ADVANCED AG SYSTEMS'

Crop Soil News

http://www.advancedagsys.com/

July 2018

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

Advanced Ag Systems
Research, Education, Consulting

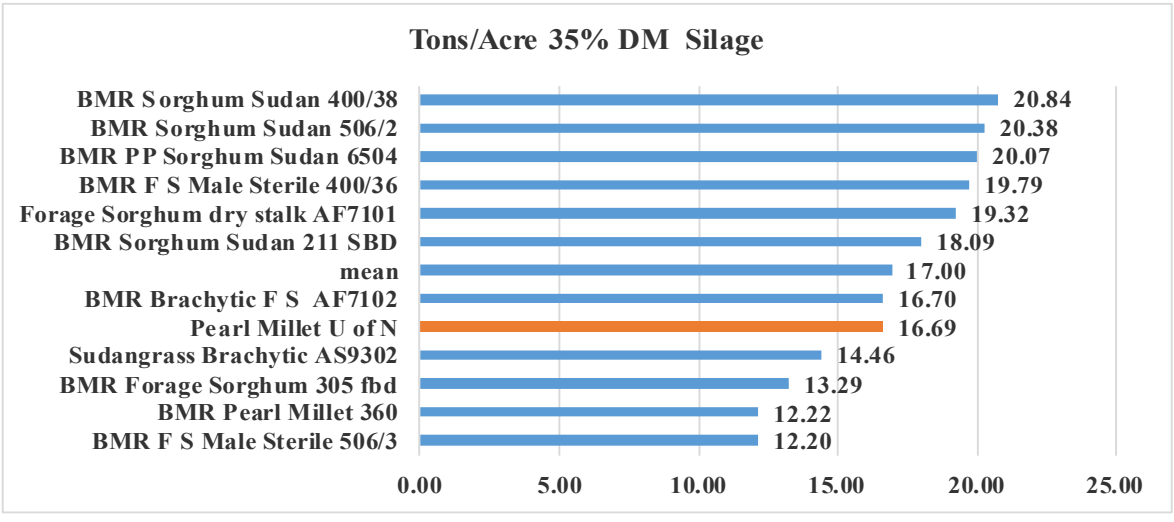
Sorghum Variety Trial Part II

The bouncing ball of weather has left us with a wide range of conditions across the northcentral and northeast regions of the country. Some areas have had a continuous parade of storms dumping tremendous amounts of water. In others, the corn is rolled and alfalfa collapsed from the lack of water. Except for a rain just before and during July 4, the last decent rain for us was early June. Regardless of the conditions, each year someone some where is scrambling to get a crop in by the beginning of July.

Sorghum, sorghum-Sudan, and pearl millet are all full season/emergency crops getting a second and third look at across the US. The Brown Mid Rib variant (BMR) in these crops greatly increases the energy derived from the forage. The data from the earlier planted trial reported in June newsletter, and again what we saw on the digestibility of the fiber in the later tests reported here, re-affirms that **Brown Mid Rib would be the only type I would suggest you grow** for livestock forage in your region.

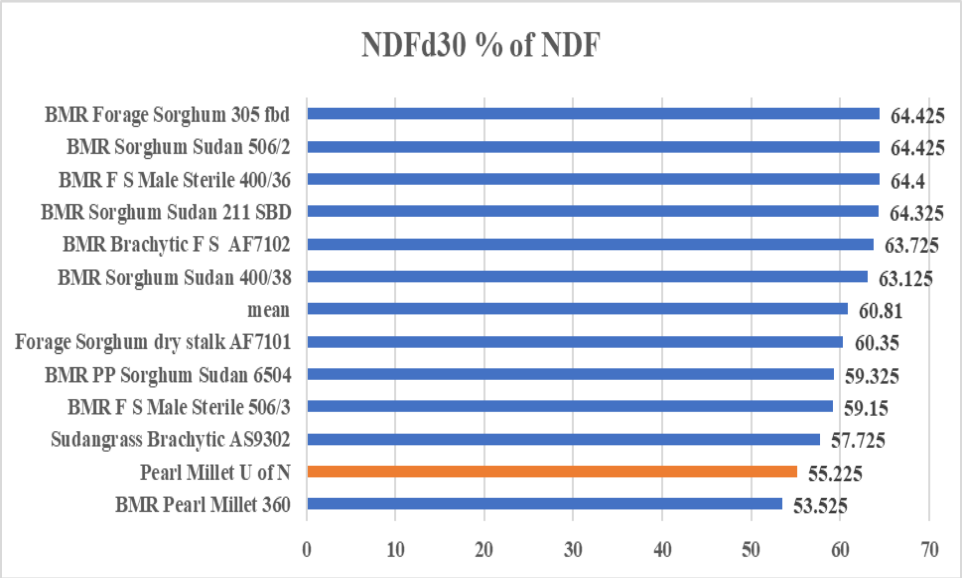
As I mentioned in the June newsletter, with the help of the **NY Farm Viability Institute**, we planted late in northern NY (near the Canadian border) on June 22 (they waited for warm soil temperature), and harvested on September 28. At a second site, 20 miles south of Albany, NY (warmer region), we planted on July 4, and harvested on October 5. The season featured the coolest August in 26 years (and may repeat again this year) plus a very cold first half of September. The last two weeks of September were the hottest of the whole summer.

