ADVANCED AG SYSTEMS'

# Crop Soil News

http://www.advancedagsys.com/

June 2017

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

Advanced Ag Systems
Research, Education, Consulting

## We Asked For Rain Last Year, Now We Have it!!

*"A drought will scare a man to death, a flood will starve him" (an old farmer saying)*

Cooler and wetter than normal is forecasted for the eastern half of the US for the next 14 days. For much of the north central and north-east US, soil moisture is 60 – 120% **above normal**. Anything but gravel or sand is barely trafficable much less harvestable. Significant corn is not planted and for most farms, haylage is only partially completed or not started yet. Fortunately, we are not completely dead in the water so to speak. First, the forecast on the other side of those two weeks is shaping up to be a flip—to warmer than normal and slightly below normal moisture for the rest of the summer (September is looking questionable).

Two years ago, we conducted a trial of "Crap, it is July 10 and we don't have anything planted!" Last year, God gave us an opportunity to try again when we planted two complex and time-consuming trials of bmr sorghum and bmr sorghum-Sudan on June 3, which promptly got wiped out (picture at right) by 40 degree rain just as it was sprouting (seedling chilling injury – it can affect corn also). This forced us to replant both trials on July 8. Fortunately, we had a more normal summer with days over 85F (but rainfall limited to 3 – 4 key events). September was warmer than normal, and we harvested October 7, before any frost and we got some good, late planting, data (we will torture you by making you read the rest of this letter to find out the results).

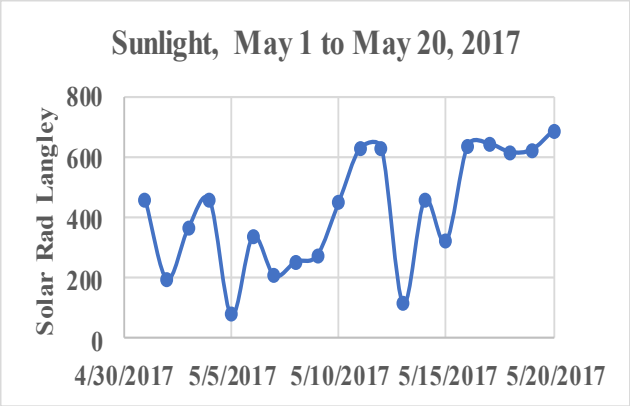
Beautiful plots? No, the plots are the bare strips, the alleys planted two weeks later are the green parts. Cold rain after planting when the seeds were emerging killed them with chilling injury. Sorghums need warm soil, and we have had cold rains.

**The key crop right now** is to get what is left of quality haylage in the field. Except for northern regions, fields of mostly grass are already gone by. Get those when the field is trafficable again and store it separately for the heifers, dry cows, and possibly the low group if you are desperate. Focus on alfalfa that is still quality forage. If cool and frequent rains continue through the summer, applying nitrogen and harvesting the grasses on a frequent schedule can produce tremendous quantities of high quality forage in 2$^{nd}$, 3$^{rd}$, and 4$^{th}$ cuts. In early 2000's we had a summer as this spring has been, and one farmer who had majority of his acreage as reeds canary grass (massive root system helps to support equipment) only was able to harvest half of his acreage – but had more quality forage than a normal year. He simply mowed trafficable fields at 4 inches to maximize regrowth; fertilized with nitrogen and sulfur immediately after each harvest; and followed a frequent mowing schedule.

For those with mostly alfalfa, it is passing the harvest window of 33 inches tall, which Dr. Cherney of Cornell has found to be optimum for first cutting. Supply will be plen-

tiful this year, but quality forage will be dear. What Dr. Cherney has found is that you can recover the quality by using a variation on high cut corn silage. If your alfalfa is 36 inches tall, moving your mowing height up three inches will give you the same high quality that you would have had mowing at 33 inches. You are leaving behind the least digestibly portion of the alfalfa plant- all woody stem, no leaves. In second cutting that leftover stubble will mostly drop to the ground. **THIS DOES NOT WORK WITH GRASSES.**

Wide swath haylage will not dry if it is floating on water. ***Drying is going to be severely compromised by the lack of sunlight and the excessively wet soil surface.*** The first 10 days of May had much less sun than the next 10 days. The end of May was much like the beginning—cloudy, overcast. Traditional mowing into a narrow swath will simply make **windrow composting** out of your haylage. We are only going to get short, often one day windows to get forage harvested. In 2006 we had a wet spring and in the 2 week harvest window had one opportunity where it was sunny two days in the row for traditional haylage. There were 5 single days in that same time to make same-day haylage. Using same day haylage technique is going to be critical this year.




A normal day is 6-700 Langleys. The first 10 days of May had 38% less sun than the nice week the second 10 days of May. This affects plant sugars when photosynthesis is less than respiration. It will significantly inhibit photosynthetic drying of wide swath.

