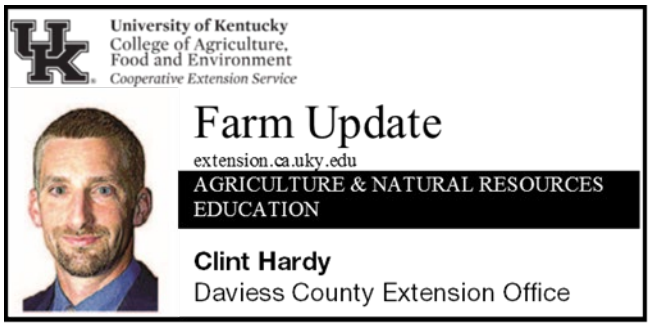
MESSENGER-INQUIRER



7-30-22

Soybean Progress and Flowering Growth Stage

The expectation is that our weather in June reduced corn yields across the county, some fields significantly. My article a few weeks ago referenced the wide flowering window of soybeans compared to corn and the greater opportunity they have to overcome severe yield loss if rains return as they did two weeks ago. So, what percent of normal will the soybean crop yield? Dr. Laura Elizabeth Lindsey, Associate Professor - Soybean & Small Grains at Ohio State University, wrote the following comments about stress on soybeans during the flowering growth stage (R1-R2).

Even as soybean plants begin to flower, they may only have 3-5 trifoliolates due to late planting and wet weather followed by dry conditions. However, even if plants have flowers and only a few trifoliolates, the plant will continue to add leaf area up to the R5 growth stage, which comes 4-6 weeks later. As long as the canopy is complete by the beginning of seed filling, the plant has the potential to reach full yield potential.

What does the soybean crop need to maximize yield during the flowering growth stage? While adequate soybean flowers are needed for subsequent reproductive development, soybeans are amazingly resilient to stress during flowering due to their ability to continue to develop

flowers over several weeks. Flowering marks the beginning of rapid dry weight and nutrient accumulation rates. Therefore, the duration of light interception and heat unit accumulation provides the potential for flower and pod retention and seed fill.

There are several common misconceptions about soybean plants at the flowering growth stage. Misconception - compared to normal-sized plants, short, compact plants often produce more pods and higher yields. Reality - short plants can produce a high yield, but if dry soils or low plant populations limit plant height, pod numbers, and canopy cover, yields will usually be lower. Misconception - throughout the growing season, all soybean plants in a field should be uniform in size, weight, and pod number; if they aren't, the yield will be lower. Reality - soybean plants grown at normal plant populations always develop a great deal of variability in size and pod numbers, even if they are uniform early in the season. Reasons for this are not well-understood, but larger plants will compensate for smaller ones, and there is no indication that this causes lower yields. Unlike corn, smaller soybean plants do not act 'weedy' and lower yields of surrounding larger plants in a full stand. Misconception - flower abortion reduces yield. Reality - soybean naturally aborts 20-80% of its flowers. A soybean plant produces many more flowers over a long period than can be supported by the plant. This is a mechanism to avoid severe yield loss from short periods of stress. Misconception - sugar can be applied to produce more flowers. Reality – sugar does not increase flower set**.**

In short, soybeans are able to compensate for smaller plants and produce many more flowers than will actually become pods. Soil moisture and maximum sunlight interception are required for full yield, but if the other inputs are managed, such as providing adequate fertility,

correct soil pH, and eliminating pest and weed competition, there will be soybeans to harvest. There is simply less risk of severe yield loss in soybeans than in corn.

I am noticing an interesting observation in the fields that I have not seen since the drought of 2012. There are noticeable pattern lines of taller corn and soybean height due to subsoil moisture access, revealing where tile lines and pipelines were installed, years ago in some fields. Conversely, abandoned roadbeds and livestock feeding areas, which are highly compacted deep in the soil profile are being exposed in these crop fields as severe height stunting.

Rural Life Celebration

The Rural Life Celebration planning committee is excited to announce the event will return this year after being canceled due to COVID in 2020 and 2021. The event will be Sunday, August 7 at 5:00 p.m. at the Owensboro Convention Center. The event is free, open to the public, and serves as an opportunity for celebration of the rural lifestyle and fellowship with the great people from across our county and area. A meal, program, and Lifetime Achievement Award presentation are on the agenda for the evening. There is no pre-registration.