



Ohio State HCS News

HORTICULTURE & CROP SCIENCE IN VIRTUAL PERSPECTIVE - THE OHIO STATE UNIVERSITY

hcs.osu.edu/news

Alfalfa Escapes Severe Frost Damage



Ohio's alfalfa crop that broke dormancy early has suffered some frost damage from the cold that hit Ohio in April.

Ohio's alfalfa crop that broke dormancy early has suffered some frost damage from the cold weather that hit the state in early April, but established, healthy stands are anticipated to recover and produce near normal yields.

Mark Sulc, an Ohio State University Extension forage specialist and associate professor in Horticulture & Crop Science, said that established stands will initiate new growth with the current warm temperatures, especially if fields have good drainage and adequate fertility.

"I really don't expect that we will see permanent damage to established, healthy stands from this late freeze," said Sulc, who also holds a research appointment with the Ohio Agricultural Research and Development Center. "Back in 1992 we had similar conditions of alfalfa breaking dormancy early in March, followed by cold temperatures that killed the shoots back to the crown. Alfalfa re-initiated growth that year and first-cutting yields were near normal."

Sulc said that there is considerable variation in response to the late freeze across Ohio.



Extension forage specialist Mark Sulc is an associate professor in the OSU Horticulture & Crop Science Department.

"The worst freeze injury I've seen was in west central Ohio, where just about all the top growth was killed back to the crown," said Sulc. "That alfalfa will have to start growth all over again."

In contrast, the freeze damage in northeast Ohio was much less, with only the shoot tips showing injury. "Apparently, alfalfa broke dormancy later enough in northeast Ohio so that the late cold snap did less damage to the crop compared with the alfalfa further south," Sulc said.

Sulc encourages growers to scout their alfalfa fields in the coming weeks for frost injury. If the inner root tissue is soft, spongy and discolored, permanent injury has occurred, and most likely those plants will die. Healthy root tissue will be firm and white. In addition, fields should be scouted closely for alfalfa weevil feeding, because that could severely hamper the recovery of the plant.

Damaged or dead stems should not be cut as they have negligible effect on the growth of new shoots and forage quality, and cutting away dead material may do more harm than good to new shoots, especially if soils are wet.

"For late summer 2006 seedlings, the frost injury may cause more significant problems depending on extent of seedling establishment and growth achieved last fall," said Sulc. "Plantings made in late July to early August 2006 will likely have less long-term damage than those made in late August to September."

The alfalfa crop may escape frost damage, but because of the hard freeze, growers may have to delay their first harvest by seven to 15 days this spring. The delay means there will only be three cuttings, instead of the usual four.

"A delayed first harvest will give the crop time to recover and produce near normal yields. In addition, allowing the alfalfa to mature to 30 percent to 50 percent bloom stage this summer will help the stand regain full vigor," said Sulc. "Research has shown that alfalfa cut three times is often higher yielding than when four cuts are made. Forage quality is usually lower with three cuttings as compared with four; however, it is usually acceptable for dairy animals, provided the stand is pure alfalfa and not mixed with grass."

Interseeding grasses with alfalfa is an option to extend the life of winter-damaged alfalfa beyond this year and to boost forage production.

"The yield benefit from perennial species such as red clover or ryegrass may not be great until the second year, because they do require some time to establish," said Sulc. "If forage supplies are very critical for this year, consider interseeding with a cereal grain. Annual grasses are quick to establish and will compete well in a thin alfalfa stand. There are numerous annual species for boosting forage supplies for this year alone, corn silage being one of the best."

For more information on managing winter-damaged alfalfa, refer to the section on annual forages in the Ohio Agronomy Guide at <http://ohioline.osu.edu/b472/0008.html>. For more information on forage production, log on to the Ohio Forage Network at <http://forages.osu.edu>.

Story by Candace Pollock. Web publishing by [Victor van Buchem](http://Victor.van.Buchem). Photos courtesy Mark Sulc.

Published May 02 2007 - <http://HCS.OSU.EDU>