



ADVANCED AG SYSTEMS'

Crop Soil News

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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

Short Forage, Fall Oats, Winter Forage Options

Each year, someone, somewhere, ends the growing season short on forage. There are many more this year. For much of New England, the major part of NY, PA, and Ohio the dry conditions are continuing as the jet stream tends to not move for extended periods during the present solar minimum we are experiencing. One area gets dumped on while the other goes begging for water. This has impacted the second (and some areas the first) cutting. Hay crop yields are reported to be down 30 to 40%. The extended days with temperature over 85 F can decrease corn silage yields as corn stops growing above that and we have had many days that fit that picture. Added to it the dry conditions and the potential is for corn yields both be down and later maturity as the corn stopped growing for extended days this summer. It is nearly the beginning of August, and you need to identify how much feed you need and what will supply that. There are still a few options open for last chance forage this year. There are also steps you can take this fall to get very early forage next spring when you run out of haylage.

For areas south of New York, you can still get a one cut sorghum-Sudan harvest. There is little BMR type available but there is a supply of non-BMR. As the [February 2020](#) (click for link) newsletter pointed out, the non-bmr may be the best, low-cost ration for raising replacement animals. I would not try any sorghum of any type at this late date for areas of New York and further north. The limited season left will significantly reduce yields. Adding insult to injury, our preliminary research indicates that as we go into September in the Albany, NY area, the sorghum species significantly reduce digestibility due to decreasing light intensity and day length (photosynthetic potential).

If you are looking for high-quality dairy forage, no mechanically harvested crop will produce as much and as high a quality as late summer planted spring oats. Because of the increasingly cool fall temperatures, the forage quality is incredibly high (higher than forage oats in the spring). For more northern areas, planting the first of August is possible. For the Albany NY area we target about the 10th of August; while further south, they plant later to wait for the cool nights of August to reduce the aphid population which can bring in in Barley Yellow Dwarf Virus. Aphids can infect the plant with BYDV in less than 30 minutes. If you are planting early or on time, we strongly suggest using a neonic seed treatment as they are effective in limiting aphid feeding, based on research from the Cornell IPM coordinator. A moist fall can hammer this excellent plan by a **major outbreak of rust**. Scouts report leaving the field so covered in rust spores that they were mistaken for orange highway cones. It could reduce



Spring oats planted in August, harvested at the end of September is both high yielding and very high forage quality.

quality and yield. Normally it starts to show a week or so before harvest. If scouting finds it, a highly suggested practice is to **apply a fungicide** to the oats when they are **starting stem elongation**. If you have a cereal leaf beetle outbreak an insecticide can be applied at the same time as the fungicide. Both are low cost assurance of top forage yield.

We suggest **three bu/a of grain type oats**. My research found **NO yield increase from increased fall oat seeding rate**. Grain oats will go through its life cycle quicker and so be ready at the end of September when you still have some heat to dry it for silage. If you are not going to be able to plant until later or have to harvest or graze later, then the slower forage oat type would be the better recommendation based on Ohio research. Be liberal with the preplant manure and **immediately incorporate** it (not hours or day later) to capture the ammonia nitrogen. In a 2010 study, we had a relatively low yield of 2 tons DM/acre due to extremely dry weather. Despite the low yields, we removed over 120 lbs of nitrogen/acre as protein. Because much of this nitrogen has to be the rapidly available fraction, high manure application rates (our case, 10-12,000 gal/a **immediately incorporated** on low P & K) are justified. **NOTE!:** If you applied manure don't feed this to dry cows because of high potassium.

For high producing dairy cows, mow as soon as the flag leaf is out, or early boot. Even early boot is still very good forage. The reason for this is because of the very cool night temperatures inhibit respiration of the most digestible parts, and they accumulate in the plant. As soon as it hits flag leaf, **mow wide swath**. You are trying to dry something that can yield 2 – 3 times more tons of dry matter than a heavy alfalfa first cutting, compounded by cooler temperatures and much less intensity and hours of sunlight. Even with wide swath, the high yield sheer mass will allow only the top to dry. As soon as the top has a light grey cast (pick up a surface plant and see if it is greener underneath) ted to get the lower layers spread and drying. Watch forward speed so you don't make tedder lumps. **It is critical that it be ensiled the same day you mow** because of the very high sugar levels (**exception to rule:** if it goes into the 30's F at night it stops respiration and sugar loss and you can go to the next day). Leaving it overnight in warmer temperatures, burns off the sugars and produces higher populations of Clostridia and higher levels of butyric acid. With same-day haylage, these are reduced or eliminated even at higher moisture conditions. On the flip side, the very high sugar levels, if preserved until you ensile the crop; will speed the process and produce an excellent fermented forage **if inoculated**.

Fall Spring Oats plus Winter Triticale. This is a triple crop system where we planted oats and winter triticale (**100 lbs. oats/acre with 80 lbs. of triticale/acre**) at the beginning of August. After the oat harvest, the triticale continued to grow and produced an excellent forage the next year. It is **CRITICAL** that you mow the oats with the cutter bar set at a **minimum of 4 inches**. Where we did the triticale thrived. Where we mowed less than 3.5 inch the triticale died. Target flag leaf oat harvest to maximize triticale fall regrowth. We fertilized the triticale as normal the next spring and had an excellent harvest. This can give you two very high-quality forage crops in one planting.



