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Some Producers are Now Discovering Winter-Injured Hay Fields

By Stephen K. Barnhart, Department of Agronomy

Some producers apparently made their spring hay field winter injury assessment from afar because now they are finding that their hay fields are coming up short on stand density and hay yields.

The factor most common to these winter damaged fields is that they are three years or older in age. By the plants per square foot method, alfalfa stands of this age with less than four plants per square foot are considered to have yield limitation due to low stand density.

The other method for assessing stand adequacy for yield, for fields of any age, is the stems per square foot method. An average of more than 55 stems per square foot indicates that the stand is at full production potential. If stem counts average 40 to 55 stems per square feet, the stand will likely produce less than full yields. Fewer than 40 stems per square foot indicates a stand with low, noneconomic yield potential.

With both methods make stand counts in several places in each field. While making stem or plant counts, dig representative plants and evaluate the health of crowns and taproots. Severely diseased taproots are another indication that stand productivity is declining. ISU Extension bulletin [Evaluating Hay and Pasture Stands for Winter Injury](#) (PM 1362) provides more information on stand assessment.

Producers with low yield potential have several management alternatives:

- Continue to harvest the low producing stand, and plan for either a new late-summer or spring forage seeding.

- Attempt to thicken the existing stand with perennial forage grasses or legumes. New alfalfa into a thin, existing alfalfa stand is not recommended. Over seeding (best with a no-till drill) red clover or a perennial forage grass will not contribute much to this season's yield, but should improve production from the field next year.

- Drill in a temporary forage supplement such as oats, spring wheat or barley into the existing stand. These 'cool-season' cereals would grow quickly, but will probably head at a short height and provide only one growth cycle. By delaying harvest, seed stems will add to yield, but will likely reduce palatability and feeding value.

Drill annual ryegrass, also called Italian ryegrass, or perennial ryegrass into the existing thin stand. Note that these are not the same as cereal rye or grain rye used as an overwintering cover or forage crop. The ryegrasses have relatively rapid seedling emergence and growth, and will add modestly to forage yield for the remainder of the season. They can have a summer dormancy limitation during hot, dry summers, and should not be considered to be long-term components in the stand due to relatively poor winter hardiness.

- Plant a supplemental or emergency warm-season summer annual grass

such as Sudangrass, or one of the annual forage millets in another field. See the 2008 [ICM Newsletter article on annual or alternative forages](#) for more details on these emergency summer annual grass choices.

- A last consideration, and it should be considered as a 'least tested (in Iowa) choice, is planting teff or "summer lovegrass". Teff is a warm-season, annual grass of African origin that has grown reasonably well in some Midwest U.S. locations. It establishes relatively quickly, with its first harvest in about 45 to 50 days. If planted in early June, it should produce two or three cuttings through the remainder of the growing season. It has very small seeds and must be planted very shallowly (1/8 to 1/4 inch) in a very firm seedbed. Seed sources are limited.

Regardless of the short-term management option chosen, plans should be made to establish either a new late-summer or spring forage seeding.

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