Managing hail-damaged alfalfa and red clover

Stephen K. Barnhart
Iowa State University, sbarnhar@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/cropnews

Part of the Agricultural Science Commons, Agriculture Commons, and the Agronomy and Crop Sciences Commons

Recommended Citation
http://lib.dr.iastate.edu/cropnews/2193

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit https://crops.extension.iastate.edu/.
Managing hail-damaged alfalfa and red clover

Abstract
Each summer Iowa experiences random hail events. Although most of the media attention is focused on damage to row crops, forage crops also can be damaged. Hail damage to alfalfa and red clover occurs in varying degrees of severity ranging from some terminal bud and leaf damage to completely defoliated plants. Stands also may be lodged by accompanying wind and rain.

Keywords
Agronomy

Disciplines
Agricultural Science | Agriculture | Agronomy and Crop Sciences

This article is available at Iowa State University Digital Repository: http://lib.dr.iastate.edu/cropnews/2193
Managing hail-damaged alfalfa and red clover

Each summer Iowa experiences random hail events. Although most of the media attention is focused on damage to row crops, forage crops also can be damaged. Hail damage to alfalfa and red clover occurs in varying degrees of severity ranging from some terminal bud and leaf damage to completely defoliated plants. Stands also may be lodged by accompanying wind and rain.

Alfalfa and red clover grow from the terminal (highest) portions of the plant. If these plant parts are damaged, terminal growth is stopped on that stem. Thus, loss occurs from physical removal of forage and from terminated growth. Damaged plants must then begin to produce new stems for growth. These new stems can be either branch stems along the damaged main stem, new crown shoots, or both.

Yield losses from any percentage defoliation will be in relation to the total undamaged yield potential. Data collected at the University of Wisconsin Marshfield Research Agricultural Station suggest that forage losses for hail damage to first cutting will be approximately 35 pounds dry matter per acre for each percentage defoliation occurring within 2 weeks of harvest for both alfalfa and red clover.

This loss occurred on first growth forage of established stands where the undamaged yield was 2.25 tons/acre. Hail damage losses for later cuttings are the same for alfalfa, but only 23 pounds dry matter for each percentage of defoliation of red clover occurring within 2 weeks of harvest. Actual losses are lower for less productive stands and second or third harvests because undamaged yield will be typically lower for these cuttings.

Forage quality losses also occur because the uppermost and highest quality leaves are shredded when hail defoliates a plant. However, these losses are often small compared with the yield and feeding value harvested from the whole plant.

Hail damage occurring earlier than 2 weeks before harvest will generally be to short plants. With sufficient exposure of these plants to sunlight, they will form additional new shoots and produce a hay crop, although new growth will generally be somewhat delayed compared with that in an uninjured field.

When harvesting lodged alfalfa or red clover, disc mowers may pick up more forage than sickle bar mowers. Harvesting against the direction the forage is leaning will allow more forage to be harvested. With both mower types, tilt the cutter bar or discs forward to increase forage picked up. When using a sickle bar mower, you also can move the reel forward and down and increase reel speed to help pick up downed forage.
Other recommendations for managing hail-damaged alfalfa and red clover are as follows.

- If alfalfa or red clover is within 2 weeks of harvest and lodged, wait 3 to 4 days to allow the stand to recover and harvest.
- If alfalfa or red clover is within 2 weeks of harvest but less than 50 percent of terminal buds are damaged, allow stands to mature to normal harvest schedule and harvest. Yield will be reduced but undamaged buds will continue to grow and produce additional yield.
- If alfalfa or red clover is within 2 weeks of harvest but greater than 50 percent of terminal buds are damaged, harvest immediately. You should harvest immediately because little additional growth will occur (to the extent that terminal buds have been destroyed), except that coming from new stems, which could be a part of the next regrowth.
- If alfalfa or red clover is not within 2 weeks of harvest (stand generally 12 inches or less in height), wait for the stand to regrow from new shoots and harvest when forage is at normal harvest height and quality.

The information presented here is modified from the Wisconsin Forage Council newsletter, *The Forager*, in an article by Dan Undersander and Dan Wiersma, University of Wisconsin Extension and Research.

This article originally appeared on pages 130-131 of the IC-482(17) -- July 5, 1999 issue.

Source URL:
http://www.ipm.iastate.edu/ipm/icm/ipm/icm/1999/7-5-1999/haildamg.html