The Northern site (near Plattsburg, NY) had surprisingly good yields for both the late planting and the cool season. They had followed the key step of waiting until the **soil was warm and warm weather** was forecasted before planting. The **top 8 varieties** were not statistically different. All were BMR types except one Pearl Millet U of N experimental (colored line



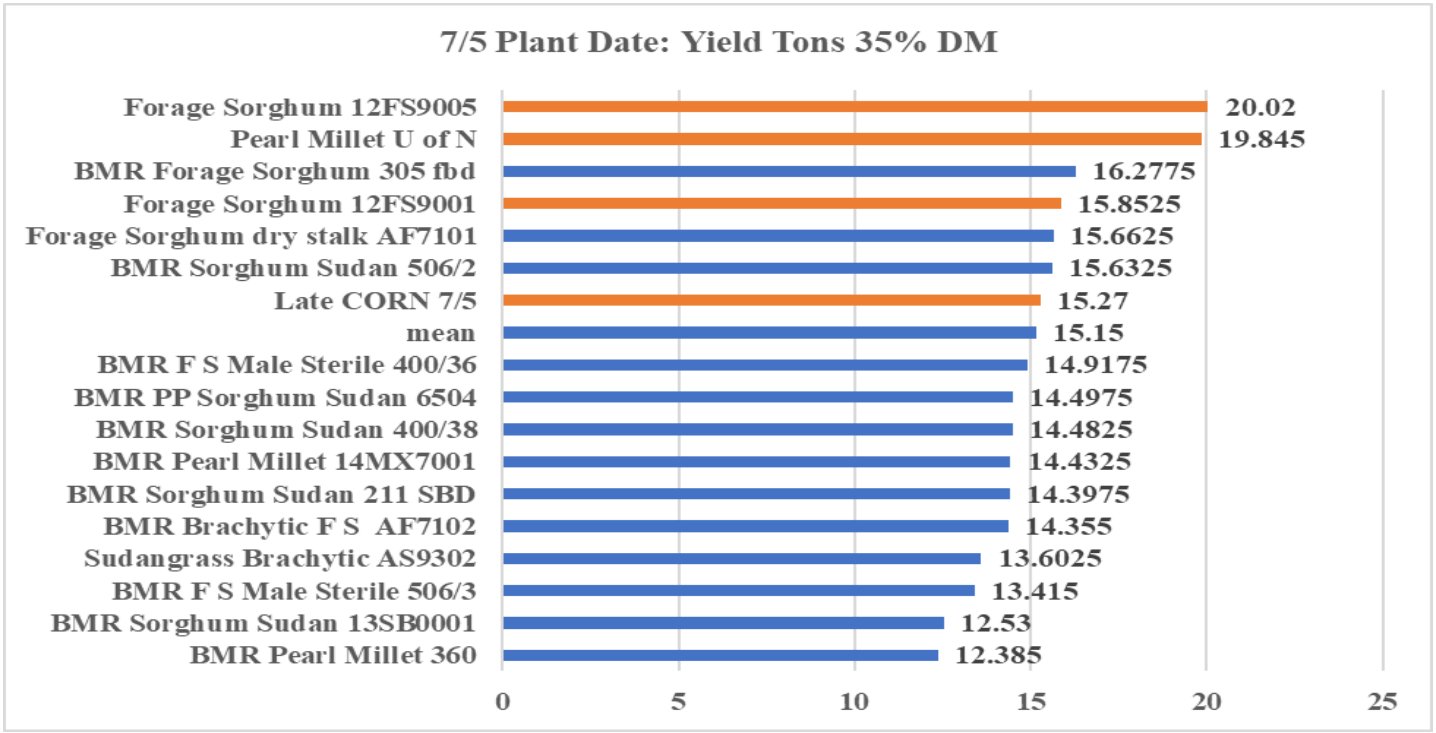
in the graphs). Interestingly the top four varieties were also the top BMR varieties at the warmer site south of Albany reported in the June newsletter. There was no lodging for any of the varieties.

