

Using distillers grains in diets for growing and finishing beef cattle. G. Erickson* and T. Klopfenstein, *University of Nebraska-Lincoln*.

Distillers grains can be fed wet (WDGS; 35 to 50% DM) or dry (DDGS; >88% DM) with or without solubles added. Dry milling plants produce either WDGS, DDGS, or combinations of both. Based on the current process of ethanol production from grains, fiber, protein, oil, and P concentrations are increased 300% in distillers grains compared to the original grain. Based on the average of 11 experiments, WDGS contains 130 (at 40% diet DM) to 157% (at 10% diet DM) of the energy value of corn. Generally, WDGS is fed at higher inclusions than DDGS as a source of both an energy and protein. Fewer data are available with DDGS, but DDGS is considered lower in energy than WDGS, generally fed at lower inclusion rates (<15% of diet DM), and fed primarily as a protein source. Both WDGS and DDGS are 28 to 34% CP and 65% UIP (% of CP). Despite the predominant source of protein as UIP, protein supply in diets containing more than 20% distillers grains is enough that no supplemental DIP (i.e., urea) is required. With increased supply of distillers grains in the future, more will need to be fed to beef cattle. Therefore, we evaluated the economic optimum inclusion rates in feedlot diets for WDGS. Based on cattle performance responses, the optimum inclusion rate is 40% if the feedlot is near a plant. Accounting for an increase in corn price, distance from the plant, increased cost of feeding, and inclusion rates, returns to cattle feeders are between 0.08 and 0.14 per steer per day above feeding corn alone assuming WDGS priced at 95% of corn price on a DM basis. The optimum inclusion rate for WDGS varies from 30% to 40% of diet DM depending on distance from plant. One challenge in the future will be managing higher dietary P and appropriately distributing the manure P, primarily because of improper distribution in the past. Distillers grains can reduce acidosis, improve performance, and improve cattle feeding economics when fed between 20 and 40% of diet DM. However, fewer data are available on feeding DDGS to growing and finishing cattle, but it appears to have 125% the energy of corn in forage-based growing diets.

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