

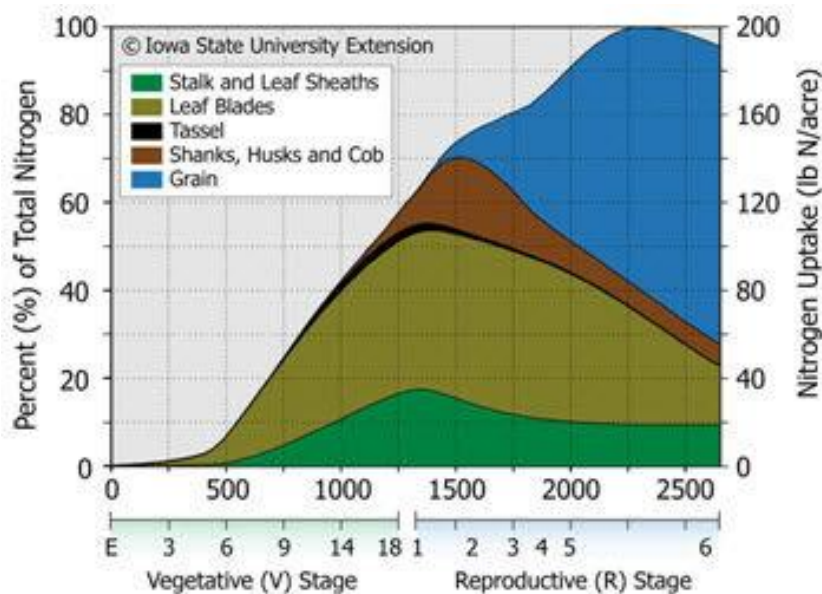
SHELBY COUNTY CROP TALK

June 12, 2020

Crop Scout: This past week a lot of replant and patching in corn and soybeans occurred. The USDA crop report shows Indiana being 97% planted for corn and 88% for soybeans as of June 7th. Some corn seems to be more susceptible to post spraying this year with evidence of leaf burn being quite common. The wheat crop in the area is in the dough stage with varying levels of quality. Fusarium head blight (pictured at right) and frost damage are evident in some fields. The damage may be done, however, be sure to closely monitor grain quality during harvest.



Nitrogen Use: Nitrogen is the most important thing we have control over in our corn crops. Dr. Fred Below of the University of Illinois rates nitrogen as the second largest yield influencing factor for corn. When a plant takes up nitrogen, it uses it for manufacturing chlorophyll and proteins. Chlorophyll is what makes plants green and allows them to take in sunlight and undergo photosynthesis. Proteins are the building blocks of plant and are essential for the



manufacture of enzymes for nutrient and water uptake.

Nitrogen uptake by corn plants can be seen on the graph on the left. This shows approximate amount of N taken up by plants throughout a growing season. Very little N is being drawn into the plant until roughly V6. V6 is important because this is where corn initiates a rapid

growth period. The increasing biomass requires more of nitrogen to sustain the plant. Most of the N is going to the leaf blades and some to the stalk and leaf sheaths. Once the plant reaches R1, N starts being sent to the grain. After R2 the plant will start pulling nitrogen from the rest of the plant to maximize grain production, which is the ultimate goal of the corn plant.



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When planning a nitrogen strategy, it is important to how the plant uses nitrogen so we know when to time our applications. Michigan State found that nitrogen applications were most effective when timing the N near rapid growth (side-dress N). Splitting side-dress N with preplant or starter applications also helps to increase the efficiency of the nitrogen applied.

Resources:

1. Crop Progress
 - a. https://www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Crop_Progress_&Condition/2020/cw2320in.pdf
 - b. <https://downloads.usda.library.cornell.edu/usda-esmis/files/8336h188j/2b88r072q/5712mt01c/prog2420.pdf>
2. Nitrogen
 - a. https://www.canr.msu.edu/news/strategies_for_corn_sidedress_nitrogen_placement_in_michigan
 - b. <https://extension2.missouri.edu/wq259>