



Increase vitreousness important for semolina millers

A key quality parameter for durum wheat is the amount of vitreous kernels in a lot.

A vitreous kernel has a translucent, or glassy appearance that is associated with high protein and hard grain.

Non-vitreous kernels are those that contain an opaque starchy area. If these kernels are present in sufficient quantities it can result in the non-uniform appearance of an entire grain bulk.

For durum wheat to be classified as vitreous, the grains should have a uniform amber color exhibiting.

The vitreousness of a kernel is linked to its protein and hardness level. Individual durum wheat kernels with a protein level at 13% or above are expected to be completely vitreous.

Durum milling is about producing semolina, large sized endosperm particles. This is different from producing wheat flour where the aim is small sized endosperm particles. Coarse semolina has low water absorption that cause less pasta shrinkage, less drying energy required and less cracking.

A durum miller needs vitreous durum wheat to produce a high level of semolina. It is important to find methods to increase vitreousness in durum wheat.



Increase vitreousness and get premium paid

- Customers are prepared to pay premiums for durum wheat with high vitreous levels and meets the overall quality specifications. Grain lots with low vitreous levels may be rejected or carry price discounts, which eats away the general premium paid for durum wheat.
- Vitreous kernels enable high levels of coarse semolina of yellow color to be produced.
- The non-vitreous kernels will produce more white flour, which is considered a waste product and undesired in pasta production.

BoMill solution

BoMill produce equipment that can detect non-vitreous kernels in a grain lot. The machines are equipped with NIT technology that measure the level of vitreousness of every kernel by sending infrared light through it and measure the response. NIT is a mature technology commonly used in protein measurement equipment.

Using NIT makes the prediction if a kernel is vitreous or not.