Development and implementation of low-input delivery systems for ethanol co-products in forage-based beef systems

Methods exist to minimize waste in supplementation of grazing cattle and substitute corn co-products for forage. Producers must consider the cost tradeoffs and the rate of supplementation to be successful.

What was done and why?

Competition for land in Iowa has reduced the acres available for cattle grazing, and cattle producers are looking for alternative sources of nutrients to maintain healthy cattle numbers. An alternative is to use low-cost by-products of the growing ethanol industry, particularly distillers’ grains.

Objectives of this study were to:

• Evaluate alternative delivery systems for distillers’ grains in pasture and an extensive production environment,
• Assess the performance and pasture substitution of supplementation in an applied research setting,
• Test supplementation methods and strategies through on-farm demonstrations,
• Evaluate producer and consultant opinions on supplementation opportunities and challenges, and
• Develop educational materials based on the results of the project to be used in future Iowa Beef Center educational activities.

What did we learn?

Acceptance/animal performance. In general, cattle readily consumed the products with little adjustment time needed. Animal performance is measured by average daily weight gain or body condition, which was improved at higher levels of supplementation. At low supplementation levels, body condition was unchanged or unimproved by supplementation.

Physical form/waste. The traditional meal form of distillers’ grain is very finely ground and is easily wasted, so it is best to use feed bunks. This will add to the labor challenge when using rotational grazing as a management system. The pellet version of dry distillers’ grain works well for supplementing cattle on grass, but is not widely available.

Timing/quantity. While daily feeding is the most common supplementation program, some producers supplement three or five times weekly. This project provided supplementation either every other day or five times per week with good results. Labor can be a critical issue.

Forage substitution. For ethanol co-products to be effective in maintaining cattle numbers with decreased pasture, the cattle must reduce their forage consumption when supplemented. This project found little change in pasture consumption when supplementation was less than .5 percent of the animal’s body weight. At supplementation levels of 1 percent or more, forage consumption decreased by as much as 26 percent.

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