**Swaths greater than 85% of cutter bar are going to be critical for drying.** The vast majority of farms still do not have a mower that will leave a swath a **minimum of 85% of cutter bar width**. If yours does not, you are not doing wide swath, but something less than that with disappointing results. Mowers are expensive and few farms have recovered from the low milk price of the past couple of years. What farms do have are **tedders.** Excellent work by Dr. Cherney, at Cornell, found that tedding shortly after mowing will spread the swath to a full wide swath and dramatically increase the drying rate . Tedders are going to be **a key tool this year** as it appears there will not be many days with sufficient sunshine which is critical to rapidly removing moisture to make haylage. Bringing the lower layers up and spreading the swath to maximize the interception of the sunlight we do have is going to be vital. **By raising the cutter bar, the stubble will be higher and so the tedder does not need to be set to dig through the mud trying to get the crop**. When you rake or merge tedded swaths back to a row for chopping, the less the tines have to dig in the dirt, the more milk in the forage.

**What about my corn that is still not planted?**

For those who swapped out their long season corn and moved the average of their corn seed to the shorter side, you are still good. Most corn will mature sooner, if it is planted later. Except for a short burst the middle of the month, temperatures have been running much below normal (where is the politician's global warming when you need it). With our soil temperatures struggling to reach 60F, corn is still the best thing to plant now. One trial showed that corn planted on June 7 was 85 – 90% of normal yield. **THIS IS THE YEAR TO SIDEDRESS NITROGEN.** Putting it all on at planting with the herbicide is prescription for disaster as it could be gone when the corn needs it. We would suggest using a nitrification inhibitor to keep the ammonium in the ion form so it will not leach or denitrify in the soggy soils.

Summer annual BMR varieties need to be carefully evaluated. Height does not always equal yield and quality is made of both digestible fiber and non structural carbohydrates.

As we move to the second half of June, and possibly into early July, bmr sorghum and bmr sorghum-Sudan will give you the better result in terms of tons and quality. This is **NOT the year to rush** it as soils are cold and **these crops do NOT like cold soils or cold temperatures**. **Soil temperature must be above 60 F with warmer weather forecasted for the next week.** Normally I plant June 3, this year I am looking at June 10. The

crop will grow very fast once out of the ground – getting it out of the ground is the problem. To maximize sunlight interception (and hence yield potential) we have drilled each of the crops in narrow rows or at least rows on 15 inch centers. To maximize yield and minimize cost, we harvest as a one cut direct harvest system. As reported in the February newsletter, this can be done with a rowless corn head. Both sorghum and sorghum sudan can be harvested this way. We will be testing the direct harvest of pearl millet and Sudangrass the same way this summer. If you do not have access to that equipment, we suggest you use bmr Sudan-grass or bmr sorghum-Sudan and utilize a multicut system with round bale wrapping.

In the 2015 study planted July 10, 82 day corn, sorghum-Sudan, and pearl millet all gave the same yield of 13 – 14 tons of 35% dry matter silage under very dry conditions.

The 2016 season had warmer temperatures and just in time rainfall so yields were higher. We tested a mix of bmr sorghums and sorghum-Sudan, from Richardson Seeds (http://www.richardsonseeds.com), a brachytic dwarf bmr sorghum from Alta (http://altaseeds.advantaus.com) (no endorsement stated or implied) and a non bmr pearl millet from the University of Nebraska. All were planted July 8 and harvested October 7. The mean yield was a respectable 17.6 tons of 35% dry matter silage. Interestingly, other than the pearl millet, all the sorghums and sorghum Sudan handled as a one cut system gave statistically the same yield. The pearl millet gave an astounding 25.5 tons of 35% dm silage (see table at below). We will be testing a bmr pearl millet this year and reserve suggesting it to farmers until we sort out some potential maturity/quality questions. ALL were wet forage and need to be harvested with long length of cut and proper inoculant. This was covered in the February newsletter on the web site and will have more updates this fall. If you are planning on winter forage triticale after harvest, we suggest the sorghum-Sudans with an earlier cut so the winter forage can be planted on time. The important thing to keep in mind when feeding these crops to livestock, is that they are NOT corn silage. Crude protein will run 2 to 4 % higher and energy slightly under normal corn silage so protein could be reduced and ground corn added for a total cost savings in the ration.

| **2016 Variety trial at Valatie Research Farm, ( all BMR except Pearl Millet)** | Tons 35%Dm | % Dm @ harvest | NDFd as % of NDF-30HR(%) | TTNDFd |
|---|---|---|---|---|
| NON BMR Pearl Millet | 25.48 a | 0.24 | 65.4 | 57.7 |
| 7102 Brachytic Dwarf Forage Sorghum | 17.95 bc | 0.27 | 69.3 | 57.2 |
| 400/105 Forage Sorghum | 16.1 bc | 0.27 | 67.1 | 57.9 |
| 400/70 Forage Sorghum | 17.5 bc | 0.22 | 69.5 | 63.6 |
| 400/36 sterile Forage Sorghum | 15.63 c | 0.25 | 69.0 | 59.3 |
| 400/82 SS Sorghum Sudan | 19.95 bc | 0.25 | 63.8 | 56.0 |
| 400/38 SS Sorghum Sudan | 17.73 bc | 0.24 | 67.9 | 59.4 |
| mean of trial | 17.6 | | | |

Yield followed by the same letter is not significantly different at 95% level.

New York Farm Viability Institute has funded a more comprehensive variety trial this year of bmr sorghums, sorghum Sudans, Sudans, and pearl millets from multiple companies. We will also be harvesting over time to look at change of feed value by stage of harvest and the milk it potentially could produce.

Sincerely,

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