# WHEAT I: PHYSICAL DAMAGE



### **Broken grains**

Exposed endosperm, usually due to aggressive handling, provides potential sites for mould infections.

Broken grains are removed during the cleaning process and hence milling potential is reduced due to a lower yield of clean, white flour from each tonne purchased.



#### Lost embryos

Embryos may be damaged mechanically, or by mites (as shown in photograph) or insects.

Damage by mites or insects may indicate poor storage.



### Sprouted grains

Germinated grains, caused by wet harvest conditions, will have very high levels of *alpha*-amylase. Even a few in a bulk can reduce Hagberg Falling Number to unacceptable values resulting in rejection of milling wheat.



## Burnt grains/heat damage

Heat damage arises from localised 'hot spots' or excessive temperatures during drying.

Grains can range in colour from bronze to dark brown (charred).

Such wheat is unacceptable. Over-dried grain will have lower levels of gluten or even none.





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