NEW YORK - Profitable Grass/Alfalfa Feeding for Dairy Cows

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The optimum dairy-cow forage for animal health and profitability is a grass/alfalfa mixture. This recommendation is based on several lactating dairy-cow feeding trials at Cornell University comparing grass with alfalfa, mixing grass with alfalfa, and feeding different proportions of grass in a mixed ration.

Forage yield per acre has a large impact on economics. About 2 tons/ac are needed to break even with costs vs. milk income. Seed costs are a very minor component, even at very low forage yields. Relatively large differences in price per pound of seed and/or seeding rate have little impact on economics.

Results from a dairy-feeding trial with diets from 50-80% orchardgrass were used to determine the impact of corn-grain price on return (Figure 1). As diets increased in forage, the amount of corn in the diet decreased, and decreased the impact of corn price on return. These feeding-trial results suggest the following:

- When corn-grain is $2/bushel, maximum return per cow per day is a diet with 60% forage.
- With $4/bushel corn, the optimum diet is 65% forage.
- With $6/bushel corn, the optimum diet is 70% forage.
- With $8/bushel corn, the optimum diet is 80% forage; suggesting $8 corn is too expensive to use in quantity in a dairy ration with grass.

A dairy-feeding trial comparing alfalfa and/or grass in diets was used to evaluate changes in corn-grain price (Figure 1). Amount of corn in the diet and milk yield increased as diets went from 100% alfalfa to 100% grass as the forage source. When corn price is low, maximum returns occur with a grass diet supplemented with considerable grain. At very high corn prices, alfalfa diets produce maximum returns, even though a 100% alfalfa diet was considerably lower in milk production than a grass diet. The diet with the greatest returns across the range of corn prices was 2/3 grass:1/3 alfalfa.

Figure 1.

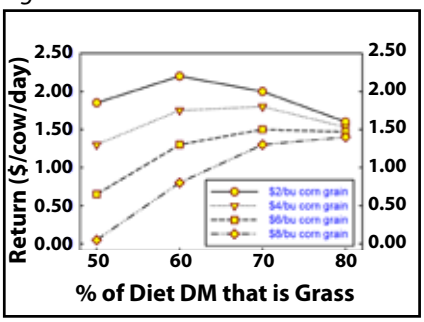
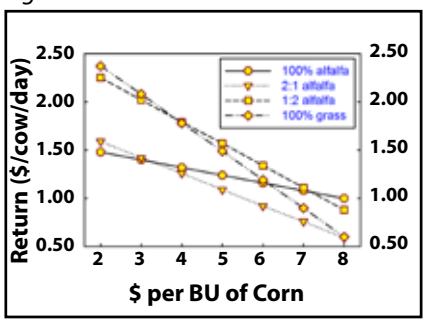


Figure 2.



Reference: Cherney, J., and D. Cherney. 2011. Economics of feeding grass. Grass Information Sheet Series #34, Grass Management Manual, Cornell University Cooperative Extension, http://forages.org.