Pioneer Talks Crops

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The crops in the upper Mid-South have improved notably during the last month. The region received much cooler temperatures than expected and above-average rainfall (particularly in July). This improvement in weather reduces stress on crops and will help improve grain fill. The corn crop is now in grain-filling stages, with harvest fast approaching in some areas. The soybean crop still has a long way to go. Growers need to keep an eye on irrigation timing and insects to maximize yields.

Soybeans are sensitive to stress from flowering (R1) to full seed (R6). Soybean flowers and pods are more likely to abort if the soybean plant is stressed. Studies have shown at least 30 to 50 percent of soybean flowers and young pods abort under normal, nonstress conditions. The soybean plant produces many more flowers than it ultimately can sustain. This is a mechanism that allows the plant to adjust to later stress conditions. Under stress, 65 to 75 percent of flowers may abort. If early-season stress results in higher-than-normal flower abortion rate, the soybean can compensate later by maintaining the number of beans per pod and increasing the weight per bean.

Therefore, soybeans should have adequate soil moisture from irrigation or rainfall for optimum growth and development until the R7 growth stage, which corresponds to physiological maturity. This is the stage at which there is one normal pod with mature pod color on the main stem. Normally at this stage, at least half the leaves have dropped and the remaining leaves are yellow. Much of this leaf yellowing is caused by nutrients being translocated from the leaves to the developing soybean grain. Usually, beyond this stage, no further yield increases are economically possible with irrigation.

It is very important for growers to scout soybean crops for insects to achieve high yields. Defoliation levels of 20 to 25 percent or greater during flowering and 15 to 20 percent or more during pod fill may warrant treatment at today's commodity prices. Growers should look for bean leaf beetles, green loopers and Japanese beetles as the most common leaf defoliators. Also, they should look at field borders for blister beetles or grasshoppers that may need to be sprayed to reduce damage. As the soybean crop enters grain fill, it will be important to scout more frequently for pod-feeding insects such as bean leaf beetles, stink bugs and soybean pod worms. These insects can expose the developing bean to microorganisms which may invade the pods and eventually lead to a problem with moldy beans. Mold-infected beans may never develop fully, or could stick to the pod and be lost during harvest causing higher dockage at the elevator. Growers should scout their soybeans regularly to determine if significant pod feeding is occurring. With current market prices, economic threshold levels for controlling damaging populations of soybean insects becomes lower compared to years with low commodity prices. Typically, soybean pod worm thresholds are two per foot of row. Δ

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