states if seed was to be shipped to Canada. North Dakota has spent nearly $1 million over the past dozen years for soil sampling and processing to determine PCN freedom in our certified seed fields. Much of the funding has been through USDA grants, but growers also have paid a share, and need to manage for this process. Equivalent requirements are in place for Canadian growers planning to ship to the US.

Back in 2000, Potato Wart, a regulated quarantine pest, was initially confirmed by CFIA on PEI. Trade restrictions were established until CFIA could perform thorough trace forward and trace backward investigations around this confirmation. However, in 2020, CFIA again confirmed the presence of Potato Wart in two fields on a farm in PEI, a new find not associated with previous confirmations. USDA immediately suspended the import of certified seed from PEI until all trace back information has been vetted by CFIA.

Accidental or misguided introduction of a pest at some point can lead to massive expense in surveys and eradication efforts, upsetting markets, and even loss of crop production from affected soils. Reports from US and Canada itemize costs dealing with quarantine issues. The market loss can also be staggering when all things are considered. Protect our soils and crop production by being aware of quarantine issues related to any crop, especially certified seed potatoes.

Tips for Approved Facilities

***Kyle Bednar**, Field Seed Inspector II*

I am writing this article in mid-March on a record breaking 65-degree day, with the average low for this date at 19 degrees. One thing is for sure, we have experienced a wide range of temperatures which is favorable for bin issues. Hopefully you have checked your seed often during winter and spring for signs of moisture migration that can lead to poor seed quality.

Tips to reduce your risk and maintain seed quality

- Ensure that observers and workers inside grain bins maintain visual, voice, or signal line communications at all times. Use cell phones to keep in contact, use lock-outs to prevent augers from being started when working inside a bin, and never enter a bin while loading or unloading.
- There can be empty space below a clump that can cause bridged grain to suddenly collapse under the weight of a worker, causing the worker to become buried in the bin. Grain that has accumulated on the sides of a bin can suddenly collapse onto a worker.
- During winter, insects will move to the center of the bin, so sampling at that location is important.
- "Hot spots" felt on the grain surface or unusual odors are indicators of insect activity and should be investigated.

Reminders for approved facilities

- A complete list of Approved Conditioners and Approved Bulk Retailers can be found on line at ndseed.com, in the back of the *2020 Field Seed Directory*, or in the *Seed Guide*.
- A two-pound sample of all certified seed shall be maintained for a minimum of one year after the final disposition of the seed lot. Samples shall be labeled with kind, lot number, variety and class. If the conditioner is not the labeler, the conditioner shall provide the labeler a sample to be retained.
- Ensure all approved seed bins are numbered and variety is identified (adhesive bin labels are provided with final certification).
- Maintain an up to date bin map.
- Issue the buyer a bulk certificate (tag) for each sale.

Seed Labeling Specifics

***Jason Goltz**, Regulatory Manager*

The Federal Seed Act and state seed laws both define specific terminology to be used when labeling seed. Using the correct terminology provides consistency throughout the industry. When seed is certified by an official seed certifying agency, the agency will print the labels, either tags or bulk certificates. These labels will include information that complies with state and federal seed labeling laws. When certified seed crosses state lines for resale, it will be relabeled in the destination state, further ensuring labeling requirements are met.

Common seed, which is seed not required to be certified, must have a label created by the person who is selling that seed. Labeling violations due to incorrect labels frequently happen with common seed labels. This, in part, may be due to lab reports using different terminology resulting in the labeler transposing information from that report to create the label. Depending on the lab, they may abbreviate terms which do not concur with labeling requirements. An example would be when an analysis report lists "Weeds" instead of the proper labeling term of "Weed Seeds". When relabeling common seed, do not assume the previous labeler used correct terminology; they may have used terms which are not allowed or abbreviations. In most cases, abbreviations cannot be used; the customer should not have to decipher the label.

When creating a label for common seed, the labeler should check both Federal Seed Act and the state seed laws for the state in which the seed is to be sold. Federal Seed Act will have basic labeling requirements regarding the content of a label and proper terminology. States will usually require additional information such as the origin of the seed or the variety for a specific kind of seed.

Whether certified or common, all seed must be tested and properly labeled. ND seed law can be found on our website at ndseed.com and the Federal Seed Act can be found at the UDSA-Agricultural Marketing Service website under rules & regulations. Please contact our office if you have any question regarding the proper labeling of seed.

Selling Seed Pending Certification is a Violation

Selling a PVP Title V protected variety without the owner's authorization (certification) is a violation of their intellectual property (IP) rights. When we think about violations of IP rights, we usually think of someone who willingly violates the protections. In reality, the most common violation occurs when someone sells seed that is pending certification. We learn of these violations every year at this time when impatient labelers sell seed before the lab testing and final certification has been completed. Everyone assumes their seed will pass lab testing, but some lots don't. If a seed lot fails certification and we learn it has already been sold, those sales elevate the violation from a labeling issue to a violation of an act of Congress and the Federal Seed Act. Any transfer of ownership, regardless of the type of transaction, requires a bulk sales certificate.