At harvest, nearly all the plants were in late vegetative or early flowering stage. This grouped the varieties close together in NDFd-30, digestibility. All but the last three varieties were not significantly different from each other. This is common when harvest is at vegetative or early flower stage, before there is an increase in digestible components post flowering. The **crude protein** mean was **11.3%**



The second trial was planted south of Albany, NY, on July 5. A significant portion of the growing period was during the very cool August and early September. It was also in an exposed location, buffed by high winds. This contributed to significant lodging in a wide number of varieties. Offsetting this was that the lodging was 2 – 3 feet off of the ground. The Krone chopper direct cut head (photo at right) was able to slip under and get the entire crop without being forced to go one direction.

The varieties that are **orange colored are NOT BMR** types and we **do not suggest growing them** for dairy forage in the north.



Note from the previous graph. The commercial Pearl Millets we grew were supposed to be for grazing and mechanical harvest. I would not suggest using them for mechanical harvest. The stand was very dense, but very short. They would work very well for rotational grazing during the classic mid summer slump that a lot of pastures undergo. The other issue is that our trial showed a significant decrease in pearl millet digestibility as the head formed and emerged—much like winter forage. Sorghum species have not had this decrease. The Pearl Millet U of N is an experimental variety that did phenomenally well the past 3 years at our warm site south of Albany, NY. It will not head in our climate so it can simply grow and produce more highly digestible forage. In our early planted plots it was 10 feet tall; while these July 4 plots were only 7.5 feet tall. It did not lodge. Pearl millet has a much higher % leaf to stem ratio compared to the sorghums, and so is higher digestible. We are testing a new experiment line of this variety that is bmr. If it produces like the sister line, this new bmr pearl millet will have tremendous potential across the northern US.

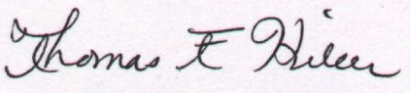
Digestibility (NDFd 30 %NDF) of this late test at the warm site for the BMR types, ranged from 68.7 to 65.4. The non-BMR (57 to 61.2) clearly show their lower feed value. The crude protein of this trial was 11.4%, almost the same as the northern site.

Dry matter at harvest for the **northern site** was 22 to 25 with a **mean of 25.8**. For the **southern site** that was less mature at harvest due to the late planting, the dry matter was 18 to 24 with a **mean of 21.** For direct cut forage, that is cut long (1—1.2 inches length of cut) and immediately treated with a homolactic bacteria silo inoculant, we have had complete fermentation of these wet forages with minimal or no butyric. (see the February 2017 letter for more details). Stored in a bunk or bag that has a properly setup and maintained packing system, there is little or no leachate. Cut them short, process it, and/or run it through an old bagger with worn rounded presses, and you will have a flood of leachate—the choice is up to you.

Note: we are not recommending any variety. The data is simply for one year at these two sites. You may draw your on conclusions on what you wish to grow. The June issue had a list of all the varieties and the companies that supplied them.

Caution: the forecast is for the last of July and much of August to be lower than normal temperatures. Adding insult to injury, they are also forecasting an earlier than normal end to summer and the growing season. Both of these factors could handicap the yields you get. Fortunately, that type of weather was exactly what we had last year when we grew these trials so the yields and quality would be fairly representative of what we are dealing with this year.

Sincerely,



Thomas Kilcer,
Certified Crop Advisor

172 Sunnyside Rd
Kinderhook, NY
12106

Tel: 518-421-2132

tfk1@cornell.edu

The Helping Hand to Better Agriculture