



The North Dakota Seed Journal

JUNE 2011

Newsletter of the North Dakota State Seed Department

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Potato Virus Testing Changes Coming This Summer

Jeff Prischmann, Diagnostic Lab Manager



Normal, healthy potato plant (L) and plant showing symptoms of PVY (R).

In July and August, the North Dakota State Seed Department Diagnostic Lab conducts a summer potato virus leaf test as a service to potato growers interested in testing their fields. This year, there are some important changes to this testing. Due to increased concerns over PVY necrotic strains causing tuber necrosis in potato growing areas, **the Seed Department will implement a mandatory summer leaf testing requirement for all seed**

lots beginning with the 2011 growing season. This requirement is for PVY testing only. In the past, only PVY latent virus carrier varieties including Russet Norkotah, Shepody, and Silverton were required to be tested for PVY.

These new PVY necrotic strains do not express visual symptoms easily and are thus difficult to visually identify in the field. Testing then becomes the only option to identify these strains. The Seed Department will be working with the NDSU Plant Pathology Department to identify these PVY strains. Samples identified as positive for PVY at the Seed Department will be tested by the NDSU Plant Pathology Department to determine PVY strain type using a DNA test.

All tests conducted at the Seed Department will be ELISA tests. A sample size of 200 leaflets will be required for PVY testing. Growers should submit at least 220 leaflets for this test in order to ensure the proper sample size is tested.

A PVX test can be conducted on the same sample as a PVY test is conducted. **PVX tests are not mandatory.** Also, Bt-Cry3a tests will also be available at the same time for any grower interested in obtaining a GMO test. This test requires a minimum of 400 leaflets. Growers need to submit a 440 leaflet sample if a GMO test is desired. **GMO tests are not mandatory.** The PVY, PVX, and GMO tests can be conducted on the same sample. **Again, a 220 leaflet sample will be required for PVY or PVX tests only. For a GMO test only or a GMO test with a PVY or PVX test, a sample of 440 leaflets will be required.**

In July, each grower will receive an information packet containing instructions for collecting and submitting samples for testing, sample tags, and a test request form. Use the test request form to indicate when you would like to test. To ensure proper sample identification, the sample tags must be returned with the samples. Please contact the department if you have any questions on sampling and testing.

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The North Dakota Seed Journal is published and edited by the Seed Department, State of North Dakota, under the provisions of Chap. 25B, 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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From the **Commissioner's Desk**

It is May 2, and there is little sign of life in terms of field work in the state. This should be no surprise, given the supposedly-just-completed winter, and the fact that a blizzard ravaged the northwest half of the state last weekend. I've tried to think of something profound that joins the term "sign of life" with the breaking news regarding bin Laden, and can't without coming off as borderline-gleeful. Suffice it to say... and it just proves the point I've tried to teach my kids; good always prevails.

A little review and some rambling on recent topics:

2011 Legislative Session: The session has ended, and the issues we reviewed in the last edition of the Seed Journal have been finalized. Our budget, century code re-write and code re-write companion bills all passed. As mentioned previously, the formal appropriations process is now a thing of the past for the Seed Department budget. Going forward, we will provide a report to appropriations committee's regarding the activities and finances of the agency. Also going forward, we will participate (again) this interim in the final phase of the agriculture code re-write, working with the Interim Agriculture Committee on chapters involving potato certification. A bill regarding the removal of the certification requirement for canola seed sold in North Dakota (philosophically opposed by industry and our agency) failed in the Senate.

Ken Bertsch..... State Seed Commissioner
Steve Sebesta..... Deputy Seed Commissioner
Willem Schrage Director, Potato Program
Joe Magnusson.....Field Seed Program Manager
Mark HafdahlSeed Laboratory Manager
Jeff Prischmann..... Diagnostic Laboratory Manager
Kris Steussy Administrative Officer
Mike OosterwijkPotato Program Supervisor

NDSU Greenhouse Complex: The legislature appropriated \$9.5 million dollars for the completion of the final phase of construction of this state-of-the-art facility. In total, the state has provided over \$27 million in funding for the project, which is estimated to cost almost \$35 million. The facility has a projected completion date of late 2012/early 2013.

