



Grazing alfalfa in Pennsylvania

Grazing alfalfa is not a new practice. Alfalfa has been grazed alone or in mixtures with grasses and other legumes since its introduction into the United States. Compared with other management systems, however, grazing alfalfa has never been a widespread practice in this country. While alfalfa has been used extensively as a grazing crop in other countries, grazing of alfalfa in this country traditionally has been relegated to a clean-up operation in the fall.

Grazing systems to optimize alfalfa's grazing potential require a higher level of management than do some grazing systems. In spite of this, interest in grazing alfalfa has been growing.

ESTABLISHING ALFALFA FOR GRAZING

Establish alfalfa for grazing just as you would if it were to be used for hay or silage by following these guidelines (refer to the *Penn State Agronomy Guide* for more information on alfalfa establishment):

- Plant on a well-drained soil.
- Use a soil test as a guide for rates of lime, phosphorus, and potash.
- Select an adapted, high-yielding, disease- and insect-resistant variety. Use certified seed to ensure seed quality and purity.
- Inoculate the seed with fresh alfalfa inoculant just before seeding. Make sure the word "alfalfa" appears on the inoculant container. For preinoculated seed, check the date the seed was inoculated.
- Sow into a firm seedbed. Alfalfa can successfully be sown with a cultipacker-seeder, with a seeding attachment on a cultipacker, by broadcasting, or with a drill, followed by rolling. Plant no deeper than 1/4 inch in heavy soil or 1/2 inch in light soil.
- Add lime, phosphorus, and potassium as soil tests indicate. A good time to lime and fertilize for stand maintenance is at the end of one growing season and before growth starts the next season.

GRAZING MANAGEMENT

Rotational grazing is a "must" for optimum return in an alfalfa or alfalfa-grass grazing system. Rotational grazing is more labor intensive than continuous grazing because of the need to provide and maintain electric fencing and to move animals from one paddock to another on a carefully planned and executed schedule. Care also must be given to avoid damaging the alfalfa stand, because comparatively

high numbers of animals graze on a relatively small area of alfalfa. However, the rewards can offset the extra effort.

There is no set rule on the number of paddocks required or on paddock size. Most recommendations call for fields to be divided into a minimum of six to eight paddocks for most effective management. Paddock size depends on the numbers and size of animals being grazed. However, there should be enough animals in a paddock to harvest the available forage in less than 4 days.

As an example of a rotational grazing practice, 24 beef cattle were successfully grazed on a 4-acre alfalfa plot in a recent demonstration. The field was subdivided into eight half-acre paddocks. After 4 days' grazing on each paddock, the cattle were rotated. After all eight paddocks had been grazed, cattle were returned to the first paddock, which had recovered and was ready for another round of grazing.

Determining the number of animals that each acre of alfalfa will support in a grazing system is a difficult process. The number of animals per acre can be increased as alfalfa becomes more productive beyond the first year of stand life and as the management skills of the farm operator improve. A conservative suggestion is two to three dairy cows or three to five stockers per acre during the early part of the grazing season.

The number of animals per acre is normally reduced when alfalfa production declines, such as during the typical midsummer "slump" period. It is very important to closely monitor grazing to prevent overgrazing. Overgrazing can force animals to consume more supplement, if one is supplied, increasing production costs. Overgrazing also may force animals to eat the basal stems, which are not very nutritious, thus limiting animal gain. Severe overgrazing also can damage the crowns of alfalfa plants.

Undergrazing, on the other hand, can lead to uneven grazing. When unevenly grazed, the remaining plants become larger and less palatable. When the field is grazed again, animals once more will favor the young tender plants. This reduces productive acreage unless the older, larger plants are clipped periodically.

One or more "sacrifice" paddocks also enhance a grazing program where alfalfa is the main forage. A sacrifice paddock is an area, preferably with grass sod, that can be used to hold animals during wet weather or to allow adequate regrowth of the alfalfa paddocks. Hay may be fed in sacrifice paddocks to keep pasture growing at an optimum rate.



