



ADVANCED AG SYSTEMS'

Crop Soil News

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July 2017

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

Spring Planting in July

Another season and another year of extremes. It started raining in early May and has not let up much. As you go from New England to western New York, and continue on into Michigan, Wisconsin and the edge of Minnesota, it just gets wetter and wetter. Well drained soils have fared ok, but anything less than that has more ducks than crops in it. Corn is still waiting to be planted and not all the haycrop has been harvested (mostly firewood digestibility now). The cold nights of May continued into June. I didn't start planting my sorghum trials until after June 12. (For the climate change crowd, summertime maximum temperatures have been declining in from Minnesota to Maine for the past 80 years). When temperatures drop below 50, even corn will reduce growth for the next couple of days, based on research at the University of Guelph.

For unplanted ground we will cover multiple options. Are these perfect crops? NO! Don't expect 100% yields from 50% of the season. These crops are not magic. They can give you highly digestible forage in the much abbreviated growing season.

If you are looking for quality forage, for warm low elevation areas of New York, and for other states south of New York you can still plant less than 85 day corn. Planting on July 10, 2015, we had a nice crop of corn silage by the beginning of October. This might be the best bet if you can still get the seed. Corn tolerates the predicted cool temperatures better than sorghums. Try to get varieties with soft kernels as many short varieties are out of flint type (hard kernels like popcorn) endosperm that goes through the cow undigested, even with processing.

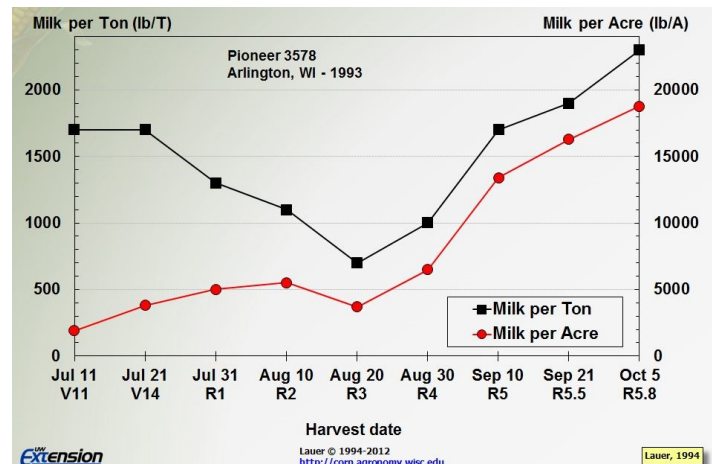
If you are just looking for large quantity forage, then a long season corn that will tassel about the time you chop, could be an option until the first week of July. Excellent work at the University of Wisconsin found that there are two corn forage quality peaks, one at silking, and one just before maturity. See graph at right.

<http://wiscorn.blogspot.com/2012/07/harvesting-barren-and-poorly-pollinated.html>

What you are getting is digestible fi-



82 day corn planted July 10 gave an average 14.7 (11 to 19) tons of 35% dry matter basis silage.



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ber and plant sugars. You could try the **longer season BMR corn** that was turned in for shorter varieties. It will give you higher fiber digestibility than a normal corn. Thus it is very similar to a sorghum species crop but will grow better in the cool nights we have had and so hopefully give more yield. If you can't get that at least look for silage types with higher fiber digestion as that is where the energy will come.

Long season immature corn will be **WET**, possibly wetter than BMR sorghums. BE CAREFUL. As mentioned last month, the cloudy rainy (forecasted for September) weather could leave the plant in a negative energy balance. This could limit substrate and make a mess out of ensiling wet forages. We clearly showed in earlier newsletters ([February 2017](#)) that longer length of cut with NO PROCESSING is the best way to reduce leachate. Processing will increase kernel digestion—**you have no kernels with this long season corn.** Processing will only waste fuel and produce **soup in the silo** or bag. Either open it up all the way or better yet, remove the processor. Use a homolactic inoculant for wet forages. This will be covered more in the August newsletter.

A better option for planting after the first week in July, is **BMR sorghum or sorghum Sudan**. Cost is a fraction of corn (see [December](#), [March](#) for planting), and drilled, it will get out of the ground quickly to capture sunlight for maximum yield. Our re-planting of a variety trial on July 8, 2016, reached maturity by harvest October 7. The mean yield was 17.6 tons on a 35% dry matter basis. The one cut sorghum-Sudan ranged from 18 to 20 tons on 35% dm basis. NOTE: there are two **potential concerns this year**. First, for northern areas, soil temperatures have been marginal to below for warm crops. They need warm soils to sprout and emerge. Secondly, SEPTEMBER 2016 WAS ABOVE NORMAL TEMPERATURE! If September, as some predict, is below normal temperature and wetter, this **reduces** photosynthesis, which is **yield** (I expect lower yields), and sugars for fermentation. Harvest management is critical for fermentation to reduce **potential for clostridia and butyric formation**. Choosing a variety with the dry stalk gene, will help as you will be dealing with less plant moisture. As the February issue above indicated, with enough growth we can direct chop (if not, then mow to a windrow and chop). For round bales we suggest BMR Sudangrass with its higher quality and smaller stems for wrapped bales. An additional help would be to use a processing knife on the baler to reduce the stalk size to a manageable level. Use a homolactic inoculant for wet forages.

