

CROP UPDATE

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Covering the Iowa counties of Cedar, Clinton, Delaware, Des Moines, Dubuque, Henry, Jackson, Lee, Louisa, Muscatine, and Scott.

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CHECK ALFALFA STANDS

I am receiving many calls regarding winter injury to alfalfa stands and have been in several fields where the number of healthy plants are few to practically none. Older stands, stands that were harvested between mid-September and late October, and freeze-down harvests with minimal stubble appear to be the worst. In many fields, it is obvious where the snow drifted the most, providing insulation and protection, as those are the greenest parts of the field.

Each field should be evaluated if it has not been already. There are many other management factors that can add to or protect from stresses contributing to winter injury:

- (1) proper soil pH and fertility levels
- (2) variety winter hardiness
- (3) disease resistance package
- (4) soil drainage
- (5) age of stand
- (6) intensity and timeliness of cutting schedule
- (7) timely pest control (*i.e.* Potato leafhopper)
- (8) wheel traffic; and
- (9) leaving more than 6 inches stubble in fall.

Factors we have no control over include temperature and moisture. Regarding moisture, alfalfa does not harden-up into winter near as well with a wet fall compared to a dry fall. This last factor put overwintering alfalfa at some risk. Adding too much stress from one or more of the other factors listed above could cause winter injury at varying degrees and areas in fields.

It's easier to assess plant symmetry during early growth, and if the stand is poor, a more timely decision can be made for establishing a replacement stand.

Observation	Condition	Action
At green-up		
Large dead areas		Plan to rotate.
Small dead areas	Some stand loss	Consider reseeding small areas.
Random injury of a few plants or very small areas	Some stand loss	Consider stand as a whole <ul style="list-style-type: none"> • if it's too thin to keep - rotate • if unsure - recheck in 2 weeks
General plant health appears normal	Little to no damage observed	Recheck in 2 weeks to be sure
Recommended plant counts per square foot		
	Full alfalfa stand	Alfalfa-grass mix
Seeding year	>20 plants in fall	>12 plants in fall
1 st production year	>12 plants in spring	>8 plants in spring
2 nd production year	>8 plants in spring	>6 plants in spring
3 rd production year	>5 plants in spring	>4 plants in spring
4 th production year+	>4 plants in spring	>3 plants in spring
At 3-inch growth		
Damaged areas larger; plant health deteriorating	Stand is getting worse	Is stand adequate? <ul style="list-style-type: none"> • No, rotate. • Yes/maybe, recheck in 2 weeks.
General plant health normal or improving	Little or no damage	Plan for normal harvest.
At 6-inch regrowth		
Plant growth is far enough along for the stem-count evaluation method.	>55 stems per sq. ft.	Plan for 100% normal season yield.
	55-40 stems per sq. ft.	Expect 0 to 30% season yield reduction.
	<40 stems per sq. ft.	Consider rotating unless grass mix is present; if so, fertilize with N to encourage the grass.

Two nice reference to have for alfalfa stand evaluations are "Evaluating Hay and Pasture Stands for Winter Injury " <https://store.extension.iastate.edu/product/4781> and "Alfalfa stand assessment: Is this stand good enough to keep?" <http://learningstore.uwex.edu/assets/pdfs/A3620.pdf>.

In addition, Brian Lang, Extension Field Agronomist in northeast Iowa, wrote a good article at <https://crops.extension.iastate.edu/cropnews/2019/03/alfalfa-winter-survival-complicated-subject>.

Dr. Steve Barnhart, ISU Extension Forage Specialist Emeritus, posted basic information on stand evaluation of alfalfa and other forages at: <https://crops.extension.iastate.edu/cropnews/2013/03/evaluate-forage-stands-winter-injury>; the article is six years old but is still appropriate. It also includes links to other forage references.

SEEDING FORAGES AND WATERWAYS

In general, try to complete seeding of cool season forage grasses and legumes before May 1 as seeding after May 1 increases the likelihood that seeds will germinate but less frequent rainfall will allow the soil to dry out before roots are deep enough to reach moist soil, killing the seedlings.

YIELD POTENTIAL FOR SMALL GRAINS DECLINES AFTER ABOUT APRIL 15

For those who may not have their spring seeding of small grains done yet, potential yields decline for both oats and wheat about 10% per week for each week planting is delayed after April 15, and an additional 15% per week if planting is delayed beyond May 1. See Chapter 4 of the [Illinois Agronomy Handbook, beginning on the page numbered 43 \(spring wheat\) and 44 \(oats\)](#), for more details.

SPRING FIELDWORK CONSIDERATIONS

Planter Maintenance

Be sure to take time before and during planting to adjust, monitor, and re-adjust your planter as soil conditions vary. Mark Hanna, Extension Agricultural and Biosystems Engineer emeritus, wrote a good article at: <https://crops.extension.iastate.edu/cropnews/2019/04/planter-maintenance-tips-2019>. Planting errors haunt all season, so taking time to closely monitor and adjust is time well spent.

Managing Winter Annual Weeds

Winter annual weeds like field pennycress, chickweed, horseweed/marestail will resume growth with the warmer temperatures. These can be especially problematic in no-till fields. A burndown treatment can help increase the consistency of control of these weeds and help with starting off with a clean field for crop planting.

Effective burndown treatments should follow herbicide label suggestions for carrier type, carrier volume, nozzle type, and environmental considerations. Treatments made on sunny days with warm daytime (>55F) and nighttime (>40F) temperatures will generally be more successful than those in cooler conditions. Read more on this topic [here](#).

Nitrogen Management Considerations for Spring 2019

With a late harvest, not much anhydrous ammonia got applied last fall, leaving a considerable amount to be applied this spring. Check out this article "[Anhydrous Ammonia Application -- Spring 2019](#)" for thoughts on what should be considered if we have a tight window of time between ammonia application and corn planting. Also, check this related article "[Understanding Anhydrous Ammonia Application in the Soil](#)" that walks through the different physical and chemical reactions that take place following anhydrous ammonia injection as well as this article "[Equipment Considerations for Anhydrous Ammonia Application](#)."

If you are applying anhydrous ammonia this spring, don't forget to put safety first. [Here are some good safety reminders](#).

Managing wet field conditions this spring

Soil moisture conditions across the state are in the [95th to 99th percentile](#). There is a probability for wetter than average field conditions this spring, which could create some challenges in getting field work done. Check out this article "[Spring planting and wet soil management](#)" for ideas on how to manage the wet soil conditions in fields this spring.

CALENDAR ITEMS

Spring Field Day - Southeast Research and Demonstration Farm

1:00 p.m., Thursday, June 20, 2018

Crawfordsville, IA

In addition, training for Certified Crop Advisors will be conducted, beginning at 9:00 a.m.

Details will appear at: <http://www.extension.iastate.edu/Pages/eccrops/meetserc.html>.

Spring Field Day - Northeast Research and Demonstration Farm

TBA

Nashua, IA

Details will appear at: <http://www.extension.iastate.edu/Pages/eccrops/meetnerf.html>.