

# TIMELY INFORMATION

## Agriculture & Natural Resources

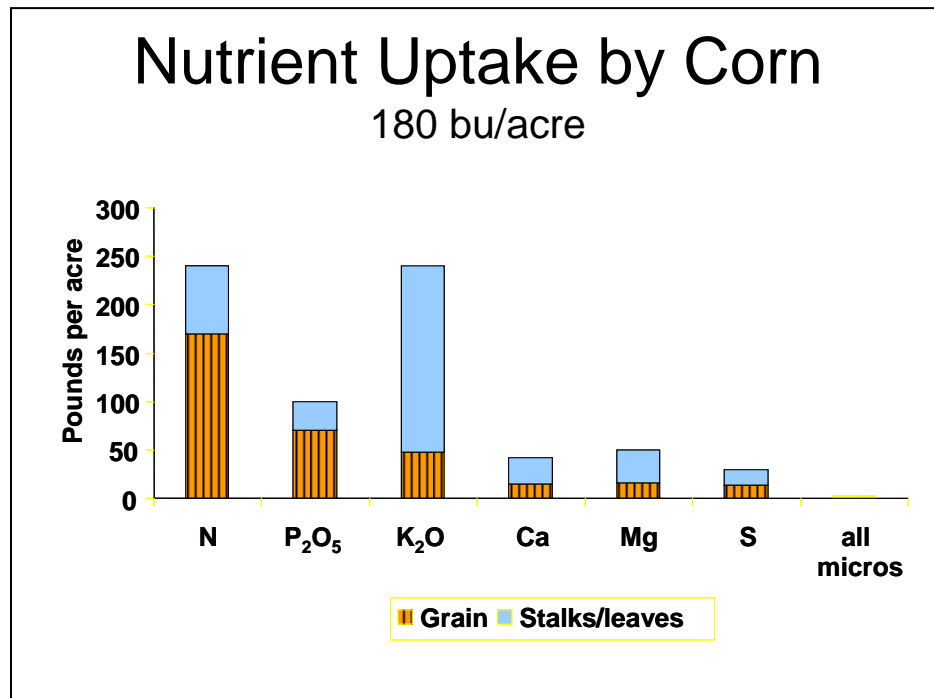
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### Sidedressing Corn

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Some Alabama growers are planting corn for the first time in many years because of the market. Some may be growing corn for the first time ever. High fertilizer prices may have scared some producers into applying absolutely the minimum amount necessary to make a crop. Those who could get poultry broiler litter found that it was a less expensive alternative to commercial fertilizers. Regardless of what may have been applied at planting, we are now faced with possibly the most costly, out-of-pocket input of the entire crop, a **sidedress N application**.



The yield of corn, unlike cotton and legumes, is absolutely dependent upon how much N it takes up, assuming that moisture and other yield factors are optimum. **A bushel of corn will require application of 1 to 1.5 pounds N.** When you harvest corn, you actually remove about 1 pound N in each bushel of grain (see figure). Auburn University's standard N rate for dryland

corn is 120 pounds N per acre. Because some producers are capable of making a lot more than 120 bushels per acre, the following comment was added, *"If yield potential is greater than 120 bushels per acre, apply up to 1.25 pounds N per bushel of anticipated yield. Nitrogen should always be applied in split applications with 1/4 to 1/2 of the total N applied at or near planting and the remainder as a sidedress."* For irrigated corn, the standard N recommendation goes up to 200 lb. N per acre with the following comment, *"If yield potential is greater than 200 bushels per acre, apply up to 1.25 pounds N per bushel of anticipated yield. Nitrogen should always be applied in split applications with 1/4 to 1/2 of the total N applied at or near planting and the remainder as a sidedress."*

