

County Agent News
Dan Folske
August 23, 2021

Temperature Affects Grain Storage

Recent hot weather pushed small grain harvest. Better than expected yields and good prices have also pushed producers to get the crop off ASAP. Many producers may also be remembering the harvest of two years ago when many fields remained unharvested because of a very wet fall.

Producers are well aware that grain moisture levels affect storability but don't think about grain temperature. Harvesting in 100 degree heat makes a huge difference! The heat and sun intensity can also speed up drying of the grain and weeds in the upper portion of the canopy compared to green weeds lower in the canopy even when a burn down has been applied. Those green weed seeds can add to storage problems.



Here is something to think about: 14% moisture spring wheat or durum has approximately 200 days of storage time at 70F. At 80F That drops to 140 days. Still not much of a problem but lets look at 15% moisture. Now that allowable storage time drops to 125 days at 70F and only 70 days at 80F.

It is not uncommon to harvest durum at 16% or even 17% moisture to preserve that color and quality. Drop in an air bin and don't worry about it, right? Many years harvest conditions in mid September might mean daytime temperatures of 70f or 75F and nighttime temperatures of 40F or less. Assuming an average grain temperature of 60F and no green weeds we could expect at least 120 days before grain quality would begin to deteriorate. However if that same durum was binned at 80F that allowable storage time drops to 40 days. Now let's say rain was in the forecast and you're pushing hard with three or four big combines and some of that grain is 17% at 80F and we are down to 20 days!

- Allowable storage time is the storage period before quality loss is expected to affect grain quality.
- Airflow through the grain permits maintaining the grain temperature, but does not extend the allowable storage time beyond that listed in the table.
- Allowable storage time is cumulative. If 15% moisture wheat was stored for 35 days at 80°F, one-half of the storage life has been used. If the wheat is cooled to 60 degrees, the allowable storage time at 60 degrees is only 120 days.