

UNIVERSITY OF MAINE
COOPERATIVE EXTENSION

DAIRY AND LIVESTOCK MANAGEMENT FACT SHEET

Alfalfa Winterkill and Forage Options for 1992

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The severity of the last two winters has wiped out a lot of alfalfa stands in Maine. For dairy farmers in particular where alfalfa is a critical component of the ration, I have had many questions about seeding alfalfa after alfalfa, minimizing the potential for alfalfa winterkill, and forage options for 1992.

IDENTIFYING WINTERKILLED ALFALFA

In many cases, winterkilled alfalfa may be painfully obvious; the entire field is dead. In other cases, hay fields may be a mixture of winterkilled and winter-injured plants, which are slow to start growth in the spring. To tell the difference between the two, you should dig up some plants. The roots of the dead plants will be soft, mushy, and brown or yellow. The injured plants will usually still have an active taproot, which is firm and whitish in color. If more than fifty percent of the plants are dead, re-seeding is probably necessary. If between twenty-five and fifty percent of the plants are dead, you could re-seed now or wait a year to see if the stand is acceptable.

SEEDING ALFALFA AFTER ALFALFA

Most of you have heard that there are problems with seeding alfalfa after alfalfa, but there is considerable misunderstanding about alfalfa "autotoxicity". If a new alfalfa seeding is done immediately after destroying an old stand, chemicals are produced in the soil that harm the new seeding. However, this effect is short-lived. Michigan State University's Dr. Mike Tesar, who has conducted a number of research

trials on alfalfa autotoxicity, makes the following recommendations:

1. If the old stand is plowed, wait fourteen days before seeding new stand.
2. If the old stand is burned down with Roundup or paraquat for no-till seeding, wait 21 days before seeding new stand.

If the old stand is only partially winterkilled for example, reduced by seventy-five percent, I would recommend waiting the fourteen or twenty-one days, depending on the seeding method. This is necessary because there are enough live plants plowed under to cause the autotoxic effect. There is little information on reseeding when the stand is completely winterkilled; a good compromise would be waiting for seven days after tillage to reseed.

MINIMIZING THE POTENTIAL FOR ALFALFA WINTERKILL

The problem we face here is that alfalfa is not particularly well-adapted to conditions in Maine, especially soils that are moderately well drained or poorly drained. In addition, the extremely cold soil temperatures during open winters kills the alfalfa crown. There are several practices that may help reduce the chance of winterkill. Keep in mind that none of them is very effective if there is heavy ice cover!

1. Selecting alfalfa varieties based on winterhardiness and disease resistance. Alfalfa used in Maine

should be rated as “very winterhardy” or moderately winterhardy.” These may also be given as Fall Dormancy Ratings of two and three. Although we don’t have a big alfalfa disease problem Maine, phytophthera root rot (PRR) may be a problem on poorly drained soils. Contact me if you need information on alfalfa varieties.

2. Maintaining soil fertility. Anything that weakens the alfalfa plant, including low soil pH, increases the potential for winterkill. Soil potassium (k) and phosphorous (p) levels should be maintained according to soil test; K is very important to the plant’s ability to survive the winter.
3. Using alfalfa-grass mixtures. Aside from the other benefits of mixtures, the inclusion of grass provides some protection for the alfalfa, and provides forage if the alfalfa is lost. Unfortunately, mixtures with orchardgrass may have suffered winterkill of both species this winter.
4. Fall harvest management. The issue of fall stubble is still being debated in Northern States. Eliminating fall harvests altogether increases retention of snow cover, which insulates the alfalfa crowns. As you know, there has been minimal snow cover and considerable ice cover for the last two winters, which has killed both fall-harvested and unharvested alfalfa. A more realistic solution, especially when forage is in short supply, is to take fall harvests at a six to eight inch cutting height; this allows you to get some forage harvested and also leave more stubble to catch snow.

Hopefully, we will not experience a third consecutive “alfalfa killer”

winter. I am already hearing comments about not planting any more alfalfa. For dairy operations, there are very few alternatives for yield and quality.

OPTIONS FOR RE-SEEDING ALFALFA

Clear Seeding: This is a standard method, where alfalfa is seeded alone at about fifteen pound seed/acre. Herbicides (like EPTAM) may be used pre-emergence, while POAST can be used to control grasses post-emergence. This method works best using either a grain drill with packer wheels or a Brillion seeder, and can be done now or in late summer.

Companion Crop Seeding: Usually done with oats or barley. Choose an early maturing small grain variety that doesn’t lodge. Reduce small grain seeding rate by fifty percent. The small grain can be removed as grain, but it is preferable to harvest it as silage because there is competition with the alfalfa for a shorter period of time. For small grain silage, it is critical to remove the small grain at the boot stage. After this stage, the quality of the silage drops rapidly. If harvested as grain, it helps to remove as much of the straw as possible. Keep in mind that the alfalfa may be eight to ten inches tall at grain harvest making harvest difficult.

FLEXIBLE FORAGE MANAGEMENT FOR 1992

Because of the shortage of hay from the last years drought coupled with the loss of alfalfa and orchardgrass crops this winter, forage programs this year will have to be flexible and maybe unusual. For example, early season grazing may be supplied by

seeding small grains such as oats or barley now, grazing or harvesting them for silage, and then seeding alfalfa or grass late in the summer. The same could be done by seeding alfalfa or other forage crop with a small grain companion crop. Undoubtedly, it will be a difficult year for planning forage programs. Please contact me with questions or suggestions!