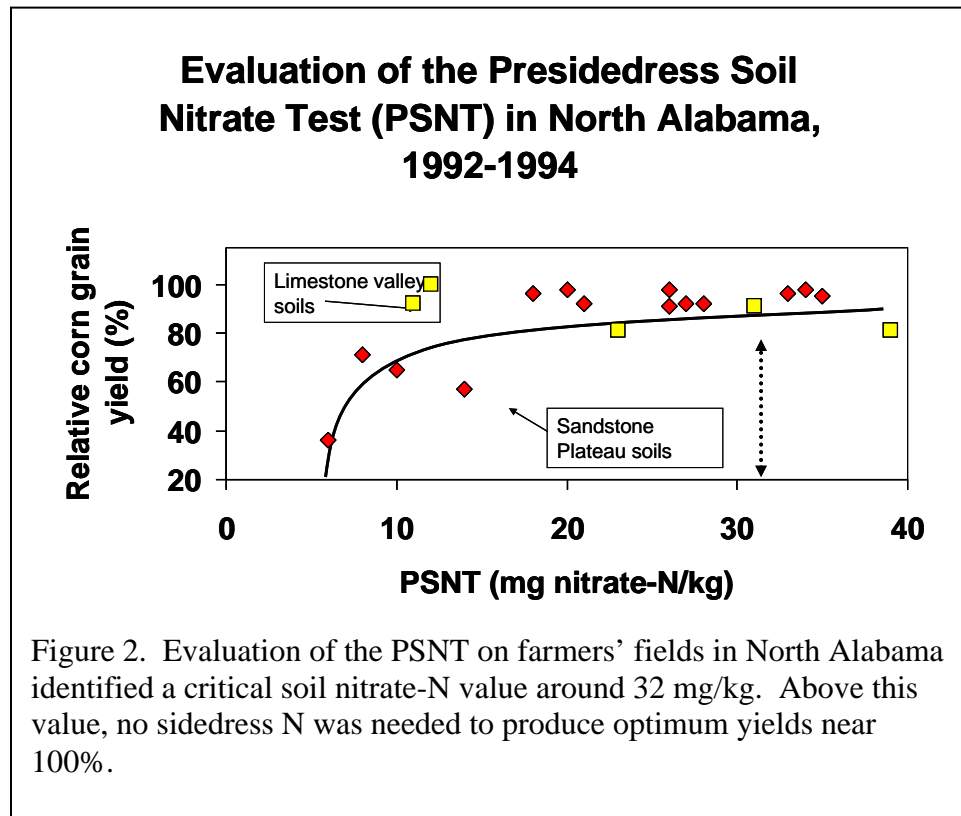
It is time to sidedress corn in Alabama, and the big question is, “How much N do I apply?” This question is particularly relevant if poultry broiler litter was the source of N used.

**If broiler litter was applied preplant. . .**

You really need to know the nutrient content of the broiler litter, how much was applied, and when was it applied. If it was applied more than 30 days prior to planting the corn, assume that most of the N has been lost and you’ll still need to apply about ½ to ¾ of the total N required by the crop, 60 to 100 lb. N per acre depending upon the yield potential of the crop. This recommendation is backed up by several tests on farmers’ fields in North Alabama where poultry litter was used on corn. If litter was applied in the fall or winter, most of the N was gone by the time the corn reached V8 stage, and additional N was needed. If it was applied within 30 days of planting, then enough N remained in the soil so that the sidedress N rate could be reduced or eliminated.

If you had the litter tested, then you have a record of total N applied. Assume that about 2/3 of the total N applied will be available to the crop this year (if it was applied at or near planting). For example, assume you applied 2 tons litter per acre at planting. Each ton contained 60-60-40 lb. N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O. This is about 120 lb. total N. If 2/3 will be available (90 lb/acre), then you can subtract this from the total N needed to determine how much fertilizer N to sidedress. If you

expect to make 120 bushels per acre and planned to apply 150 pounds total N to your crop (120 bushels x 1.25 lb. N/bushel = 150 lb. N), then you’ll need to apply 150 minus 90 or 60 pounds N as a sidedressing.



**Can I test the soil or the plant to see how much N to add?**

The quick answer is, “No”! Tissue testing could take too long. There is a pre-sidedress soil nitrate test (PSNT) that is used in Tennessee

northward but it has not worked very well in the Deep South. It was marginally successful in predicting the need for sidedress N in North Alabama (Fig.2) but did not work well in the sandy,

Coastal Plain soils of Central and South Alabama. Chlorophyll meters have also been tried with limited success. Growers with an optical sensor, such as a Greenseeker, can apply variable rate N on-the-go. To use this technology, a calibration strip is implemented at planting. During sidedress, the calibration strip is used to determine the optimal N rate for the field. The Greenseeker, which measures NDVI (Normalized Difference Vegetation Index) can then compare the entire field to the reference strip and direct a variable rate N application based on those readings (Shannon Norwood, personal communication). This technology is promising but it won't help you make decisions this year unless you planned ahead.

The bottom line is that applying sidedress N to corn in Alabama is not an exact science because we have to deal with so many soil, weather, field and fertilizer variables. Extensive research has helped us deal with some of these variables. Careful planning and best management practices always help but experience is still a good tool to have.



### **DON'T BE FOOLED BY FERTILIZER TECHNOLOGY PROMOTIONS**

In tough and changing times, everyone looks for ways to save money. Growers are no different. Because of the high cost of traditional fertilizers, some companies have jumped at the opportunity to push some new technology fertilizer products and additives with the promise of fertilizer savings. **BE CAREFUL WHERE YOU SPEND YOUR MONEY.** Remember, if it sounds too good to be true, it probably is! Plants need nutrients in certain amounts. These can be supplied in many different forms but they still need N-P-K. Traditional fertilizers work and we know how to use them. Some of the newer, slow-release technology also works but it hasn't been tried and proven on farms throughout Alabama. Only the producer can decide if he/she can afford the new technology fertilizer products. Be very cautious of new, expensive fertilizer products and use them only on a trial basis. **DON'T BE FOOLED BY FERTILIZER TECHNOLOGY PROMOTIONS.**