

April 6, 2015

Honourable Verlyn Olson
Minister of Agriculture & Rural Development
Legislature Building, Edmonton, Alberta

Re: **Request to NOT enforce *Fusarium graminearum* under Alberta's Agricultural Pests Act**

Dear Honourable Verlyn Olson,

The Alberta Seed Growers' Association (ASGA), one of seven branches of the Canadian Seed Growers' Association, represents over 700 members across the province. Our members deliver new technologies and plant genetics through high-quality pedigreed seed to our agriculture industry. Our vision is to ensure pedigreed seed produced in Alberta strengthens global crop-based value chains.

In 1999, *Fusarium graminearum* was added as a declared pest to Alberta's *Agricultural Pests Act* to prevent the establishment of *Fusarium graminearum* in all regions of Alberta. Since then, the ASGA has been an active participant in the Fusarium Action Committee. To our knowledge, actual enforcement of Alberta's *Agricultural Pests Act* with respect to *Fusarium graminearum* (*Fg*) has not occurred since its introduction. While the original intent of including *Fg* under the Pest Act was to keep this disease out of Alberta, 16 years later, the incidence of *Fg* has increased to the point where it is present in almost all areas of the province. Continued inclusion of *Fg* under the Act has now become meaningless and strategies to mitigate its impact require extensive communication and adoption across our industry. Statistics from various sources detail the extent of *Fg* infection in cereals across the province:

- BioVision Seed Labs reported that in Area Code 780, the proportion of samples with *Fusarium graminearum* in wheat increased from 1% in 2010 to 27% in 2014. For barley grown in the same area, *Fg* increased from 0.5% to 27% over the same time period. For Area Code 403, the incidence of *Fg* in wheat increased from 27% in 2010 to 35% in 2014 and in barley increased from 15% to 33%. Over the last three years, the average severity of *Fg* in wheat (based on samples in which *Fg* was detected) rose from <1% to 1.5% in Area Code 780 and decreased from <5% to just under 3% in Area Code 403. For barley, *Fg* severity in Area Code 780 increased from 0.75% to 1.5% per cent; in Area Code 403, *Fg* remained constant at 2.5 per cent with a slight increase in 2013 to 3.5%. Severity, or average percent infection, is a function of weather conditions, inoculum load and best management practices that the farmer has adopted. Reference Appendix 1

- 20/20 Seed Labs Inc. reported that over the last seven years, the percentage of samples detecting *Fusarium graminearum* increased as follows: durum from 4.11% to 39.81%; wheat from 1.24% to 13.9%; barley from 0% to 6.54%; triticale from 0% to 44.12%; oats and rye from non-detectable to detectable. Of the counties that they have tested seed from, 58% have had positives on the plate test, 21% have had positive DNA tests but negative plate tests, and 21% (13 counties) have had no positive DNA or plate tests. Reference Appendix 2.
- The Canadian Grain Commission's harvest sample program indicated that all seven crop districts in Alberta had at least 20% of samples containing fusarium damaged kernels (FDK) in 2014. Of those, only one crop district did not have *Fusarium graminearum* present. Reference Appendix 3

Alberta's agriculture industry is at a tremendous disadvantage if our rules surrounding Fusarium graminearum levels are not changed.

At the 2015 ASGA Annual General Meeting held in January, the membership passed a motion supporting the use of best management practises (BMPs) for control of *Fusarium graminearum*, including the testing of all pedigreed and farm-saved seed for *Fg* and allowing the use of seed with <5% *Fg* in all areas of the province. ASGA members are committed to the adoption of industry wide BMPs that will have a major impact on managing infection across Alberta, rather than just focusing on pedigreed seed with non-detectable levels of *Fg*.

Below are BMPs based on the March 2015 draft of the Alberta *Fusarium graminearum* Management Plan. The last point is an additional request from the ASGA, to ensure that seed transportation to other provinces is not inhibited.

1. All pedigreed and farm-saved seed must be tested for *Fusarium graminearum*, along with germination, vigour and other pertinent diseases. A copy of the seed lab analysis must accompany the lot of seed sold (if pedigreed) or kept on file if farm saved.
2. Prior to planting, all seed that has detectable levels of *Fusarium graminearum* must be treated with a fungicide that has the genus *Fusarium* on the label list of controlled fungi.
3. Increase the *Fusarium graminearum* tolerance on seed to 5%. Dr. Andy Tekauz, a highly regarded Agriculture & Agri-Food Canada plant pathologist of 25 years and an expert in *Fusarium graminearum*, recently reviewed Alberta's *Fusarium graminearum* Management Plan. Dr. Tekauz indicated that a tolerance on seed of 0.5% to 5% protects those areas that are relatively free of fusarium. Saskatchewan's BMPs include tolerances for up to 5% fusarium infected seed. Having an acceptable tolerance range will encourage farmers to find the "best" seed available, which will vary from year to year depending on our environmental conditions.
4. Utilize diverse cropping rotations to reduce the carryover of *Fusarium graminearum* infected crop residues.
5. Irrigation should be limited for 5 to 10 days after flowering to help reduce humidity that favours head infection. Excessive irrigation during the flowering period can greatly increase the risk of fusarium resulting in yield losses, grade reduction, and mycotoxin contamination. Increasing seeding rates will help reduce tiller formation and shorten the flowering period for the entire crop, thus reducing the time that irrigation should be limited.
6. Well-timed and properly applied foliar fungicide applications should be used when a crop is at risk for *Fusarium graminearum* infection.
7. Use wheat and barley varieties with best available levels of fusarium resistance. These ratings are available in the annual spring edition of the Alberta Seed Guide.

