



Harvesting High Quality Wheat

Physiological maturity is the point at which the grain fill period ends and dry down begins. It is also the point at which no additional grain yield will accumulate. Physiological maturity is when the peduncle (stem just below the head) starts to turn yellow (see image). Grain moisture at this stage is around 35-40%. It usually takes 10-14 days to dry down for harvest, depending on weather conditions.



Figure 1. Progression of wheat towards physiological maturity. The stem below the head (peduncle) on the left is still green and grain fill is still occurring. The head on the right has reached maturity and the end of the grain fill period.

As harvest nears, there are a few reminders that might serve us well as head out to the fields. First, wheat is a food product. And quality is very important to consumers and processors. There are several factors that affect quality, including vomitoxin (DON), sprout, test weight and dockage. Many of these items can be managed prior to and at harvest to improve grain quality.

Prior to harvest, make sure to clean all vessels associated with wheat harvest like wagons, trucks, auger, combines and grain storage areas. Make sure there are no potential contaminants such as spoiled grain, rodents, fertilizer or dirt in the equipment. Be sure to make all necessary adjustments to your combine to ensure you are harvesting clean grain of high quality. Dockage for hulls, green and shriveled kernels, weed seeds and foreign material has gone up in the past few years. Proper combine adjustments can help to alleviate this problem.

Now is a good time to go and scout your fields. Check for fusarium head blight (head scab). Make note of which fields and which varieties are the most infected. Check the lower leaves in the canopy for disease. Assess the level of lodging and potential lodging. These notes will help you to make decisions about what fields to harvest first and also for variety selection for next year's crop.

Here are some additional tips:

1. Harvest fields with the highest lodging potential first. The extent of lodging varies by field and year, but you can usually find a little bit of lodging on headlands where there was nitrogen overlap.



2. In fields where varieties were planted that are susceptible to fusarium head blight and you have found infection – start harvesting these fields at 20% moisture, turn the fan speed up on the combine to blow shriveled/scabby kernels out the back and dry the grain. Some elevators will pay the drying charge if you start harvest early as that will increase grain quality. Shrink is a factor, but if you can reduce the overall DON score, it could be the difference between a load being accepted or rejected.
3. Be sure to calibrate your yield monitors using the multi-point calibration. While this does take some time, it will provide you with much higher quality yield maps that you can use to make other decisions on your farm such as variable rate nutrient application. Monitors should be calibrated once per year for each crop.
(https://www.canr.msu.edu/news/yield_monitor_calibration_procedure).
4. Make sure you set up the straw chopper to proper chop and spread straw the full width of your combine header. Proper residue management is important for every crop. Uniformity in distribution is the goal. Don't "windrow" if you don't plan to bale off the straw.
5. Last, and most important – **be safe**. Accidents happen quickly when we rush to get our work done. Take the time necessary to be safe and teach your kids and employees how to be safe operating your equipment. Tragedy can happen in a split second – don't let it happen to your family. Good luck with harvest!