As I've suggested previously, this facility should be a godsend to research efforts for agriculture in North Dakota, including the seed industry. As a reminder to readers, the Seed Commission believed this to be true as well; to the degree that \$250,000 was donated by the Department on behalf of growers to support the greenhouse construction effort. NDSU officials and industry supporters should be congratulated on successful completion of a project that has been under discussion, planning, fundraising, legislative action and construction for well over a decade.

Roundup-Ready Sugar beets: You may have read about the legal battle that has been waged over the past few months regarding the planting of Roundup Ready sugar beet seed. The Seed Department has traditionally done

little work in this area, aside from some minimal beet seed testing. Until now.

One of the results of the court ruling allowing planting and use of the seed is a requirement that a statistical sampling of fields must be inspected for bolters. A sampling of farms must also be audited regarding agricultural practices surrounding the use of Roundup Ready seed. USDA/APHIS has approved the Seed Department as an inspection/audit agency at the request of sugar cooperatives and sugar beet seed companies. This project will be added to our inspection duties in 2011 and possibly subsequent years if the regulatory requirement remains in place. From the Department perspective, we recognized that the sugar industry needed the services of a third-party inspector for this project. With experienced inspectors in all sugar beet production areas, it seemed logical to us (and our new partners) that we provide services to another sector of the commodity production industry. Our field seed inspection team will carry out the responsibilities of the inspection and audit services.

Best wishes for a safe and profitable spring planting season.



Seed Producers...

be certain your seed fields have been inspected by ND State Seed Department inspectors before you begin harvesting. Fields harvested before the inspection is completed will not be eligible for certification.

If you are ready to harvest and you are not certain your seed fields have been inspected, call your inspector or the State Seed Department at (701) 231-5400.

Seed Harvest Reminders

Mark Hafdahl, Seed Lab Manager

By the time anybody reads this, this year's crops should be growing well. There are some things that can be controlled that will maintain good seed quality.

Clean all harvest equipment including trucks, augers, conveyers and bins. Harvest large seeded crops such as peas and beans at a high moisture level. At low moisture these seeds become brittle and can not withstand any impact without causing damage. The higher moisture seeds are a little rubbery and will not be damaged as easily by impact. Limit how far a seed falls each time it is moved. A twenty foot drop into a bin will cause a lot of damage, especially to dry seed.

Do not spray glyphosate as a preharvest burn down on any **seed** crop except those that are tolerant such as RR soybeans. I can't stress this enough. Glyphosate is a systemic product that will be translocated to all parts of the plant, including the seed.

NDSSD Potato Seed Stocks

Willem Schrage, Potato Program Director

Sue Merkens has returned to management of the State Seed Department's potato seed stock operation, which includes greenhouse and tissue culture program responsibilities. She will continue testing work in the diagnostic laboratory. The seed stock staff has continued operation during the change of management and the work has been going on without interruption. The fall crop has been harvested and distributed with last year's spring and summer crops. The spring crop is in the greenhouse now and looks excellent.

We believe the industry should be provided the best-performing seed stocks available. Because the fall crop has a tendency to underperform compared to the spring and summer crops, the Seed Department has taken the opportunity to end fall production. The fall crop of 2010/2011 was the last fall crop produced by the Seed Department.

The Seed Department considers tissue culture and greenhouse material to be the basis of seed potato production. North Dakota has excellent seed potato growers and providing them with the best possible starting material allows these growers to supply the rest of the industry with the seed potato varieties they need. There is close collaboration with the NDSU potato breeding program to give ND growers the earliest possible opportunity to grow promising clones.

The Seed Department is grateful to Sue for taking on this responsibility. She has quality as her first priority and she is implementing the necessary procedures to meet that commitment. Because greenhouse maintenance is a necessity, we are making substantial investments to update the climate control system and insect screens. Sue and the greenhouse staff are a team that is serving the industry well.

Seed Department Welcomes New Commission Member

Lance Fugelberg, Portland, ND was elected to serve on the Seed Commission representing the North Dakota Dry Edible Bean Seed Growers Association. Lance succeeds his father, Richard, who served on the commission for 11 years. Our thanks to Richard for his leadership, and welcome to Lance.



Field Seed Program Personnel Changes

Joe Magnusson has been named Field Seed Program Manager effective April 1. In addition to his current duties as Seed Regulatory Manager, Joe will manage the seed certification program. He has more than 20 years of experience with the Seed Department in seed analysis, regulatory functions and certification.

Galen Briese was named Field Seed Specialist and will oversee the field seed inspection program as well as other duties.



