

## THE MANAGER

## FORAGE MANAGEMENT

By Quirine Ketterings, Tom Kilcer, Shona Ort, Karl Czymmek

Winter small grains are easy to grow and when harvested for forage in spring (1) make excellent feed and can provide a significant boost to forage inventories. Growing these crops also (2) conserves soil and nutrients and (3) improves soil quality by providing living roots that support soil life through the winter and by leaving stubble and root residue as sources of fresh organic matter and carbon.

# Double cropping winter cereals yields triple bottom line

As drought, a growing herd or increased grain production have whittled into forage supplies over the last few years, many dairies are looking for ways to build inventory without adding acreage. Some farmers are taking advantage of winter grains for spring harvest before corn planting. Properly managed, these crops can supply 2 to 4 tons of dry matter per acre (*Table 1*), and in some New York State fields in 2012 we measured up to 5 tons of dry matter of high quality forage from small grains planted after corn silage, even with little growth in the fall.

## Crop:

The main options are winter wheat, cereal rye or winter triticale. In 2011, we measured yields on all three species in a trial at the Valatie Research Farm in Eastern NY and the yield results for all three crops were very similar (2.31, 1.92, and 1.96 tons DM/acre for rye, triticale and wheat, respectively, sampled at optimal harvest time for forage). The data for 2012 are shown in *Table 2*. Triticale yielded

between rye (highest biomass) and wheat (lowest biomass) consistently in both years. Triticale is very resistant to lodging when harvested for forage and tends to have the best nutrition profile of the three crops.

## Planting:

Winter grains are very well suited to no-till and will do nicely with a coat of manure applied after corn silage. Planting with a grain drill or air seeder is the best option to assure a good stand and to maximize value from certified seed. The crop should be planted as soon after corn silage as possible, ideally, mid-late September. The comparison at the Valatie Research Farm suggest that earlier planting produces significantly higher biomass in the fall, followed by high forage yields in the spring. However, all cereals produced more than 2.5 tons/acre DM (more than 7 tons/acre at 35%DM) even when seeded in October



**Figure 1:** A late planted crop can still generate high quality and high yielding forage in the spring. The pictures show triticale at one of the western NY sites in fall of 2011 (left; 0.2 tons DM/acre December 14, 2011) and at harvest time (right; 2.0 tons DM/acre May 11, 2012).



## FYI

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and with very little fall biomass production (*Table 2*). In our northern climate, for later plantings it is critical that the seed is placed 1 to 1.5 inches deep to prevent spring heaving from decimating the stand.

**Table 1:** For a general idea of potential crop yield, see the yield range of various plots of fall and spring for winter cereals seeded in fall 2011 at several locations across New York State.

Cover Crop Species (# fields)	Previous Crop	Planting Date	Fall Above Ground Biomass ton/acre	Spring Harvest Date	Spring Above Ground Biomass ton/acre
Rye (3)	Corn	9/23 to 10/8/11	0.10	5/16 and 5/17/12	2.14
Triticale (8)	Corn	9/12 to 9/23/11	0.33	5/4/12 and 5/7/12	2.03
Wheat (3)	Corn	10/12/11	0.32	5/17/12 and 6/2/12	3.78

### Fertilization:

Fields with a manure history and a coat of manure applied after corn silage before, with, or shortly after planting will not need any starter fertilizer in most circumstances. For optimum yield, the crop could need some available N (supplied by fertilizer – e.g. UAN or urea) when dormancy breaks in the spring. We have seen applications in the range of 50 to 100 pounds of actual N work well. We will do more testing to hone in on a spring N guideline.

### Harvest:

Flag leaf stage supports very high milk production with good yields. More biomass will be added through early head emergence, so harvest timing will depend on farm goals and weather conditions.

**Table 2:** Yield for fall-seeded winter cereals grown as cover/double crop at the Valatie Research Farm with and without supplemental N. The plots shown here have not had manure in decades. Seeding took place 10/5/2012 or 9/16/2012. The above ground biomass was harvested 5/2/2012.

Cover Crop Species	Planting Date	Fall Above Ground Biomass Tons DM/acre	N at Greenup	Spring Above Ground Biomass Tons DM/acre
Rye	10/5/2011	0.13	No N	3.72
Rye	10/5/2011	0.13	40-0-0-4S	3.90
Wheat	10/5/2011	0.06	No N	2.63
Wheat	10/5/2011	0.06	40-0-0-4S	3.36
Triticale	10/5/2011	0.06	No N	3.05
Triticale	10/5/2011	0.06	40-0-0-4S	3.77
Triticale	9/16/2011*	1.06	40-0-0-4S	4.94

\*The September seeding of triticale received 150 lbs of 19-19-19 at planting.

Mapleview Dairy in Madrid, NY and McKnight's River Breeze Farm in Waddington, NY use cover crops as highly digestible forage for cows and to prevent erosion.

# Cover crops on northern New York farms

By Julie Berry

Two northern New York farms use triticale as a cover crop and a highly digestible forage for cows.

Travis McKnight, McKnight's River Breeze Farm, in Waddington, NY began planting cover crops in 2010 and now harvests 300 acres of triticale and 100 acres of winter rye. David Fisher, Mapleview Dairy, in Madrid, NY harvested 150 acres in 2012 and has 300 acres planted for 2013.

Both farmers plant cover crops after corn harvest in late August/early September and harvest around May 20.

"It's hectic. What's one more thing," Fisher said. "It's a nice digestible forage if you can get it when you need to. If you miss by a few days, you have heifer instead of cow feed. That's the risk. It also yields well for straw. It's not a total disaster if you have to let it go."

So far spring conditions have allowed for harvest during the five day optimal window, McKnight said. McKnight has begun harvesting first cutting hay earlier for the 1,100 milking cow dairy, so haying is nearly complete around May 20 when triticale is ready for harvest. Triticale dries slower than hay, he said, so they stop first-cutting to chop and merge

triticale.

"We're harvesting 1,000 acres of grass, so it's not much to add," McKnight said. "We haven't had a spring too wet to harvest, but we would use it for heifer feed. It's too expensive to plow down. We grow triticale mostly to maximize our ground the best we can and to get another high quality forage. We also use it to help with erosion. This allows us to get something off with feed."

Fisher and McKnight agree that triticale is a high quality forage. Fisher said protein is 18.5 percent and McKnight said it feeds similar to alfalfa and is also a high yield crop.

Ideal planting time for both farms is mid-September, although McKnight said he has successfully

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## FYI

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