Seed Quality and Seed-borne Pathogens 2010/2011

Kevin Zaychuk
20/20 Seed Labs Inc

Agronomy Update 2011
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Seed Quality – Alberta 2010/2011

- Average germination rate is slightly below last year. High levels of seed dormancy observed earlier in the fall have now decreased.
- Frost damage is significant in central Alberta esp. on oats.
- Seed-borne pathogens and saprophytes (weakly pathogenic and storage organisms) up significantly over previous years (esp. foliar and root rot organisms on cereals and ascochyta on pulses).
- *Fusarium graminearum* similar to last year - approx. 30% of all samples tested from Southern Alberta have detectable levels. *F. graminearum* detected in less than 1% of samples from Northern Alberta.
1 Replicate of a standard 2 x 100 seed Germination Analysis for wheat
Frost damage on barley – flattened, grainy coleoptiles
Frost damage on oats
Barley affected by seed-borne pathogens – note discoloured roots
Typical cereal germination blotter after 7 days – high percentage of primary and secondary infection
Pathogens positively identified using a Fungal Screen® – used to help determine seed quality and aid in decision making
Seed-borne pathogens on peas on germination blotter at 7 days
Complete Disease Diagnostic® on pulses – used to help determine seed quality and aid in decision making

Ascochyta, Sclerotinia and *Fusarium* sp. observed on these samples.