Leverson Retires

Senior Seed Analyst, Celia Leverson, retired April 30, 2011 after 19 years of service at the Seed Department. Celia was lead germination analyst and provided valuable service to the region's agriculture industry. We'll miss her knowledge and experience in the Seed Lab. We wish her, and husband Dave, all the best in retirement.



North Dakota State
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Seed Department Deadlines

- June 15 ...** Field inspection applications due for all crops except conventional soybeans, buckwheat and millet.
Potato field inspection applications due.
- June 30 ...** License applications due for wholesale potato dealers
- July 1** Bulk certificates due
- July 15** Field inspection applications due for buckwheat and millet
- July 31** Labeling fee reports due
- Aug. 1** Field inspection applications due for soybeans (pre-harvest inspection only)
- Sept. 15...** Research fees due
- Oct. 1** Unconditioned carry-over seed report due
- Oct. 1** License applications due for Approved Conditioners
- Oct. 1** License applications due for Bulk Retail Facilities
- Dec. 31** License applications due for non-resident seed dealers

Plant North Dakota Certified Seed



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Control Field Bindweed Early

Steve Sebesta, Deputy Commissioner

In some parts of the state, field bindweed is a common problem. Some have even termed it the “state flower”. However, in spite of its showy appearance, it is a prohibited weed in seed fields because it is difficult to separate from seed due to its size, shape and density. Once field bindweed begins to flower it produces viable seed within 14 days. Controlling field bindweed before it reaches the reproductive stage is imperative.

Field bindweed often encroaches into fields from field margins. When inspectors find bindweed in these areas they’ll often isolate those spots, marking them with flags so the seed producer can spot them easily and avoid those areas at harvest. Field inspection reports will be marked as “conditionally passed” and the conditioner will be required to submit a five-pound sample of seed for analysis.

When found within the seed field, the task of isolating it becomes more difficult. It is likely to be found in more areas of the field, and the likelihood of finding all of it in a lush canopy of wheat is remote. Nonetheless, our inspectors will work hard, within reason, to try to isolate and mark those trouble spots. However, if patches of field bindweed are found scattered throughout a field, it will be rejected.

Each year we receive calls from growers inquiring whether they can salvage a seed field by spraying to kill the bindweed. Unfortunately, by the time we find it in a field it’s often too late for effective chemical control.

Control field bindweed before field inspection

The common phenoxy herbicides (2,4-D, MCPA, Banvel/Dicamba /Clarity) are labeled for use in wheat before heading. According to Dr. Richard Zollinger, NDSU Extension Weed Specialist, the different chemicals vary in their application timing.

- Banvel/dicamba/Clarity = apply up to 5-leaf stage
- 2,4-D = apply from 4-leaf until prior to boot stage
- MCPA = very safe; apply from emergence to boot.

As you can see, even the safest chemical is not labeled for use after the boot stage.

Again, by the time our inspectors find field bindweed in seed fields, the crop is well beyond the boot stage.

Attempts at chemical control after field bindweed has been found in a seed field are ineffective at this time for two reasons. First, late-applied phenoxy herbicides are phytotoxic, meaning they will injure the crop. Damage may appear as lower yields due to sterility and lower test weight. Harvested seed may also exhibit reduced germination.

Second, applying herbicides when it is safe for the crop will be too late. Field bindweed seed will have already been produced.

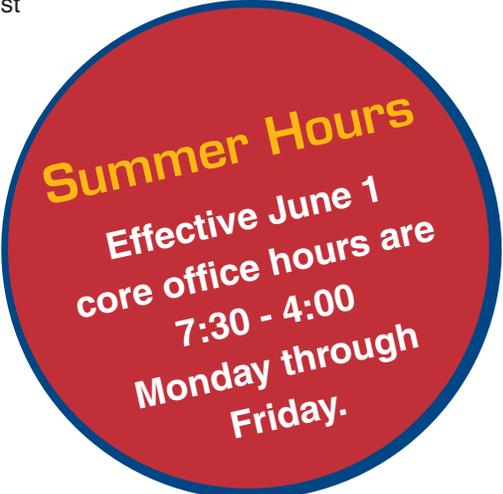
Therefore, chemical control options are essentially useless. The phenoxy herbicides may be applied after physiologic maturity as a harvest aid according to the guidelines listed in the NDSU Weed Guide (p16). 2,4-D can be applied after the dough stage, but Banvel must wait until the wheat is in the hard dough stage. However, by that time, the damage will have already been done. The field bindweed will already be producing seed so the seed producer will only be throwing money away in a futile attempt to control a problem that has no remedy.

