



## CROP ALERT

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### Evaluating Alfalfa and Small Grains for Winter Injury

The combination of extremely cold weather and bare ground across northwestern NY has many farmers and consultants concerned about winter injury to their alfalfa (*Figure 1*) and small grain (*Figure 2*) crops. As the snow melts in the next couple of weeks it will be important to get out into the field and check on these crops. A detailed discussion of the factors that influence the chances of winter injury are available online for [alfalfa](#) and [small grains](#).

*Figure 1: Winter Damaged Alfalfa*



Source: [Alfalfa Management Guide](#), page 15.

*Figure 2: Dead, Damaged, & Healthy Crowns of Winter Wheat*



Source: [Washington State University](#)

### Handy Bt Trait Table

Not sure about which insects your Bt trait is rated to control? Have questions about what refuge requirement is appropriate for your Bt corn variety? Wondering what herbicide tolerances are associated with different Bt hybrids? Check out the "[Handy Bt Trait Table](#)" authored by Chris DiFonzo of Michigan State University and Eileen Cullen of University of Wisconsin.

### Early Season Small Grain Nitrogen Management

**Wheat** Early season applications of nitrogen on small grains will begin in the coming weeks across northwestern NY. The amount of nitrogen fertilizer needed will depend on tiller counts in wheat fields. Wheat fields with lower tiller counts will require higher nitrogen rates early in the season (*Table 1*), while fields with higher tiller counts should have more of

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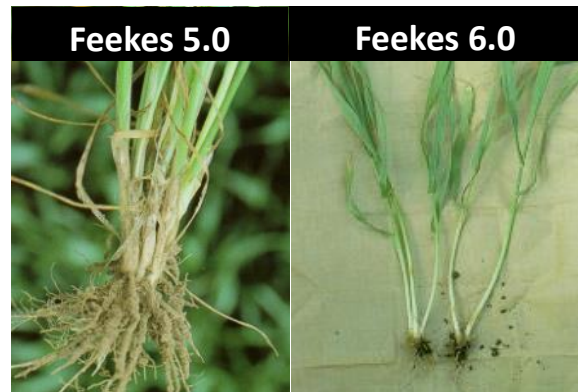
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their nitrogen applied later in the season just prior to the first node appearing at Feekes 5.0-6.0 (Figure 3). See Mike's March 2014 Ag Focus article for more information on "[Early Season Wheat Management Tips](#)."

Table 1: Early Wheat Nitrogen Using Tiller Count

Tillers/square yard	Nitrogen at green up
<300	60 lb./A
450-600	45 lb./A
>700	30 lb./A

Figure 3: Winter Wheat Stages for Second Nitrogen Application



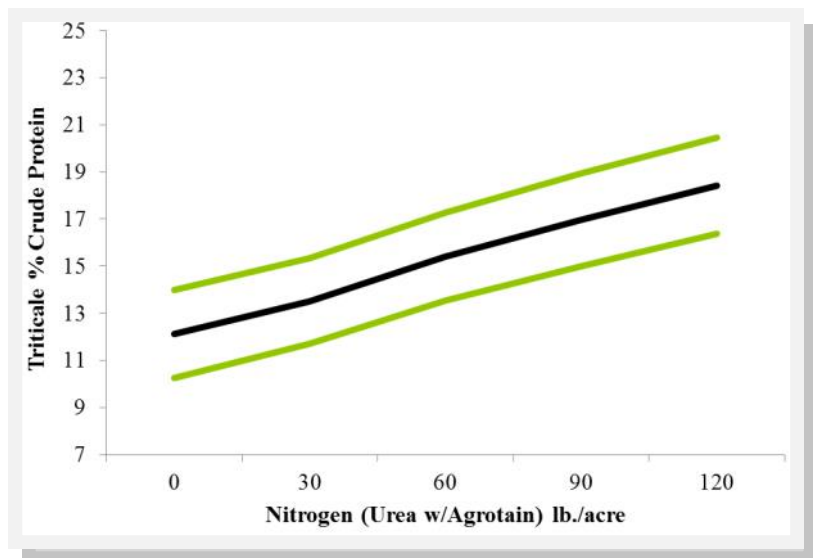
Source: [Growth Stages of Wheat](#)

**Small Grain Silage** In 2013 a large scale study of nitrogen rates on 44 NY farm locations growing small grain (mostly winter triticale) silage found that about 1/3 of the fields did not respond to nitrogen fertilizer. Preliminary analyses are

indicating that these fields may have a long history of manure applications, but additional work is being conducted in 2014 to examine other factors as well. Currently we are still recommending to apply 20-30 lb./acre of nitrogen to winter triticale (and other small grain) silage fields with manure histories. Just over 40% of the fields had yield responses at high nitrogen rates (~75 to 120 lb./acre) in the 2013 trial. However with the current prices of nitrogen (\$0.80 to \$1.20 per lb. of N) it will likely not be profitable to apply more than 50-60 lb./acre of nitrogen to winter triticale silage fields. Applying nitrogen will increase winter triticale silage crude protein by ~1% for every 18-20 lb./acre of nitrogen applied (Figure 4). Most of the

fields tested in the 2013 trial had CP in the ranges depicted by the green lines in Figure 4, with the black line being the overall average. It is possible to achieve nearly 20% CP with small grain silage, however it will come at a higher nitrogen fertilizer input cost. Anecdotal observations from 2013 indicate that applying the nitrogen earlier in the spring is better than later for small grain silages. Agrotain-treated urea performed very well in the 2013 trial and on commercial fields.

Figure 4: Response of Winter Triticale Crude Protein to Nitrogen Fertilizer



**Malting Barley** Lower rates of nitrogen must be applied to malting barley fields to keep the CP ≤12% and the kernel plumpness high. Apply 40-60 lb./acre of nitrogen as early as possible to malting barley fields. Use the lower rate for varieties that tend to lodge more easily (i.e. Conlon). For more information on malting barley production see the [Malting Barley](#) page on our website.

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