



THE PULSE AGRONOMY NETWORK
PARTNERSHIP WITH INDUSTRY

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Seed Quality for 2005

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President

20/20 Seed Labs

Here is what the seed analysts at 20/20 are seeing in the lab...

Overall seed quality is lower this year largely due to difficult harvest conditions in 2004 and the main issues observed in the lab are:

- **Germination results are lower:** Average pea germination: **80-85% (10% lower than the previous year).**
- **Mechanical damage is more prevalent:** Poor harvest conditions and handling caused seed cracking which leads to erratic germination and poor seedling development damage. Seed coat damage leads to poor vigour.
- **Glyphosate damage:** Chemically damaged seedlings observed during germination are higher than usual due to the use of glyphosate pre-harvest desiccants. Products not containing glyphosate are not a concern.
- **Frost damage:** As a result of early frost at seed set, germination tests indicate a higher percentage of dead or decayed seed.
- **Sprouting:** During dry-down in the swath untimely rains led to seed swell and sprouting. These seeds develop slowly and abnormally displaying poor vigour.
- **Disease:** All pulses are showing high levels of Ascochyta. Sclerotinia, Botrytis and Anthracnose are also prevalent on the seed. Talk to your seed testing lab about a complete disease diagnostic test for pulses.

Seeding and seed-treatment decisions should be based on germination, vigour and seed-borne disease screening together with the field history including cropping rotations and previous disease problems. For additional information on seed treatments see the **Alberta Agriculture Seed Treatment FAQ** at:

[www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/faq8007?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/faq8007?opendocument)

Proper seed treatment would be highly recommended this spring especially for any poorer quality seed being sown.

Seed germination and vigour.

- **Germination** and **seed vigour** can have a significant impact on plant establishment especially under stressful conditions of early seeding (cold, wet soils, disease pressure or deep seeding) or when using seed that has mechanical damage from harvest or handling.
- **Germination tests** are conducted under optimum laboratory conditions and are intended to indicate the **maximum potential** of the seed lot.
- The **vigour test evaluates physiological quality** and the **potential of the seed to tolerate factors such as environmental stress**.
- Physical damage to cell membranes particularly in large seeds such as pulses and legumes is usually the primary cause of seed deterioration.
- The speed and uniformity of germination, inferior seedling emergence, seedling growth rate, intolerance to environmental stress and pathogens, and other similar reductions in performance capabilities can be detected.
- The loss of "seed vigour" precedes the loss of "germination".

*****therefore high germinating seed lots may mask the extent of the damage and consequently have poor vigour.*****

When reviewing cropping plans with your growers this spring... ask to review their germination and vigour results with them. This will help ensure your agronomic package is in tune with the quality of seed they are placing in the ground.

Fusarium Head Blight

Alberta remains vigilant against Fusarium Review the Alberta *Fusarium graminearum* Management Plan at:

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/crop8169](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/crop8169)

Ensure all of your seed is tested to keep your farm Fusarium free.

PAN moves into Saskatchewan...

The Pulse Agronomy Network is pleased to announce the expansion of the PAN into Saskatchewan with the support of the Saskatchewan Pulse Growers.

- This move will further facilitate in the exchange of information with all stakeholders in the Pulse industry.
- It is important to point out that the format, editorial content and functionality of the PAN will remain the same.
- Bulletins on pulse production will be forwarded on a timely basis for current production issues.
- Pest Reports (formerly known as Alerts) will be circulated on an "as needed" basis. These Pest Reports are generated from reported field observations by people like you.

PAN Background - The Pulse Agronomy Network was created to serve Industry. By ensuring that agronomists had easy access to current production information on pulses, our growers are being served with a heightened level of expertise locally.

We encourage you to both share the PAN information with your customers AND submit pest reports into the PAN...

All the best as we move forward in 2005

Earl Greenhough - PAN Editor