GRAZING PERIODS FOR ALFALFA

Alfalfa or alfalfa-grass mixtures can be grazed throughout the growing season in most areas, or they can be used for grazing only during selected seasons.

Spring grazing—Grazing alfalfa for several weeks in the very early spring delays hay making until weather is better. Begin grazing when alfalfa is about 6 inches tall, managing the animals so that plants are not overgrazed and maintain some leaf area. As alfalfa growth begins to exceed animal consumption (usually during May), periodically reduce the size of pasture area being grazed. This lessens the amount of forage available to animals and reduces waste. In addition, it establishes staggered pasture heights for rotational grazing throughout the rest of the season. Harvest excess ungrazed alfalfa as hay or silage.

Summer grazing—Alfalfa can be difficult to harvest for hay during July and August if growth has been slowed by drought. Grazing may be an attractive alternative to alfalfa hay harvesting during this period.

Rotational grazing during the summer seldom harms the stand. Grazing alfalfa in times of moisture stress does not have as adverse an effect on alfalfa as grazing under wet conditions. Grazing is an excellent way to use alfalfa and to provide high-quality forage during the dry summer months in what normally would be considered the summer slump period.

Fall grazing—Fall alfalfa growth usually is slowed or stopped by a series of light frosts, rather than by one single heavy killing freeze. Forage quality of fall growth is excellent. Weather conditions normally make alfalfa hay difficult to cure at this time, so grazing becomes an alternative method of harvesting. Removing this fall growth also may reduce the severity of the alfalfa weevil the following spring.

It is important, however, not to graze too hard within 5 to 6 weeks of the first killing frost. While the stubble height or cutting height is not of great significance during summer, it becomes an important factor in fall grazing. Leave some stubble on the field to support any growth that may occur before a killing frost and to hold snow to protect alfalfa from heaving. Leave at least a 4-inch stubble!

Season-long grazing—Grazing has a reputation for shortening the life of an alfalfa stand, compared with harvesting for hay. This is largely a misconception, however, because there are management techniques that take advantage of the benefits of grazing alfalfa, while reducing some of the potentially harmful effects. Follow the suggestions for spring grazing outlined above to initiate season-long alfalfa grazing. Alfalfa should be allowed to recover for about 28 to 35 days between grazings.

Rotational grazing for short periods of 1 to 2 days with a long recovery period of approximately 35 days is the key to season-long grazing, while still maintaining stands. Avoid grazing during wet weather, when alfalfa is particularly susceptible to soil compaction and crown damage.

PREVENTING BLOAT

Bloat may be a problem when animals are grazed on young, lush alfalfa. Bloat can be prevented through management practices, by feeding poloxalene, or a combination of both. New grazing-type alfalfa varieties are just as likely to cause bloat as traditional hay-type varieties. Some management tips are as follows:

- Fill animals with another roughage before turning them onto alfalfa for the first time. Don't allow animals to get hungry. Hungry animals may overeat and bloat when they get fresh pasture.
- Gradually (over a 5- or 6-day period) increase the time that animals have access to alfalfa pasture.
- Observe animals at least twice a day when they are turned onto alfalfa pasture. Some animals are chronic bloaters and should be watched especially closely or removed from the pasture.
- Once animals are used to alfalfa pasture, leave them on pasture constantly, even at night.
- Take extra caution during wet, cloudy periods in the early spring when alfalfa is making its most rapid growth. Do not put animals onto alfalfa pasture if a heavy dew is present.
- More mature alfalfa is less likely to cause bloat. Minimize potential problems by first turning animals onto alfalfa that has reached the bloom stage.
- Begin feeding poloxalene 2 to 5 days before turning animals onto alfalfa pasture. Use higher dosages when first placing animals on alfalfa pasture, and reduce the rate if no problems occur. Animals on lush alfalfa require more poloxalene than when they are on more mature alfalfa.

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