



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."

## Heifer /Close up Cow Specialty Forage. Is Longer Season Corn Really the Answer to Higher Yields?

The Cornell Valatie research farm has 15 different research projects underway. One of these is the expansion of the use of winter forage. We know the flag leaf triticale produces some of the highest quality forage possible on dairy farms. This is the stuff for pushing the peak of early lactation cows so you get more milk all of the lactation. But what about the rest of the animals? What if we got completely blown out by the weather and were not able to harvest until after heading – is it just bedding?

An option that is getting more attention from dairy farms is to produce forage specifically for **young stock or dry cows**. Late milk or early soft dough is a forage that can be directly mowed and immediately chopped as it does not need to be dried down. Forage analysis showed a feed that "Late boot through late milk stage is intermediate on protein; moderate in energy, a digestibility that will not inhibit intake, for good heifer growth without the heifers getting fat." (Dr. Charles Sniffin, FenCrest LLC)

Our concern was that it may be getting a little dry for silage at soft dough, and that it is slightly short on protein for growing heifers. In an effort to correct this, we planted winter triticale and red clover the last week in August (after Sept 1 red clover does not work). The following spring we added 40 lbs/a of nitrogen and then harvested at late milk/early soft dough stage of both triticale and triticale with red clover. In our trial in 2012, this produced **16.65 tons/a** of 35% dry matter material in the **triticale alone**. For the mix stand, red clover was in full bloom. We increased the yield almost 30% with the **addition of clover to 21.3 tons/a of silage**. With both harvests taken on the 15<sup>th</sup> of June, another crop could be grown, or in our



Late milk triticale on left yielded 16.65 ton/a while a mix of red clover and triticale on right yielded 21.3 ton/a. Both were direct harvested June 15

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	Dry Matter	Crude Protein	ADF	NDF	TDN	K	lignin	starch	IVTD 30	NDFD 30	kd%/hr	simple sugars
red clover & triticale	30.28	9.08	37.13	61.90	63.75	1.34	5.3	5.93	72.00	54.75	4.74	9.68
triticale	35.73	6.68	38.80	68.23	60.50	1.13	4.95	4.45	66.75	51.50	3.93	9.95

case, to get another two cuttings of red clover haylage during the summer. We were successful at increasing the moisture (still no need for dry down); while increasing the protein and the digestible energy. If the triticale is grown **with NO manure** as was in this case, the potassium levels were 1.34% for the triticale and clover and 1.13% for just the triticale alone. This puts the crop within the levels for a dry cow forage that as excellent effective fiber, yet digestible energy and protein to meet her needs. Manured fields would be several multiples of this K level and not be good for dry cows. We will continue to conduct research on this area as another tool to put into the dairy farmers forage tool box.

## Is Longer Season Corn the Answer To High Yields?

Considerable amount of our research has shown that planting between the 1<sup>st</sup> and the 15<sup>th</sup> of September in the Albany NY area is critical for optimizing winter forage (triticale) yields the next spring. This raises a concern with farmers who have been ingrained with the idea that longer season corns ALWAYS gives more yield. Anything shorter than what they used to grow, in order to meet the planting schedule for winter forage, would appear to be a net loss.

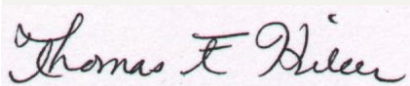
Fortunately we have multiple years of research at Cornell by Dr. Cox and Dr. Cherney on silage yields in NY. Dr. Cox states that on an **AVERAGE**, there is  $\frac{3}{4}$  a ton of 35% dry matter silage lost for every 5 day shorter variety you grow. This does NOT occur every year, but on average. Some years shorter season is equal or better and long season is stuck out there until November waiting to dry down. Some years dry spells nail the short season corn but late rains give good yields to longer season corn.

Using this average, if we switch from a 105 day corn to an 85 day, we are on average losing 3 tons corn silage/acre. 3 ton/acre loss x 35% dry matter equals 1.05 Ton DM/A lost from shorter season corn. 1.05 ton of DM/A lost x 3,700 lbs of milk potential/ton (assuming a good corn silage), this **equals 3,780 lbs of milk lost/acre from the shorter season corn.**

Planting winter forage within the Sept 1 – Sept 15 optimum window and with 40 – 60 lbs of N at planting plus spring topdress, we normally get **6 – 12 Tons of winter forage/A**. This equals 2 - 4.2 tons of DM/A; which @ 4,200 lb milk potential/ton DM = **8,400 – 17,640 lb. milk /A gain from winter forage** to replace the 3,780 lbs of milk/a loss from shorter season corn.

This puts winter forage in a whole new light; especially for soils that are usually wet in late fall and early spring. Yes, one year in five the long season might give you a good crop (especially in a dry year), but for increased yield and quality over all five of those years, winter forage – shorter summer annual is a net gain. The down side is that this is messing up the corn breeders more than we messed up the machinery companies with wide swath. It is difficult to breed short season corn with good digestibility and not have very high flint type kernels that prevent the more complete digestion of the grain. Fortunately, there are several companies that have recognized the potential of double cropping in the north and have lines well along to being released to meet your needs. There are also short season sorghum species coming in the pipeline to meet your needs.

Sincerely,



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