8. Pedigreed seed with tolerance levels >5% *Fusarium graminearum* will be sold as commercial grain or transported out of province if markets for pedigreed seed are available. Transportation restrictions under Alberta's *Agricultural Pests Act* will require relaxation to allow this movement.

Communication to farmers on *Fusarium graminearum* BMPs is essential if its province-wide effects are to be mitigated. The ASGA is prepared to show leadership in this area by working closely with industry, crop commissions, Alberta Agriculture & Rural Development, Agriculture Financial Services Corporation, and the Fusarium Action Committee to ensure that further spread of *Fusarium graminearum* is minimized and that the incidence and severity of this disease remains at manageable levels. During the sale of Certified Seed, seed growers have a direct opportunity to inform producers on the use of BMPs as a means to maximize the genetic potential of that seed. ASGA continues to encourage funding agencies to invest in fusarium head blight (FHB) research and fund the development of new varieties with improved FHB resistance.

Please consider the following additional points that detail some of the negative impacts of our current legislation:

- UPOV 91 will bring increased private investment into cereal variety development. Use of BMPs will ensure Alberta farmers have unrestricted access to new technologies and genetics.
 - In most cases, seed growers are finding it increasingly difficult to source stock seed of higher generations for newer varieties (with non-detectable levels of *Fusarium graminearum*) that offer improved fusarium resistance, along with many other improved agronomic/end-use traits that are vital for a profitable industry. For example, SeCan released two new CWRS varieties with some fusarium resistance earlier this year. Select and foundation seed stocks of both varieties had *Fusarium graminearum* levels ranging from 3–19%. Breeder seed quality analysis was unavailable at the time when growers had to commit to these varieties. Although AAFC varieties can be heat-treated to kill the fungus, loss in vigour and germination are relatively common.
 - Seed companies are at substantial financial and legal risk when bringing Breeder Seed of new varieties into Alberta due to the ever-present possibility of low-level *Fusarium graminearum* infection. Thus, these varieties are being multiplied in Manitoba and Saskatchewan and their commercial farmers have access to the new genetics well in advance of their Alberta neighbours. Access to new genetics with improved fusarium resistance is exactly what Alberta farmers need – unfortunately the current act prevents this. Proven Seed/Crop Production Services and SeCan have both indicated that some new varieties will be released in Manitoba and Saskatchewan well in advance of their availability in Alberta.
 - With the risk of low level *Fusarium graminearum* infection and subsequent restricted trade access to Alberta farmers, Saskatchewan seed growers are hesitant to multiply “bred for Alberta” varieties. These varieties may then have limited marketability to Saskatchewan farmers as the variety characteristics are less than ideal for their regional growing conditions.
 - Identity-preserved durum programs, which offer producer premiums, are having difficulty finding enough certified seed (non-detectable for *Fusarium graminearum*) to meet the required acres.
- “It All Starts with the Seed – Know what you grow”. Testing of all farm-saved and pedigreed seed must be the start of any farmer’s risk management program.
 - High-quality pedigreed seed produced in Alberta, with very low levels of *Fusarium graminearum*, has been and continues to be shipped to Saskatchewan because it cannot be sold in Alberta, or it is dumped as grain production. This leaves common or bin run seed as the commercial farmer’s only choice. With

past neglect of enforcement of Alberta's *Agricultural Pests Act*, some seed cleaning operations have not required the testing of common or farm-saved seed for *Fusarium graminearum*, facilitating the use of highly infected seed and further spread across all areas of the province. Other seed cleaning operations have adopted policies to clean seed with *Fusarium graminearum*. These practices have resulted in poor recognition of the potential impact of *Fusarium graminearum* by many commercial farmers until substantial economic losses in the harvested grain are experienced.

By removing *Fusarium graminearum* from Alberta's *Agricultural Pests Act* and encouraging the use of BMPs, those sectors of the agriculture industry currently operating in direct contravention of the Act will be able to work legally within their own adopted policies. Alberta's seed industry will recover from significant economic losses, which have been a direct result of adhering to the "non-detectable" requirement under the Pest Act.

ASGA requests that the Minister of Agriculture take immediate action by NOT supporting the enforcement of Fusarium graminearum under Alberta's Agricultural Pests Act, and that Fusarium graminearum be removed from the Act at its next revision. ASGA members will work with all industry members to implement BMPs that will manage Fusarium graminearum to the benefit of Alberta's agricultural sector.

Kind regards,



Lorena Pahl
Executive Director
lorena@seedalberta.ca