

# Northern Ohio Field Notes

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This week's topics include:

- **Wheat Harvest is Quickly Approaching**
- **Nutrient Value of Wheat Straw**
- **Double Crop Soybean Success Tips**

## Wheat Harvest Tips and Evaluation

### 3 things to evaluate from the combine

#1 – **Uneven head height:** Many fields do not have “table-top flat” head height like we want to see in a high yielding crop. This is likely due to a lot of spring tillering versus fall tillering in later planted fields. From the combine seat you may also see a lot of little green heads lower in the canopy. Typically, those heads are insignificant to yield and only increase the moisture and lower the quality.

#2 – **Head Scab:** Even in sprayed fields, I would expect to see some scab infected heads this year. Head scab fungicide applications might have been too early or late depending on weather conditions, especially with variability within fields. There are no wheat varieties with complete “resistance” to scab, but higher-rated tolerance for scab means that infections remain limited to a small number of florets.

#3 – **Evaluation of your Nitrogen program:** The best rule of thumb is this: **100% standing= Short on N, Greater than 15% Lodged= N rate was a little high, 5-10% lodged or leaning= maximized the relationship between yield and nitrogen rate.** The variety can have a huge influence on this observation, so make sure you understand the standability of the variety and its ability to handle Nitrogen.



Tolerant wheat on left (25R29) with limited scab. More susceptible wheat on right (25R40) with larger portions of the head impacted.

### Harvest Tips

- **Harvest above 13% moisture to protect Test Weight.** Once the wheat dries down to around 13% and then gets “re-wetted”, the TW will fall at the rate of about 1-2 lbs. per rain event. The actual amount of rain during an event is somewhat irrelevant, it is all about the number of wetting events.
- **Why does TW drop?** As kernels dry in the field, the starch “compacts” naturally to form the density of the grain. If the kernel is rewetted after drying, it expands, and after it again dries, the layers of starch do not fully compact back to their original density, leaving small voids in the starch. This process will repeat with continued kernel expansion each time a rewetting event occurs.
- Even though the TW of a given bushel within a field may drop, the total bushels from that field will not change based on TW. It may take 7 trucks instead of 6, but the total weight will not be lower. However, grain buyers use TW as an indication of quality, and price discounting can occur on lower TW grain.
- **Drying wheat adds an expense but can result in better quality and allows double crop beans to be planted sooner.** For commercial mill quality, dry wheat at temperatures of 140 °F (60 °C) or less. For long-term storage, dry wheat to 12.5% moisture.
- **Check Combine Settings:** Each time conditions or varieties change, recheck the settings on the combine.
- Air flow across the sieves is critical when trying to get a good clean sample. The lighter the wheat, the less air needs to be pushed through the sieves. Too much air will result in losses out the back of the machine. **Increasing fan speeds can help to remove lightweight/scab infested kernels and chaff.**
- 17 to 18 kernels per square foot on the ground equals approximately one bushel per acre of loss.

## Nutrient Value of Wheat Straw

Just like grain, wheat straw removed from the field removes nutrients that will need to be replaced to maintain soil fertility into the future. With higher fertilizer costs, the nutrient value of wheat straw has increased significantly from prior years. Below are some “rules of thumb” to use in estimating the value of nutrients removed.

- Actual numbers vary, but rough figuring is that there is 1 pound of straw for every pound of dry grain (a bushel of wheat contains 51.9lbs of dry grain and 8.1lbs water at 13.5% moisture)
- Good wheat usually yields in the 2.2-2.8 tons of straw per acre range
- Each ton of wheat straw contains approximately the following:
  - 9-12lbs nitrogen (in an organic form only available after mineralization)
  - 3-4lbs phosphorus in the form  $P_2O_5$  (available after microbial decomposition)
  - 25-45lbs potassium in the form  $K_2O$  (wide range because K in the straw is readily available and easily leached from straw if it is rained on before baling)
- Based on the above and current average retail prices, **the value of these nutrients is \$101.03 per acre of straw**
  - **Nitrogen:** \$1.07 per pound x 10 pounds per ton x 2.5 tons per acre = \$26.75
  - **$P_2O_5$ :** \$1.04 per pound x 4 pounds per ton x 2.5 tons per acre = \$10.40
  - **$K_2O$ :** \$0.73 per pound x 35 pounds per ton x 2.5 tons per acre = \$63.88
- Other micronutrients removed with the straw are fairly insignificant in value overall

## Double Crop Soybean Success Tips

The market price of soybeans, along with potential for earlier wheat harvest, will keep interest in double crop soybeans high this year. Here are some management practices to succeed with double crop soybeans:

- 1) **Set Realistic Yield Expectations.** Yields can be highly variable depending on late summer rains and the timing of frost in the fall.
- 2) Check the **crop rotation restrictions** to soybeans for the wheat herbicides used on the field- there were some products used this spring that require a 10 month interval before planting soybeans.
- 3) **Harvest wheat at 18-20% moisture** and plant soybeans as soon as possible after harvest. Each day of earlier planting can make a significant yield difference. This will also minimize any vomitoxin levels in the wheat.
- 4) **Soil moisture present at the time of wheat harvest is the critical factor for determining the potential yield of the soybean crop.** The soybean crop should be planted without tillage to save all available moisture. Plant 1-1.5” deep, preferably into moist soil. Soybean seed planted into dry soil will not germinate until enough rain falls to allow germination. This may occur too many days after harvest for satisfactory crop growth and yield. If the subsoil has been depleted of moisture by the wheat crop, soybean growth will depend totally on summer rainfall.
- 5) Selection of the **proper soybean maturity** is critical. Varieties that are extremely early maturing for an area do not yield as well as later-maturing varieties. In general, a variety with a mid-season maturity rating for the area is usually the best choice.
- 6) **Narrow rows** are required for maximum yield of double-crop soybeans. Because of late planting, double crop soybeans flower about 30 days after emergence, resulting in short plants with limited canopy cover.
- 7) **Increase Seeding Rates** - Since the plants will be small, yield will be greatly influenced by harvest stands. Planting rate should be increased to at least 180,000-225,000
- 8) **Control Weeds** - With no-till planting, weed control with herbicide is essential for satisfactory production of the second crop. Enlist E3 soybeans planted for double crop offer the flexibility of PRE/POST glyphosate, glufosinate, and/or Enlist chemistry applications.