



# Harvesting high quality alfalfa hay

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Alfalfa preserved as hay requires about 2-4 days or more of field wilting depending on weather conditions. Faster drying allows for higher quality and reduces the threat posed by rain. Of the initial available protein in the standing crop, 28% can be lost under good conditions and 46% when rained on. Additionally, reducing the length of time the swath stays in the field allows for faster re-growth of alfalfa.

Dry matter and quality losses during harvest and storage of alfalfa hay can be large. Dry matter losses for the full process are typically 15-25% for hay made under good drying conditions, and 35-100% for rain damaged hay. Mechanical losses account for nearly one third of total dry matter losses. Mowing, raking and baling, shatter leaves, and disassociates some small stem particles. Raking accounts for the largest losses when compared to all field operations. Dry matter constituents with the highest nutritive value for cows (leaves) are most susceptible to losses.

The following management practices improve the quality of the alfalfa hay by speeding up drying and minimising leaf loss:

- Cut forage into a wide swath that covers at least 75% of the cut area.
- Keep a cutting height greater than two inches so air flow increases underneath the windrow.
- Rake/merge swaths into a windrow when moisture content in the forage is above 40%.

Hay producers have a wide variety of equipment options to rake and merge swaths or windrows. Rakes and mergers can be evaluated based on: field losses, drying rates, windrow shape, ability to move large swaths, and ability to create a windrow free of rocks, soil and other debris. Selecting the proper equipment and adequate operation ensures high quality hay.

New data evaluating the effect of rake-type on ash content of alfalfa hay were presented at the last Minnesota Nutrition Conference. This study was conducted by a researcher from University of Minnesota on first cutting alfalfa hay fields located in Minnesota, Pennsylvania, and Wisconsin. Two swaths of mowed hay were consolidated with a wheel rake, side-delivery rake, rotary rake or a merger. Hay merger consistently produced bales having the least amount of ash (11.4, 9.8, and 9.2 ash as percent of dry matter in Minnesota, Pennsylvania, and Wisconsin, respectively), while the wheel rake produced bales with the greatest amount of ash (14.6, 11.1, 9.5% ash in MN, PA, and WI).

Since ash content of alfalfa greater than 8% indicates hay has been contaminated with soil, these results suggest farmers looking to reduce ash content of hay should consider using a hay merger when combining swaths.

