

3.) Plant Growth Regulator - Palisade

Severe lodging in wheat poses threats to yield and increased harvest loss, as well as frustration for the combine operator. For the third year now, the plant growth regulator (PGR) Palisade (Syngenta) has been one of our priority areas. Growers can make agronomic management decisions to reduce the likelihood of their wheat crop lodging, such as picking varieties with better straw strength or reducing their seeding rate. However, if they want to stay with the high yielding varieties and push for maximum yield, a PGR could be an economically feasible option. We may have a good enough grasp on this trial after this summer to make some conclusions but until then more research is needed.

This trial requires a tall, poor straw strength wheat variety. It is also best on a field that has high fertility and good yield potential.

Data that the plot coordinator will collect:

- Stand counts at the one to two leaf stage
- Heading date - collaborate with the grower to catch this stage
- Plant height once the crop is fully headed out
- Lodging, overall and the degree, taken just prior to harvest
 - o Each treatment will be given a score between one and nine, nine being completely flat.
- Yield and grain quality data

The timing for this single PGR application is when you can detect two nodes on the main stem (Feekes 7). The important thing to remember is to avoid making the Palisade application if the crop is stressed by drought, disease, or temperatures. Best results occur when the crop is actively growing.

The rate we are using for Palisade EC is the midway rate of 12 ounces per acre. This can be tank mixed in a solution containing 50% liquid nitrogen fertilizer and no more than two other EC or oil products. We highly prefer **not** mixing anything with the 12 ounces of Palisade. A minimum of 10 gallons of water and flat fan nozzles is needed for good crop coverage.

4.) Sulfur Response in Wheat – Using AMS

With the sulfur soil test not being a good indication and with the big yields that are now achievable, sulfur is more of a concern for growers. Some growers are using a blended product that contains more than one nutrient such as MESZ with an analysis of 12-40-0-10S-1Zn. Half of the sulfur in MESZ is in the elemental form which needs to go through mineralization to become plant available and the other half is already plant available as sulfate-sulfur. AMS, a 21-0-0-24S product has wide availability and the sulfur is all sulfate-sulfur. Our focus for this trial is on soils with organic matter of 3% or lower because there should be enough sulfur being mineralized from soils with a higher organic matter percentage.

The sulfur for this trial will be applied in the spring, and we will need the fertilizer dealer or grower to apply at least three passes with and without AMS. The plot coordinator will be present to mark the plots on a GPS and with flags. The amount of sulfur applied should be high enough to make a measurable difference in the yield but still be an amount that would be practical as a management practice if it shows positive results. The On-Farm Research Advisory Committee decided on 100 pounds of AMS per acre for all the participants to use in this trial.

Data that the plot coordinator will collect:

- Stand counts at the one to two leaf stage
- Rain and weather data
- Tissue and soil samples if any visual signs appear
- Yield and grain quality data at harvest

Plot coordinator will also document differences in the plot with pictures.

