



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."

Advanced Ag Systems
Research, Education, Consulting

Fertilize Grasses and Winter Triticale NOW!

Yes, the cost of nitrogen is up, but not as much as the cost of soybean meal. Dairy animals need protein, and you can either buy it or grow it. If you check back on the January 2011 newsletter on the web site, you will see that it is cheaper to grow protein in forage, especially with legumes. When we checked in 2001, it was cheaper to grow protein than buy soy. Our recalculation in 2011 shows the same. Keep in mind that the graph presented has all the cost being borne by the protein in the plant. Both legumes and grasses have 85 – 90% of the energy level of corn silage if harvested correctly. This reduces the cost of purchased corn and so makes the protein in the forages even less expensive than from soybean meal. If you don't have legumes, you can still get the protein by fertilizing grasses with nitrogen. For a high yielding crop like **winter triticale** that can give you more milk/ton of dry matter than BMR corn, the 100 lbs/a of nitrogen is critical for high yield. Harvested at flag leaf stage it has not lodged in our plots even when we applied an excessive 200 lbs/a of nitrogen.

Based on recent work we have completed on winter triticale, and work Dr. Ketterings has done (<http://nmsp.cals.cornell.edu> click on factsheets, select #34), you may need to add **sulfur** also. Cornell has found that if you have not added manure within the past two years, the soil could be short on sulfur. In a study we conducted on triticale this past spring, we added 115 lbs/a of N from urea and 100 lbs/a of N from ammonium sulfate. The urea fertilized crop was 11-12% crude protein while the ammonium sulfate fertilized triticale was 16 – 17%. Many grass fields have been top-dressed with urea but no sulfur for a number of years. With the cost of protein up, the sulfur could give you a nice protein return. A good mix for winter triticale is a 40-0-0-4S where there has not been a prior manure application

Research has found that there is significant volitization loss from urea even under cool temperatures. Thus we recommend a half rate of an anti-volitization agent to save the nitrogen for a week or more, until rain can move it into the ground and the to the plant roots.

Manure, spread it like the fertilizer it is!

For those with manure storage and spring application:

As fertilizer prices continue to go up, the use of uniformly spread manure as an economical substitute becomes ever more critical. Under daily spread, 7,000 gal/acre of manure contains plant available **fertilizer that is worth \$167.88/acre**. Immediately incorporating raises that value to **\$200.24/acre**. At a \$32.36/acre benefit of immediately incorporating, it becomes a no brainer for anyone with manure storage to immediately incorporate.

More recent research by Dr. Ketterings at Cornell, found that where manure is spring

applied, immediately shallow incorporated (chisel plow or aeration tillage), there are over 70 lbs/a of available N in the top couple of inches and so there is NO response to added starter nitrogen. Thus on fields testing high in P and K and with spring applied, shallow incorporated manure; farmers have been successfully growing corn with NO starter fertilizer. Replicated research the past two year on a wide range of farms using this system across NY, found no yield reduction by not using starter under these conditions. This both saves money and speeds the planting.

On the flip side, if you haven't soil tested, then you should use starter to cover your bases for a good corn crop. Skipping or guessing is a very expensive management decision that will not give you optimum economic yields as you have no idea what is limiting.

Recently completed research on a number of New York farms over two years, found that simply running an aeration tillage unit after spreading to capture the ammonia, gave the same yield as immediately chisel plowing after manure spreading, yet minimized stone lifting. For those without aeration tillage, set a tandem disk at a nearly straight approach angle for the leading edge of the disk. It will cut in and spray a thin layer of soil over the manure capturing the ammonia fraction for your savings. A disk set this way can be pulled at high speeds and so tends to float out of the ground reducing the effectiveness. Additional weights might have to be added to keep it throwing enough soil for the nitrogen conservation without using more fuel moving excessive amounts of soil.

For those without manure storage with daily spread

The potash in manure is as available as that from fertilizer. Fields with over 20 tons of manure/a or in this case more than 4000/a gallons, have enough potassium to meet the next crops needs. In the graph at the right, the 8,000 gallon/a manure rate supplied more than enough potassium for the crop and to build background levels. Even daily spread manure recycles all of its potassium unless the manure physically washed off the field. Fields that have a history of manure spreading build very high levels and do not need it in the starter.

The same holds true for phosphorous. Work by Dr. Ketterings of Cornell on multiple farms across New York State, found that when you reached medium high or high P levels in your soil test, there is no response to added phosphorous (<http://nmsp.cals.cornell.edu> click on factsheets, select #8). If your P & K levels are high, then there is no economic return by adding more in the starter. A large number of farms with these conditions have switched to 30 lbs of N in the band as starter with very successful results.

If you do not spread your manure uniformly, and/or have no soil test, then you are not in a position to take advantage of these savings. Starter fertilizer then is highly recommended as the cost of guessing would be detrimental to crop yields. Applying 30 lbs of N/a in the starter (2 x 2 spacing) will carry the crop through to side dressing time.

Sincerely,

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Hand
to Better
Agriculture**