And, while glyphosate is also labeled for use as a harvest aid, it is not recommended for use in seed fields because it can cause reduced germination – a bad deal for seed. Our seed analysts have noticed an increase in the number of samples with poor germination over the last several years. Some have been positively attributed to improper chemical use.

Dr. Zollinger reports that some growers have had good season-long control of field bindweed using Express + 2,4-D + Banvel at 0.33 oz/A + 0.75 pt/A + 2 to 4 fl oz/A. Dupont now promotes Affinity Broadspec instead of Express, but that would work also.

Paramount has been shown to be more effective than all others on field bindweed. It is safe on small grains but is not labeled for in-crop application. It is labeled to use prior to seeding wheat and immediately after harvest. It does leave a residue so crop rotation must be considered. Consult the Weed Control Guide for more information.

The bottom line is this. It is important to control field bindweed before the field inspection. Attempts to control field bindweed after our field inspector has found it in your seed field is not effective. Scout seed fields early so herbicides can be applied at the proper time, when they are most effective. Spot spray bad areas if needed.



Summer Hours
Effective June 1
core office hours are
7:30 - 4:00
Monday through
Friday.

98 Reasons Not To Use Glyphosate on Seed Fields

Steve Sebesta, Deputy Commissioner



Abnormal seedlings from a field pea sample.

Used properly, glyphosate is a terrific product. In recent years, however, our Seed Lab has seen an increase in samples with poor germination that has been attributed to the use of glyphosate as a harvest aid. We have seen numerous examples in many crops including wheat, durum, flax, lentils and field peas.

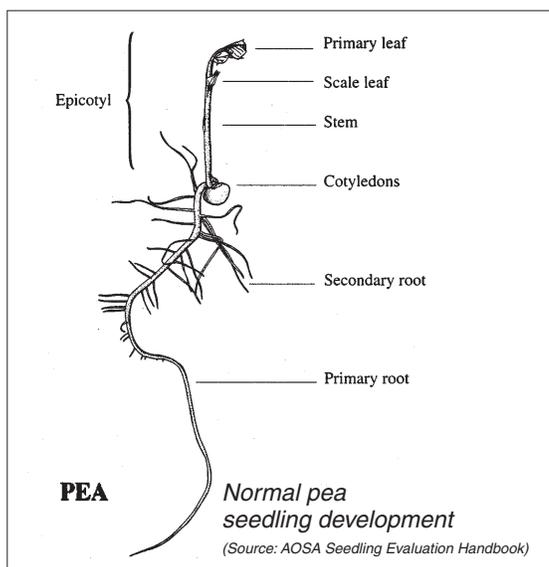
For several years, the department has been educating seed growers that glyphosate should not be used on seed crops. Manufacturers specifically warn against its use on seed crops and that information is published in the NDSU Weed Control Guide every year. We are unsure whether there is a lack of awareness of the problem—hence our continual efforts to provide education—or that some seed growers are simply willing to take the risk.

We do not know what the production season will be like this year, but we know that we have gotten a late start. Sometimes that translates into a pinch to get the crop mature at the end of the season, which means growers sometimes use alternative methods to finish the crop off.

However, here are **98 reasons why you shouldn't use glyphosate** on a seed crop. The picture top left shows the affect of glyphosate on field peas. This sample had a germination score of 2%. **98% were abnormal.**

The Association of Official Seed Analysts (AOSA) Training Manual defines an abnormal seedling as one that does not have all the essential structures or is damaged, deformed or decayed to such an extent that normal development is prevented.

In dicotyledonous plants such as field peas, essential structures include the primary root, secondary roots, cotyledon and epicotyl (stem, scale leaf and primary leaf). One can easily see that the seedlings are abnormal compared to the diagram below. None of the seedlings have a normal stem or root.



DON'T USE GLYPHOSATE AS A HARVEST AID IN SEED FIELDS!



