



ADVANCED AG SYSTEMS'S

# Crop Soil News

<http://www.advancedagsys.com/>

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"It is the crops that feed the cows that make the milk which creates the money."

Advanced Ag Systems  
Research, Education, Consulting

## Nitrogen on cornfields- is it still there?

Late May and most of June has had a tremendous amount of water through the soil. What about the nitrogen? (see March 2013 newsletter) For first year corn on sod (rotation pays again!) and heavily manured fields (daily spread), the slow steady release from organic matter throughout the season reduces the nitrogen losses. Leaching has taken place but only from the little that turned to nitrate. The majority is still available for release this season. For really soggy fields, 50 lbs of N sidedressed as soon as the field is dry, will help carry the crop until organic N release can catch up again. Anaerobic soils will build up compounds in the corn that inhibit photosynthesis. It will take up to two weeks to remove these from the plant.

For the farms that put additional nitrogen (other than the 30 lbs in the band) on as urea or especially as solution (both fast release) at planting time, the losses are significant. They could also be **significant for farms that spread liquid manure and immediately incorporated it to capture the ammonia nitrogen.** This volatile fraction quickly changes to nitrate (just like urea) in warm soils and so is also subject to high losses from excessive moisture in late May and in June. In a well-drained soil it quickly leaches the nitrate out or below the root zone. For less than well drained (especially those with standing water) it only takes a couple of days of wet conditions to denitrify the nitrate. Denitrification is when the nitrogen is converted back to nitrogen gas, which is unusable by the plant, and is released into the atmosphere. On well drained soils, you could have **lost 50 lbs or 40% of the total early applied nitrogen. On a somewhat poorly drained soil 60% of the total applied N could have been lost. The bottom line is that the corn that received all the N at planting time may need to be sidedressed.** The good news is that you can pull a sample and have a **PSNT test** run to determine before hand, if you need to sidedress more nitrogen. <http://nmsp.cals.cornell.edu/publications/factsheets/factsheet3.pdf> is a fact sheet that has the information you need to take the samples to determine if you need more N.



## Corn Silage after June 15?

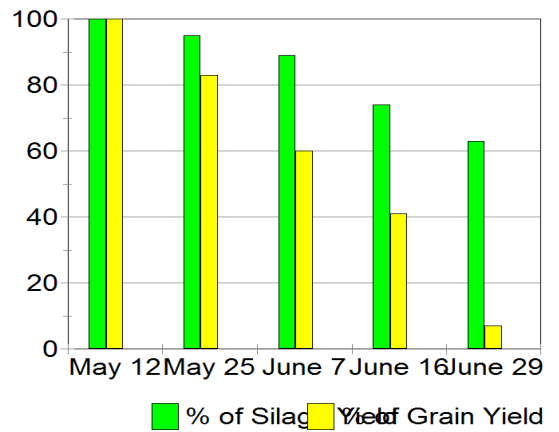
As the graph on the next page shows, by June 15, there is **little grain produced** on corn silage. Grain that is produced will be wet, potentially setting marginal rations up for bouts of **acidosis, feet problems, low production**, and abuse of nutritionists. There is a potential window if you harvest before a killing frost, when sugars are high. A homolactic bacteria could rapidly ferment it for proper ensiling. You are harvesting nearly all stover. The digestibility of that forage becomes critical. At this point, the best switch is to **high forage**

yielding **Brown Mid Rib Sudan-sorghum**. It will give you the same or more yield/acre than corn but because it is mowed and dried, you can control wetness. More importantly, harvested correctly, it will give you more milk/acre and more digestible forage than any other crop. **Research at Miner Institute found that cows will milk on BMR Sudan-sorghum the same as good corn silage**, and produce higher rumen pH and higher components.

For further research and farm information go to <http://nmsp.cals.cornell.edu/publications/factsheets/factsheet14.pdf>

(Note: BMR is NOT an option for planting and forgetting it. It will grow 3 inches a DAY and quickly get to tall for manageable harvest.)

Most farmers mow **when the tallest leaf is at 3 feet** (slightly less than a meter). It is best mowed with intermeshing rollers (tine conditioners are useless) and wide swathed. It is critical that it is round bale wrapped or **ensiled the same day you mow it** (see **October 2012 newsletter**). The crop is very high in sugars which we found allows rapid fermentation even at higher moisture levels. Conversely, mowing and leaving it over night will produce a tremendous amount of butyric and clostridia while removing much of the energy that you grew the crop for. If you are a crop manager that can stay on top of things, then planting BMR sorghum-Sudan would work. What about BMR Sorghum? Most BMR sorghum is longer season than we have left. For southern areas (south of the Mason Dixon line) there is an *83 day BMR sorghum*. It is critical that it be drilled at less than 8 lbs of seed/acre to reduce the potential for lodging. Feed quality is excellent, and because of a special gene, the dry matter at direct cut can be great for fermentation.



### Don't Underestimate Cool Season Grasses

For those who took a smaller but very high quality first cut, the ample moisture will give you a chance for high yields of top digestible forage in the second cutting. This has occurred multiple times in the past and is now a standard —ignore how much yield is in the first cut, take it at optimum harvest. Then feed the crop. The limiting factor for yield of grass is available nitrogen. Farmers found in previous years that 75-100 lbs of N on re-growth after first harvest gave tremendous 2<sup>nd</sup> cutting yields of quality forage. In fact a few reported that this gave them more in the second than the first crop. Nitrogen fertilizer on grass has a \$4 to \$1 return on investment. The third window for yield from grass is in the cool fall when grasses put on another burst of growth and the cool conditions allow for very high quality. In fact, the late cut grass is your last chance to harvest substantial forage for the highest producing cows. The nitrogen cost is more than paid back in savings on soybean meal when you feed this well managed forage. For intensive grass management like this **raise the cutter bar especially on disk mowers!** The grasses grow mostly from top material. The more you leave the more you get in speed and quantity of regrowth.

### Last Chance for Forage

As we learned last year, drilling 3 - 5 bu/a of oats at the beginning of August (later in areas further south of Albany, NY) will give you 2 - 4 dry matter tons of very high quality forage at the end of September. It will need to be fed so it is a good place to put manure for an economical crop.

Sincerely,

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