Management of Spring-Frosted Alfalfa

posted 3/07

Several reports of alfalfa fields exposed to 20 to 26oF air temperature have occurred. Whether this will kill the alfalfa or not depends on many factors including the maturity of the alfalfa, duration of the freezing temperature, soil water level, etc., but generally it takes the colder temperature to kill an alfalfa stem. I have seen alfalfa survive a 14oF frost with less than 30% stem kill here on the campus and more mature stems killed at 25oF.

When frost occurs, wait until the air temperature recovers, generally that same afternoon. A hard frost will cause the alfalfa stems to either “shepherd hook” or act as a lazy stem. If after a warming period the stems straighten back up, the stem is uninjured and will resume growth as if no frost had occurred.

If the stem does not straighten up following a frost, it has been killed and will start to dry out. The frost may also cause alfalfa nearing harvest to turn a whitish color. If the stem is killed or whitened, pure alfalfa stands should be harvested assuming enough growth has occurred to justify a harvest. If the alfalfa growth is too short to justify a harvest (less than eight inches), nothing needs be done. The alfalfa will recover from the crown or active axillary buds on the lower portion of the plant. Do not recommend to clip the alfalfa. Clipping will not hurt the plant, but it will not help it either.

If the stand is a grass-alfalfa mixture, the decision to harvest must be based on the percent of dry matter coming from alfalfa. If the alfalfa component is less than 30%, wait for the proper stage for the grass and disregard the alfalfa. If the alfalfa component is greater the 50% and some stems (say 30 to 40%) are uninjured, I would also wait for the grass. If alfalfa is the dominate component, then handle like an alfalfa field.

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