2011 Field Days

2011 NDSU Research Extension Center Field Days scheduled

- June 29, 6:00 pm Central Grasslands Research Extension Center, Streeter
- July 12, 3:00 pm (MDT) Hettinger Research Extension Center
- July 13, 8:30 am (MDT) Dickinson Research Extension Center
- July 14, 8:30 am Williston Research Extension Center
- July 18, 5:30 pm Agronomy Seed Farm, Casselton
- July 19, 9:00 am Carrington Research Extension Center
- July 20, 9:00 am North Central Research Extension Center, Minot
- July 21, 8:30 am Langdon Research Extension Center
- July 26, TBD Oakes Irrigation Research Center

Seed Regulatory Update

Joe Magnusson, Field Seed Program Manager

North Dakota regulatory inspectors sampled and tested 1,240 samples for truth in labeling testing in 2011. Stop Sale orders were issued on 36 seed lots that were improperly labeled or found to be out of tolerance with label claims. The majority of these violations were due to out-of-date labels. We also found two certified seed lots that were contaminated with other crop seed and did not meet certification standards. These lots appear to be contaminated in bins and handling equipment that were not thoroughly cleaned.

Permit required

Any person selling seed in North Dakota must first obtain a permit to sell seed in this state. If you are a certified seed grower and label seed in your name you must have a permit before you sell this seed. If you do not have a permit, call our office and we will send one to you. If you fail to get a permit, we will stop sale your seed and you will not be able to certify or sell seed in the future until a permit is obtained.

Annual reporting

The report form for seed sales was revised recently and we believe the changes will simplify the reporting process. You will notice in Part A of the form for small grains and flax we have changed reporting units from pounds sold to bushels sold since these crops are generally sold by the bushel. Soybeans, field beans and field peas are unchanged and will still be reported by the pound. The other change we made is in Part C of the form relating to container sizes. Previously, there were five container sizes to report and the rate ranged from four cents to eight cents. Now, all containers from 0.5 lbs to 160 lbs will be assessed the same fee of six cents per container.

The annual report form for seed sales will be mailed to all permit holders the end of June. The form, and any fees due, must be sent back to the department within 31 days or late fees will be administered. **The form must be returned even if you did not have any sales in the reporting period. If you wish to cancel your permit, check the appropriate box at the top of the form and return within 31 days.**

We have a number of permit holders that have failed to return their 2009-2010 annual sales report.

Those permit holders will receive that form again, along with the form for the 2010-2011 seed sales season. If you do not return your report form(s) and your permit is cancelled, you will not be able to certify or sell seed in the state. We also have a number of permit holders that are selling seed in ND and not reporting any sales or remitting the appropriate fees. When we find sales that are not being reported we will stop sale any seed from that labeler until corrective action is taken.

Plant Variety Protection

Most varieties of small grains commonly planted in the state are protected by the Plant Variety Protection Act (PVPA) with the certification option. This means that all varieties with this option can only be sold as a class of certified seed. Anyone selling these varieties without going through the certification process is in violation of State and Federal seed laws. Damages for state violations of this act can be as high as \$5,000 per sale, along with numerous labeling violations, each of which carry a potential \$5,000 fine. The owner of the variety can also collect triple damages on both the seed that is sold and produced from the illegal seed sale, and also collect damages from the conditioner of the seed.

Here's an example of how triple damages from variety owner can mean serious penalties when they collect three times the selling price of seed sold and produced from their protected variety:

Seller: 1,000 bushels sold x \$10 x 3 = **\$30,000 Fine**

Buyer: 1,000 bushels planted x 40bu/ac yield x \$30 = **\$1,200,000 Fine**

Seed certification ensures that high quality seed of known genetic identity and purity is available to the agricultural industry. Illegal seed sales are detrimental to the entire seed industry. The Seed Department monitors seed sales activities, including ads placed in state newspapers and trade magazines. Regulatory inspectors are currently in the field investigating activities related to illegal seed transactions, and will actively pursue violations throughout the year. The Seed Department will work with other agencies and seed industry partners to investigate violations and enforce seed laws.

North Dakota State Seed Department

State University Station
P.O. Box 5257
Fargo, ND 58105-5257

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NDSSD Calendar

June 15 ... Field inspection application deadline for all crops except buckwheat, millet and soybeans requiring single inspection

July 1 Bulk certificates due

July 15 Field inspection application deadline for buckwheat and millet

July 30 Seed labeling report due

August 1.. Field inspection application deadline for soybeans requiring pre-harvest inspection only

Sept. 15 .. Research fees due