

UK COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Alfalfa

Introduction

Alfalfa has the highest yield potential and highest feeding values of all adapted perennial forage legumes. It is a versatile crop that may be used for pasture, hay, silage, green-chop, pellets, cubes, soil improvement and soil conservation.

Marketing and Market Outlook

Alfalfa is the most important forage legume grown in the U.S., with around 250,000 acres grown in Kentucky each year. Nearly all the hay grown in-state supports the beef, dairy and horse industries in Kentucky and surrounding states. In addition, an increasing amount of alfalfa is being used by the goat industry. Alfalfa has potential for the cash hay market and for intensive grazing. High quality alfalfa hay can be extremely profitable for producers willing to put in extra management time and capital.

Production Considerations

Site selection and planting

Establishing a good stand of alfalfa, whether for hay or for grazing, is expensive and time consuming. However, the success rate is high if special attention is given to important management factors. A good, properly managed stand of alfalfa should last 5 years or longer.

The ideal alfalfa soil is deep and well-drained. Although less-than-ideal soils can be used for alfalfa production, lower yields and a shorter stand-life can be expected. Alfalfa stands can be established using conventional tillage or no-



till. Seeds can be sown in early spring after the danger of late freezes has passed. If seeding in late summer, plants will require 6 to 8 weeks to germinate and grow before the first hard freeze. Sclerotinia crown rot infections and a lack of adequate soil moisture are potential concerns with late summer plantings. Alfalfa can be seeded as a pure stand or mixed with an adapted grass.

Pest management

Alfalfa weevil and potato leafhopper are the most important insect pests of alfalfa. Potential disease problems include anthracnose, fungal leaf spots, spring black stem and several fungal crown rots, including Sclerotinia. Disease and insect management relies heavily on using resistant varieties and employing sound agronomic practices. Unless controlled, weeds can drastically reduce alfalfa stands. Weed control is especially important during establishment and later as the stand ages and thins. Fortunately herbicides are available that do a good job controlling annual grasses and some broadleaf weeds. Roundup Ready alfalfa varieties are also commercially available.



Harvesting

Spring seedings should be allowed to grow for 70 to 90 days before the first harvest. The other harvest that year should be made at the early bloom stage. For established stands, the first cutting is made at the late bud stage or when the first flowers open, with successive harvests at early bloom or at 30- to 38-day intervals. To provide alfalfa plants with the rest period they need in preparation for winter, the last summer cutting should be made before September 15.

Labor requirements

Total labor needs for hay production, cutting, and baling is approximately 12 hours per acre.

Economic Considerations

Initial investments include land preparation, purchase of seed, and stand establishment. Machinery and equipment costs are also significant for most producers.

Total 2006 costs for an established stand of alfalfa produced for cash sale as hay is approximately \$279 per acre. Presuming a harvest of 4½ tons of hay sold at \$85 per ton, returns to land, capital and management are estimated at \$44 per acre. A break-even price near \$50 per ton would be needed to cover variable costs of a 4½ ton per acre harvest.

Enterprise costs are greatly reduced when alfalfa is produced for grazing. Since over 35 percent of the cost of producing alfalfa hay is the machinery and equipment, this cost can be eliminated, or certainly minimized, in a total grazing system.

Selected Resources

- Alfalfa – The Queen of the Forage Crops, AGR-76 (University of Kentucky, 1997)
<http://www.ca.uky.edu/agc/pubs/agr/agr76/agr76.htm>
- Forage Enterprise Budgets (University of Kentucky, 2006)
http://www.ca.uky.edu/cmsspubsclass/tiny_mce/jscripts/tiny_mce/plugins/filemanager/files/adreum/budgets/ForageEnterpriseBudget.xls
- Grazing Alfalfa, ID-97 (University of Kentucky, 2001)
<http://www.ca.uky.edu/agc/pubs/id/id97/id97.htm>
- Improved Grass Legume Hay Enterprise Budget Decision Aid (University of Kentucky, 2005)
http://www.ca.uky.edu/cmsspubsclass/tiny_mce/jscripts/tiny_mce/plugins/filemanager/files/adreum/budgets/archiveddecisiontools/improvedhaybudget3.xls
- Kentucky Integrated Crop Management Manual for Alfalfa (University of Kentucky, 2006)
<http://www.uky.edu/Ag/IPM/manuals/ipm1alf.pdf>
- Plant and Soil Sciences Forage Web site (University of Kentucky)
<http://www.uky.edu/Ag/Forage/>
- Alfalfa – The High Quality Hay for Horses (National Alfalfa Alliance)
[http://www.alfalfa.org/pdf/Alfalfa%20for%20Horses%20\(low%20res\).pdf](http://www.alfalfa.org/pdf/Alfalfa%20for%20Horses%20(low%20res).pdf)
- Organic Alfalfa Production (ATTRA, 2003)
<http://attra.ncat.org/attra-pub/alfalfa.html>
- Understanding Forage Quality (American Farm Bureau Federation, 2001)
<http://www.agfoundation.org/projects/docs/UnderstandingForageQuality.pdf>