



ADVANCED AG SYSTEMS'S

# Crop Soil News

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

**There is a time for every season**  
**Time for fertilizing winter forage**  
**Time for selecting season of corn you'll plant**

## Watch your corn varieties.

Before you take delivery, you may want to rotate out of your longest season corn and into shorter season varieties to bring the **average maturity** of your corn **down** this season.

Graphing the springs over the past 10 years, I found that the earliness of the season is nearly always driven by the weather the second half of March and in April. Unfortunately, the weather forecasts are for this cold centered on the Great Lakes to continue through April. The fact that the Lakes are at near record ice cover will delay warming further into the summer for the regions around the lakes and down wind. More recent forecasts are projecting it into June. Even the three month forecast is for much of the Northeast US and part of Canada to remain below normal.

If this occurs there will not be the rapid early growth we had come to expect the past years. It could knock a significant amount off of the total season heat units for many northern regions before we even think about what kind of summer or fall is in store. IT IS NOT LIKE LAST YEAR in New York where we had record warmth the second half of April and the first half of May. It will be more like what Wisconsin had to deal with, but worse. The weather forecast does **not at this point appear to have any early heat in it**. Having your corn push the season to the maximum as you have been able to do the past several years, may be a prescription for disaster if you lose heat units on the front end and possibly on the back also. I do remember seasons when the Cornell variety corn silage plots were being harvested in early November instead of October as varieties refused to dry down.

Farmers anticipate more yield gain from full season varieties than is actually harvested. You only gain  $\frac{3}{4}$  of a ton of SILAGE (0.26 ton of dm) for every 5 days the season is lengthened (Dr. Cox, Cornell University). Checking replicated Cornell Variety trials, <http://fieldcrops.org/VarietyTrials/Pages/default.aspx> we find that the top early season hybrids are out yielding many of the long season varieties. Dropping 5 or even 10 days from some of the very long maturities will allow better odds for you to harvest proper maturity corn that will crank out the milk next winter as opposed to waiting very late to harvest semi frozen poorly fermented forage. My own work with less than 90 day varieties showed that increasing populations has brought yields up. We increased 1000 plants/acre for every 5 days shorter season with excellent results.

The silver lining in all this is that the cool temperatures should mean very high NDF digestibility for both the winter forages, and the first cutting haycrops. Thus harvesting on

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time with wide swath, same day haylage, to capture the very high digestibility of these forages will gain you considerable energy. I have seen many wide swath same day first cutting cool season forages (alfalfa, clover, grass, triticale) that have energy values equal to that of many corn silage samples. This is a huge energy gain for you to capture in spite of the weather. It is also key to making high forage rations work for you.

### Time for Nitrogen

Replicated research on spring nitrogen for triticale found that a two ton crop of winter forage removes about 100 lbs of N/acre. About 50 lbs of N is needed for each ton of dry matter removed. With much of the triticale planted late last fall, 100 lbs of N plus sulfur will be sufficient for most fields as yields (tiller count) are usually held back in plantings made after September 15 in NY. Preliminary research has found that some fields under certain conditions will give full yield with no additional spring nitrogen. Researchers are looking closely at these fields and I have a replicated research trial on applying nitrogen in the fall to store it in the plant, hopefully reducing the need for spring nitrogen. Until both projects are completed, the suggestion is to apply 100 lbs of nitrogen in early spring. As most farmers are immediately planting another crop after the winter forage, it will pick up any of the nitrogen the winter forage may have missed.

### Don't jump the season

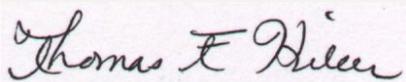
With winter refusing to let go, there may be extensive areas in the newsletter readership, including outside my window, that still have snow on the ground. Applying nitrogen to snow covered ground is a prescription for high losses of your investment and low return on the crop. Losses were as **high as 44%** with an average of 26.3% loss when applied to cold or frozen surfaces, especially if they are high in water and/or **have some snow on them**. Even with temperatures near freezing, the worse cases were frozen soils with a saturated surface. The surface water dissolves the urea and then as the surface dries, the dissolved urea leaves as a gas instead of attaching to the soil. If you get rainfall or snow **after application on non-frozen ground**, the urea has much less loss.

It is highly suggested to add an anti-volatilization agent even under low temperatures in the spring. This will inhibit the urease enzyme from splitting the urea into ammonia that is then could be lost. Treated urea loss was 63% less than the untreated in the same field. An anti-volatilization agent in research kept losses under 10%. With nitrogen running close to \$1 per pound, the addition of an anti-volatilization compound increases the chance of full return on your fertilizer investment.

### Don't Forget Sulfur

There is more to protein than just nitrogen. To get both yield and protein from your forage, sulfur is also needed. With the clean air standards, there is no longer enough sulfur being deposited to meet the needs of the crops we grow. For a field that has not had manure the past year it is highly suggested that sulfur be added. A very effective ratio is 1 lb. of sulfur for every 10 lbs. of nitrogen. Urea mixed with ammonium sulfate will produce a 40-0-0-4S mix. In our work with winter triticale at the Cornell Research Farm, adding urea gave us 14% crude protein. Where we added 13% less nitrogen but had sulfur with it, the winter forage produced 17 – 18% crude protein. This holds true with all cool and warm season grasses, or the winter forage grains such as triticale. The fact sheet at <http://nmsp.cals.cornell.edu/publications/factsheets/factsheet34.pdf> will give you a quick understanding of sulfur in the plants and in the soil.

Sincerely,



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to Better  
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