Bin-run Seed Doesn't Pencil Out

***Steve Sebesta**, Deputy Commissioner*

How many of your customers plant bin-run seed? I'm sure you know a few. Have you asked them why? If you have, no doubt they told you it's cheaper. If that's the case, share this information with them and ask them again, why?

According to the National Ag Statistics Service survey North Dakota farmers planted 6 million acres of spring wheat in 2020. And even though North Dakota leads the nation in the production of certified seed almost every year, there wasn't enough seed certified to plant all those acres. The balance would have come from bin-run or farmer saved seed. Certainly, PVP laws allow farmers to save seed from crops for replanting, as long as the seed was legally obtained originally. But, just because you can, doesn't mean you should.

Seed quality issues

Have you ever heard someone say "It's time for new seed – the genetics has run out"? What's really happened? First, the DNA hasn't changed. In reality, their poor quality bin run seed is the problem, and the variety is unfairly getting the blame for poor performance. Repeatedly saving seed negatively impacts the genetic purity of a variety because of admixtures of seed of other varieties or other crops introduced through various sources like planters, combines, trucks, bins, seed handling equipment or inadequate crop rotations. Moreover, pre-harvest desiccation with glyphosate has become a common practice, and that is proven to reduce germination, as can improper handling practices that can physically damage seed. We have observed this in our quality lab. Planting scabby seed will result in poor emergence and poor seedling vigor.

Varietal identity issues

Every year we receive samples from producers who don't know what variety they have stored in which bin. So far this year, there have been 19 common samples submitted for the variety id test and six have failed. So, if 1 out of 3 common samples are the incorrect variety, what does that tell you about the ability to maintain the varietal identity of farmer-saved-seed on the farm? By comparison, we have tested 766 spring wheat seed lots for varietal identity as required for certification. Only one test has come back false. Certified seed growers do an outstanding job, and our variety id testing requirement for certification is an effective tool to ensure varietal identity of each seed lot certified.

These two issues were the key reasons the seed certification system was established a century ago. The systematic approach to the production of seed according to rules and standards and implemented by a third-party provider (authorized certification agency) help ensure genetic purity and varietal identity.

Economic issues

If genetic purity and varietal identity aren't convincing enough reasons to plant certified seed, how about economics? The idea that bin-run seed is free or cheap is a misconception. Bin-run seed has hidden costs that are sometimes overlooked. Check the comparison at the right and make the comparison yourself. There are some basic assumptions such as: 3 bushel/ac yield advantage for certified seed (published studies have shown a range of 2-6); 10% higher seeding rate for bin-run due to lower germ and higher inert %; the value of bin-run seed if sold as grain; the cost of storage; cleaning cost (if cleaned); revenue for the cleanout. The calculations do not account for presence of seed-borne diseases and weed seed that add cost for control. Based on these factors, and a certified seed cost of $10.25 per bushel, it would cost the grower $20.50 per acre to plant certified seed. The cost of bin-run seed would be $15.18. If we use the state average yield and a commodity price of $5.75, the net income per acre for certified seed field would be $255.50. If the yield hit for bin-run seed is 3 bushels per acre, the bin-run seed would net $243.57 per acre. Simple math tells us that using bin-run seed would cost the grower almost $12 per acre in lost revenue. Put another way, planting certified seed would net the grower almost $12 per acre more than planting bin-run seed.

	Certified Seed	Bin Run Seed
Commodity Price	$5.75	$5.75
Yield	48	45
Avg Yield Difference (bu/ac)		3
Avg Seeding Rate (lbs/ac)	120	132
Avg Seeding Rate (bu/ac)	2	2.2
Value of seed as grain ($/ac)	**NA**	**$12.65**
Avg cost to condition ($/bu)	NA	$1.00
Cleaning Total ($/ac)	**NA**	**$2.20**
Avg Storage Cost ($.05/bu/mo) 9 mo	NA	$0.45
Total Storage cost ($/ac)	**NA**	**$0.99**
Sub Total ($/ac)	**0**	**$15.84**
Conditioning loss (%)	0	10
Value of lost seed ($/bu)	0	$3.00
Revenue from Cleanout		**$0.66**
Seed Cost ($/ac)	**$20.50**	**$15.18**
Gross income (yld/ac x commodity price)	**276.00**	**258.75**
Seed cost ($/ac)	**$20.50**	**$15.18**
Net income ($/ac)	**$255.50**	**$243.57**

Lost value ($/ac) from planting bin run seed	**($11.93)**

There are numerous articles about the benefits of planting certified seed. I have never found one that suggests bin-run seed pencils out. Certified seed doesn't cost. It pays!

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NDSSD Calendar

May 1.....Applications due for grass seed inspections

May 31.....Memorial Day, office closed

June 1 .....Applications are due for hemp, hybrid wheat, hybrid rye

June 15 .....Applications are due for all crops including potato (except buckwheat, millet, & soybean requiring a single inspection)

July 5 .....Office closed for Independence Day

July 15 .....Applications due for buckwheat and millet

Aug 1.....Applications due for soybean requiring one inspection

Sept 1.....Reports due: Annual Report of Agricultural & Vegetable Seed Sold (labeling fees), Research Fees; Carryover Seed; Applications for Approved Conditioner & Bulk Retail Facilities