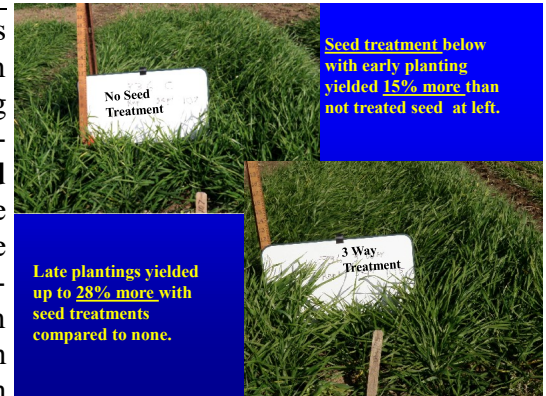
Last Chance Forage: If it rains, cool-season grasses put on a burst of growth in late August, September, and early October. Feeding the crop with **nitrogen and sulfur** can give you some very high-quality forage for your dairy herd. It will be wet so we suggest chopping it 3/4 to 1 inch long to reduce leachate. As with the oats above use a homolactic inoculant and ensile it the same day it is mowed (unless temperatures drop to the 30's at night). Remember to cut grass at 4-inch cutting height to maintain the stand.

Like cool season grass, oats with an under-crop of winter triticale must be mowed at 4-inch cutterbar height or it will be killed. Mowed properly, this triticale crop is growing very nicely the next spring.

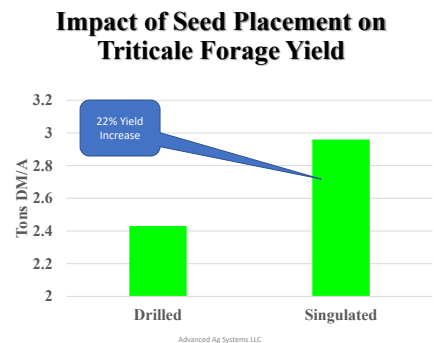
First Chance for Very High-Quality Forage Next Year. Now is the time to get seed for **winter forage**. This will be the earliest highest quality forage you can get into your cows next spring. Fermented energy levels are equal to corn silage, protein (with sulfur fertilization) can equal good alfalfa. Both rye and winter triticale could be used to produce winter forage. **Winter triticale is preferred** as it is 35% higher yielding

than rye in side by side tests. Flag leaf triticale resists lodging at nitrogen rates over 100 lbs.N/a which gives high crude protein, while rye lodges.

The Key to High Winter Forage Yields is Planting on Time, which is: ***10 DAYS TO TWO WEEKS BEFORE WHEAT-FOR-GRAIN PLANTING DATE IN YOUR AREA.*** This has proven true over the past 20 years of winter forage research. Earlier planting means more tillers which means more spring yield potential. On-time planting research showed a **25-35% yield increase next spring** vs late (same date or later than wheat). This year the corn could come off late from drought and high temperatures delaying maturity. Should we skip winter forage? **NO!** Go ahead and plant. You will protect the soil against long term yield-robbing soil erosion; improve the soil health and structure for long term yield gain and still could have economical yields of very high-quality forage. There are several steps that our research has found to improve the yield and survival of late winter forage. Don't fall for the old story that if you plant late you can make up for it by putting down more seed. My research has not seen any advantage planting over 100 lbs. winter triticale seed/acre. If you are forced this year to plant later than the optimum two weeks before wheat grain planting; instead of spending money on extra seed, spend it on having a **3-way fungicide seed treatment applied to the seed.** In my replicated trials at the on-time planting date, the **treated seed yielded 15% more** (photo at right) than the control of untreated seed. For the **late planting date, the treated seed yielded 28% more** than the untreated seed. The late (October 5) still gave us 2.8 tons of dry matter (8 tons/a 35% dm) yield which is a very profitable crop. Much depends on fall weather. The management most critical to survival in late planting is to **plant at 1.25 inches** at a minimum. If you don't, in early spring thaw the heaving will push the plant up and they don't grow. For keys on planting click on the YouTube [Establishing Winter Triticale Forage.](#)



A Major Advance in Planting: Work by Dr. Singh et al at the University of Michigan found that switching from the controlled dump as most drills operate, to a singulated (precision) drill-like most corn planters are (vacuum planting); had significant benefits to small grain crops. As they found with corn planting, the **variability in depth was decreased by 59%**. The **variable space between seeds** (reduced competition from neighbor plant) was **reduced by 17%**. The **stand establishment was increased 24%** which opens the potential for reducing seeding rate for on-time winter forage planting. **Yield (grain) was increased by 9 – 15%**. In my work, we only had an old drill where we changed to sleeved vs corrugated drop tubes to increase uniformity of stand. Even with this, where we planted the same variety with a precision drill, the next year we had a **22% higher forage yield** than I did with the controlled dump drill. With the movement to more BMR forage sorghum, the **precision planting will have an even greater impact** with that crop as my research has found sorghum species does not like crowding from variable seed dump and responds by falling over. If you are looking at a new drill, I would seriously look at the singulating precision type drills. It worked for corn.



NOTE: RED CLOVER PART 2 WILL BE NEXT MONTH.

Sincerely,

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