

ECONOMICS

The Economic Potential of Grazing-tolerant Alfalfa

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Alfalfa is a high quality, perennial legume forage that has potential to be a part of summer stocker grazing programs. However, most of the alfalfa that is produced is primarily harvested and marketed as high quality hay for dairy and equine enterprises. Generally, producers do not use alfalfa for grazing because of the short stand life that historically accompanies continuous grazing. More recently, though, new cultivars selected for grazing tolerance have been developed that show tremendous potential for high quality and persistence under continuous grazing. To date, there is limited information about the economic potential of the grazing-tolerant varieties. In response to this lack of information, we utilize animal performance data generated from a three-year (2002-2004) grazing trial conducted at the Noble Foundation to determine the economic potential of the grazing-tolerant cultivars.

In September 2001, strips of Alfagraz[®], AmeriGraze 702[®] and Amerigr[®] 401+Z[®] cultivars were established using conventional clean till establishment techniques on six 2-acre paddocks. Two grazing management systems were randomly assigned to the six paddocks in a completely randomized designed approach. In the first system (Full

Table 1. Three-year Average Measures of Animal and Economic Performance for Grazing-tolerant Alfalfa Forage With and Without Pasture Rest

Animal/Economic Measures	Full Season	August Termination
Average Daily Gain (lbs/hd/day)	2.06	2.32
Steer Grazing Days	391.33	292.33
Total Gain (lbs/acre)	395.38	348.74
Total Alfalfa Establishment Costs (\$/acre)	298.46	298.46
Establishment Costs –		
Prorated for Three Years at 7.5% APR (\$/acre)	114.77	114.77
Total Costs Incurred Annually (\$/acre)	128.48	119.22
Total Establishment Plus Annual Costs (\$/acre)	243.25	233.99
Value of Gain (\$/lb)	0.92	0.82
Gross Revenue (\$/acre)	363.76	285.96
Net Return to Land, Management and Overhead (\$/acre)	120.51	51.97

Season), steers were allowed to continuously graze alfalfa pastures for the entire length of the grazing season. In the second system (August Termination), steers continuously grazed pastures until grazing was terminated the first of August, allowing the pastures to rest for the remainder of the growing season in an attempt to extend the life of the stand.

Average measures of animal performance and estimates of expected costs, revenue and net return to land; management; and overhead for the two management systems are re-

ported in Table 1. We learned several things from this study:

- Steer performance (ADG) was similar for both systems.
- Steers in the Full Season system realized 34 percent more grazing days than steers in the August Termination system.
- Due to a longer grazing season, Full Season pastures realized 13 percent greater total gain relative to the August Termination pastures.
- Damage from cotton root rot limited pasture life to three years for both systems. ▶

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- Benefits from a greater value of gain and grazing days provided the Full Season system with a revenue advantage of \$78 per acre over the August Termination system.
- The three-year average net return was positive for both systems; the Full Season system, however, was

- \$69 per acre more profitable than the August Termination system.
- Average net returns for both systems are most sensitive to the life (years) of the alfalfa pastures. Extending the life of the pasture will reduce establishment costs, leading to substantial improvements in

net return for both systems. Producers should use the information reported in Table 1 to help them determine whether or not the Full Season system would be more profitable for their operation than their current production system. ■