**Fusarium Head Blight (FHB) of Cereals**

**Fusarium Damaged Kernels (FDK)**

Symptoms of fusarium damaged kernels caused by *Fusarium graminearum*

Damage due to diseases and midge that can be confused with fusarium damaged kernels caused by *Fusarium graminearum*

- **Reddish discolouration (red smudge - RS)** in durum caused by tan spot fungus infection of kernels
- **Orange wheat blossom midge damage** in wheat
- **Kernel size reduction** in Katepwa wheat due to leaf infection by Septoria leaf spots. Seed infection with Septoria can also produce FDK-like symptoms
- **Brownish discolouration (kernel smudge)** in barley caused by spot blotch fungus infection
- **Brownish lesion** (a) and orangish discolouration (b) of barley kernels due to the net blotch fungus

*Fusarium graminearum* infected barley with 15 ppm deoxynivalenol (DON). Compare with symptoms caused by other diseases

*Fusarium graminearum* infected barley kernels (right - black sexual fruiting bodies that release wind-borne ascospores, left - orangish masses of rain-splashed spores)

*Fusarium graminearum* infected barley (does not produce DON)

Reddish kernel discolouration in barley due to *Fusarium avenaceum*

*Fusarium graminearum* infected barley kernels (a) and Canadian Western Red Spring (b), showing fusarium damaged kernels (FDK) due to *Fusarium graminearum*, and healthy kernels (H)

**Canadian Prairie Spring** (a) and **Canadian Western Red Spring** (b), showing fusarium damaged kernels (FDK) due to *Fusarium graminearum*, and healthy kernels (H)

FKD in Canadian Prairie Spring (a), **Amber Durum** (b), and Canadian Western Red Spring (c & d). Currently, FDK's in Alberta are relatively rare and typically caused by species other than *F. graminearum*. In Manitoba most FDK's are caused by *F. graminearum*

**Government of Alberta**

Agriculture and Rural Development


Consult provincial factsheets (e.g. Fusarium Head Blight of barley and wheat, Agdex 110/631-1, AAFRD) and variety guides for more information.