

Red and White Clover

Introduction

Red and white (ladino) clovers are high quality forage legumes with excellent feed value and animal palatability. Red clover (*Trifolium pretense*), a tall-growing and short-lived perennial, is used for hay, pasture, silage, green chop, soil improvement, and wildlife habitats. While white clover (*Trifolium repens*), a low-growing perennial, is best suited for grazing, it can also be used for soil improvement and reclaiming disturbed land. Clovers are almost always grown with companion grasses.

Marketing and Market Outlook

Red clover, along with companion grasses, such as orchardgrass and timothy, has potential for the cash hay market. White clover is an excellent legume to be grown with a grass for high quality pasture. These forage legumes work well as a cover crop in crop rotations and are a popular choice in organic rotations. Clovers are also a critical part in many beekeeping enterprises.

Production Considerations

Cultivar selection

Choosing the proper cultivar is a critical step to establishing a good stand of clover. Varieties differ in terms of quality, yield potential, disease and insect resistance, and persistence. Select adapted cultivars with a history of producing high yields over a number of years and in a range of locations throughout the state. Refer to University of Kentucky Forage Variety Trial Reports for more information on cultivar performance.

Site selection and planting

Clovers are adapted to a wide range of climatic and soil



conditions. A cool-season grass is usually grown with these legumes. Renovation is the most common method of establishment in Kentucky. When renovating, clover is sown in the spring into already established pasture grasses that have either been mowed or grazed very short. Clovers may also be sown in late summer; however, problems with drought and crown rots can occur in these later plantings.

Pest management

In general, insects are not likely to cause enough damage to warrant the use of insecticides. The most common diseases in Kentucky include southern anthracnose, powdery mildew, crown rots, and root rots. Disease and insect management relies heavily on employing sound agronomic practices. Weed control is especially important during establishment since seedlings grow slowly and can be easily overcome by rapidly growing weeds. Weed management strategies should focus first on cultural practices and then on chemical weed control practices.

Harvesting

Red clover stands are generally productive for 2 to 3 years, with



the highest yields occurring in the year following establishment. If summer rainfall is good, red clover may be cut about every 35 to 42 days or each time plants reach about 10 percent bloom. White clover is a very persistent legume and capable of re-seeding even under grazing.

These legumes tolerate grazing well; however, continuous grazing can deplete a stand of red clover. Rotational grazing increases stand life and improves the utilization of the forage. It is important to give the plants about 45 days between the last cutting or grazing and “freeze-down,” which generally occurs in November.

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. Estimated 2013 variable costs for producing clover hay in round bales is approximately \$269 per acre. Presuming a harvest of 3½ tons of hay sold at \$90 per ton, returns above variable costs are estimated at \$65 per acre. A break-even price of \$72 per ton would be needed to cover variable costs of a 3½-ton per acre harvest. From this return, interest, depreciation, and operator labor must be covered.

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

Selected Resources

- Forage Extension Web site (University of Kentucky)
<http://www.uky.edu/Ag/Forage/>
- Forage Variety Trial Reports (University of Kentucky)
<http://www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm>
- Improved Grass Legume Hay Enterprise Budget Decision Aid (University of Kentucky, 2005)
<http://www.ca.uky.edu/cmsspubsclass/files/kburdine/cophay.xls>
- Red Clover (University of Kentucky and Auburn University, 2006)
<http://www.aces.edu/dept/forages/clovers/redclover.pdf>
- Renovating Hay and Pasture Fields, AGR-26 (University of Kentucky, 2009)
[http://www.uky.edu/Ag/Forage/ag_r261%20\(2\).pdf](http://www.uky.edu/Ag/Forage/ag_r261%20(2).pdf)
- Rotational Grazing, ID-143 (University of Kentucky, 2000)
<http://www.ca.uky.edu/agc/pubs/id/id143/id143.pdf>
- Ten Great Reasons for Growing Clover (University of Kentucky and Auburn University, 2006)
<http://www.aces.edu/dept/forages/clovers/10reasonsforgrowingclover.pdf>
- Understanding Forage Quality (American Farm Bureau Federation, 2001) *1.32 MB file*
<http://www.uky.edu/Ag/Forage/ForageQuality.pdf>
- White Clover (University of Kentucky and Auburn University, 2006)
<http://www.aces.edu/dept/forages/clovers/whiteclover.pdf>
- White Clover Establishment and Management Guide (University of Georgia, 2012)
http://www.caes.uga.edu/publications/pubDetail.cfm?pk_id=7268

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