Another warm season crop that is getting more of our attention is BMR pearl millet. Last year planting July 8 and harvesting October 7 gave us 25 tons/acre on 35% dry matter basis. It has twice the leaf to stem ratio of sorghum-Sudan which gives it very high feed quality. A non BMR we grew last season still had a TTNDf of 58 (normal corn is 45 to 48). It would have been higher with the BMR gene. Crude protein was 10%; earlier years we had 17%. The 2015 study with a BMR pearl millet had over 10 % sugar, and an NDFd 30-NDF of 70 (straight NDFd 30 of 37). Pearl millet does not have prussic acid management issues. Pearl millet has thinner stems that may be easier to round bale for wrapping. Pearl millet is wet. I will be testing if it can be directly chopped this year. Caution: preliminary work indicates it is NOT like the sorghum species, in that high milk producing ability decreases significantly after heading similar to winter triticale. With the help of NY Farm Viability Institute, we will be testing it this year to determine if that is correct information.

If you are planting in August, the temperatures start to drop at night and warm season crops do not grow well. Cool season crops can thrive under these conditions. Fall planted oats for forage has the biggest potential and most practical. Planted at 3 bu/a of grain type oats, you could harvest 2 to 4 tons of high milk/ton digestible dry matter by the end of September, if planted in early August (for Albany, NY area). As planting is delayed, yields fall dramatically. The normally cool night temperatures of September conserves the sugars and produces forage of high fiber digestibility.

Planting to early in late July or first of August has the risk that **aphids bring in Barley Yellow Dwarf Virus** which can kill the plant. Dr. Shields at Cornell reports, "Since Barley Yellow Dwarf virus is circulative, a neonic seed treatment will kill many aphids before they can transmit the virus.....most of your problems would be in the disease area like rust." Last year rust on early planted oats was so bad



Managed correctly spring oats can produce high yields of high quality forage in September

that scouts reported coming out of the field covered in orange. There are some resistant varieties such as Coral on the market. It is strongly suggested to plant that type based on the **widespread rust** on my winter small grains this year. Application of the **proper fungicide** early to the growing crop would be a major help in controlling this disease (check label). Have your seed dealer treat any VNS (bin run clean oat grain) with both a fungicide and an insecticide before planting for forage. This will alleviate a lot of potential disasters. If you choose to ignore this advice and plant non treated seed, we suggest slightly delaying for the cool nights of August to reduce the aphid population. Rust may still be an issue.

Grain oats for forage will be ready in late September when you still have some heat to dry it for silage. If you are not going to be able to plant until later then the slower forage oat type would be the better recommendation. Oat silage is 16- 17% crude protein if it has enough nitrogen and sulfur. **NOTE!:** it is **NOT** recommended that you feed this to **dry cows** as **potassium levels** can run over 5%. For high producing dairy cows, mow as soon as the flag leaf is out (will also reduce lodging issues). Heavy yielding fall oats are wet. **Mow wide swath, and TEDD** after two hours of drying. As soon as the top has a light grey cast (pick up a surface plant and see if it is greener underneath) tedd to get the lower layers spread and drying (use a slower forward speed or you will make non-drying tedder lumps). **It is critical that it be ensiled the same day you mow** because of the very high sugar levels. Leaving it overnight burns off the sugars and produces higher populations of Clostridia and higher levels of butyric acid. The only **exception** for overnight, appears to be nights that drop to the 30's which reduce respiration and hold quality. Use a homolactic inoculant for wet forages.

August Planted Spring Oats plus Winter Triticale: Three bushel of oats planted with 80 pounds of triticale in the beginning of August will give an oat harvest the end of September. If you **mow the oats at cut height of at least +3.5 inches** the triticale will continue to grow into the fall. It is **critical that the triticale be planted at 1.25 inches deep to prevent heaving**. Fertilized the triticale as normal the next spring and you can have two very high quality forage crops in one planting.

August Planted Spring Oats with Spring Peas

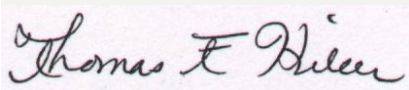
This is a mix I will be trying this August. Data has shown that two species, a grass and legume, will often produce more than either alone. You need to adjust your seeding rates down for the higher establishment in the warm soils and to keep cost under control.

Last, Last Chance Forage As we move into the cooler temperatures of fall and with adequate moisture, it is perfect conditions to grow high yields of high quality cool season grass. It has the kind of digestibility in a forage you want for your peak producers. For grass or greater than 50% grass in the stand, an application of nitrogen plus sulfur in August can give you very good yields of very high quality forage. As with the oats above, the cool night temperatures reduce lignin and conserve the sugars as the plant grows, and so you end up with a very highly digestible wet forage.

Winter Forage for Early Next Spring:

The winter forage such as triticale provides an early harvest of extremely high quality forage. My plots this year averaged 3.23 tons of dry matter (9.2 tons of silage) per acre and 3.38 (9.7 tons of silage) last year. The cows loved it. The earlier you plant the higher the yield potential the next spring (providing we get spring rains,) and the earlier it comes off. Based on our research we suggest **planting 10 days to two weeks BEFORE wheat date** in order to optimize winter forage yield potential from maximized tillering.

Sincerely,



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