

Frost Damaged Alfalfa

Recent cold temperatures have many producers asking questions about their alfalfa crop development. The very warm March conditions produced unprecedented early spring alfalfa growth, in the upper Midwest.

1. Field evaluation is necessary to determine how vulnerable early alfalfa growth was to frost. If frosted, how will it affect our production and stands for the rest of year? What are my options if I have stand loss? If frost damage is present, should I cut it?

Action: Review with growers the recent growth following the frost event. Compare fields and varieties. Review how low fertility, or thin stands are especially vulnerable to frost.



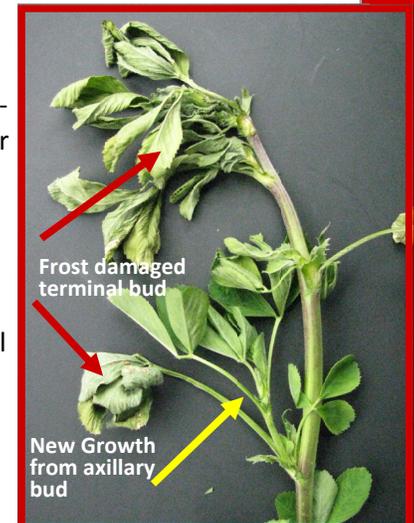
2. Early spring alfalfa growth can be held in suspension for a period of time. Several nights of cold snap or “refrigerator” like temperatures are tolerable to 1st crop alfalfa. The cold tolerance compounds that protect the alfalfa roots and shoots during winter months remain present in stems, leaves and terminal bud. However, these compounds begin to dilute as alfalfa grows into first crop maturity. Temperatures of 25-28 degrees F can freeze the leaf margins (note photo on left, white spots on leaves) of alfalfa but will rarely freeze the stem and growing points. Prolonged cold temperatures may damage the terminal growing points and upper stem.

Action: Assure growers alfalfa will tolerate several nights of slightly below freezing temperatures. Some leaf loss is tolerable to the plant. Show the leaf margin damage, “crispy” dead leaves, stems and terminal growing point. Show healthy or damaged growing points to producer. Also point out lower growing points (axillary buds) at each leaf axil.

3. If terminal growing point is damaged the axillary bud will take over as main growing point. It may require 2-3 days of “wait and see” back to normal temperatures to evaluate frost damage to terminal bud in this case. This damage is similar to a grazing event or hail event taking out the top of the alfalfa plant. Recovery from frost damage at this stage becomes dependent on the root reserve to promote new growth.

Action: Dig roots and show producer the difference between growth on healthy crowns and weak crowns. Discuss healthy, dense, well fertilized alfalfa stands will usually recover more quickly from frost injury.

4. Older stands with less than healthy crowns, will not produce well following frost damage, this can be fatal to these plants. Cutting frost damaged alfalfa that is 12-14 inches tall or less is damaging or even fatal to the alfalfa.



Action: Discuss with grower the risk of depending on production from weak, older stands that were injured from frost. New seeding alfalfa in mid-April to early-May may be the best option in this case. Genuity® Roundup Ready® alfalfa can offer high quality forage in 60-70 days. 🍀



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