



Winter Triticale Forage

Winter triticale does double duty as a cover crop while producing high-quality forage (2 to 4 ton/acre dry matter harvested at flag leaf stage). Winter triticale for forage has several benefits: (1) early harvest allows for double cropping with short season corn, teff, soybeans, or sorghum x sudangrass; (2) the ground coverage in the fall and spring protects highly erodable land (HEL) and results in take-up of nutrients that otherwise might be lost to the environment; (3) when harvested at pollination will produce 25 to 30% more straw yield than rye; (4) red clover can be planted when triticale is seeded (if planted before September 5 in New York) or frost seeded; (5) establishment in August and harvest in May allows for manure spreading outside of the regular growing season and under conditions that are more favorable for manure spreading.

In this fact sheet, we present guidance on planting, fertilizer use, harvest and feed management of winter triticale harvested for forage.

Planting

A firm, well-prepared seedbed will maximize seeding success. No-till seeding into crop residues is possible if proper seeding depth and good soil-to-seed contact are achieved.

The colder the climate the earlier triticale should be planted. Recommended planting date in New York is late August or early September. Shallow or late-planted seed will have a small root system that spring-heaves and "winterkills". The later triticale is planted, the less time for tillering in the fall, and the lower the yield next spring (Figure 1).

It is recommended to drill seed 1 1/4 – 1 1/2 inches deep at a rate of 100 to 125 lbs/acre. Uniform seed depth is important for optimal stand and yield.

Fertilizer

A 2 ton crop with 14% CP removes 90 lbs of N per acre, in addition to 30 lbs of P₂O₅, and 155 lbs of K₂O (double amounts for a 4 ton yield). For optimal management, band-apply 20 lbs of

N/acre at seeding and use P and K according to the soil test results. Cornell phosphorus guidelines for triticale, based on the Cornell Morgan soil test, are listed in Table 1.

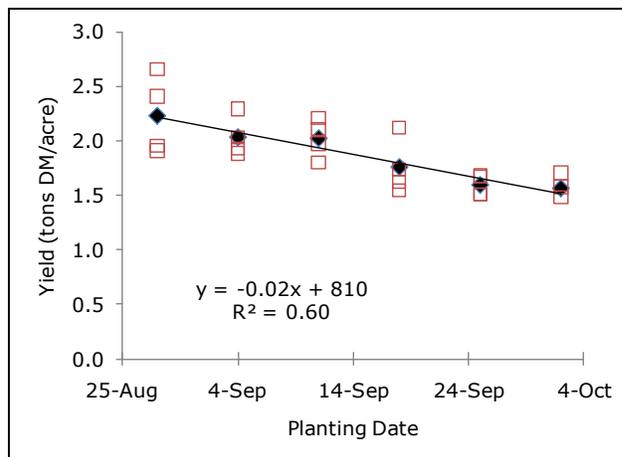


Figure 1: Effect of timing of planting on percent yield loss.

Table 1: Phosphorus guidelines for triticale.

Morgan soil test P (STP) lbs/acre	P recommended lbs P ₂ O ₅ /acre
50 or greater	0
40 or more but less than 50	10
30 or more but less than 40	20
20 or more but less than 30	30
10 or more but less than 20	40
Less than 10	85 – (5*STP)

To determine the K recommendations use the Cornell Morgan soil test K (lbs K/acre) and the following equation:

$$K \text{ (lbs K}_2\text{O/acre)} = (110 - \text{STK}) * 0.70$$

So, if the soil test is 53 lbs/acre Morgan K, the recommended amount of K₂O for triticale is (110-53)*0.70=40 lbs K₂O per acre.

Additional work need to be done but findings to date indicate that too much fall-applied N produces excess growth and makes the crop susceptible to snow mold. Therefore, it is recommended to apply 100 lbs of N per acre in early spring. Spring-applied manure

can be used to supply half of the N needed in the spring (and all the P and K) but commercial N fertilizer (50 lbs N per acre) remains critical because of more rapid N availability in the colder months. Applications should occur soon after green-up.

Pest Management

Geese will turn fields to bare soil if given the opportunity. Coyote or fox decoys can repel them. Deer will feed on triticale, and Hessian flies are known to cause minor damage in early fall plantings as well. The crop is harvested before other pests can do much damage so winter triticale is relatively easy to manage.

Harvest

To obtain high energy levels, harvest at stage 9 when the flag leaf is fully emerged but no heads are visible (Figure 2). Across the farm, for optimal forage quality cut triticale first, then follow with cool season grasses, alfalfa grass mixes, and clear alfalfa.



Figure 2: Harvest at stage 9 (flag leaf stage) for optimal feed quality.

If harvested at flag leaf stage, triticale can yield 2-4 tons of dry matter per acre. Winter

triticale can be fall/spring grazed, ensiled in a bunk silo, or baled.

Forage must be dried to proper levels for optimal fermentation. Mowing a full-width swath (like dry hay) is recommended. Conditioning is not needed. Opening the conditioner to allow the triticale to exit freely leaves a loose porous swath that dries faster. As soon as the top layer turns gray, tedd to expose the lower layers. If the mower does not leave a swath 80% of cutter bar width or more, tedd soon after mowing to get full spread. Ensiling should occur the same day as mowing because most of the nutrients are in rapidly metabolized sugar form that degrade quickly and reduce feed value. On a normal drying day, same-day haylage can be made but it will require tedding to speed up drying. Allowing a narrow swath to sit on the field for 2-3 days will result in poorly fermented, high-butyric, low-sugar, mediocre silage.

Feeding Management

The neutral detergent fiber (NDF) content of the forage can be high but the NDF is usually highly digestible. Properly ensiled haylage is high in sugar content and will be eaten rapidly by cows. It is recommended to base the ration on wet chemistry.

Additional Resources

- 2011 Cornell Guide for Integrated Field Crops Management. Electronically accessible at: <http://ipmguidelines.org/Fieldcrops/>.

Disclaimer

This fact sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

For more information



Cornell University
Cooperative Extension

Nutrient Management Spear Program
<http://nmsp.cals.cornell.edu>

Tom Kilcer, Jerry Cherney, Karl Czymmek, Quirine Ketterings

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