Yearlings Enter the Byproduct Arena

Yearlings eat less grass and gain extra weight with byproduct supplementation.

Story & photo by
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Listen up yearling operators. Here's some food for thought about corn ethanol byproduct feeds.

What? You say you're tired of hearing about the rapidly growing ethanol industry and increasing availability of byproduct feeds?

You've been told over and over that distillers' grains and corn gluten feed offer high levels of energy, protein and certain minerals. You already know that ethanol byproducts have become popular ingredients in backgrounding and finishing rations.

You understand how they can complement diets for developing replacement heifers and boost the nutrition of cows wintered on low-quality roughages. But have you considered what byproduct feeds might do for the performance of yearlings grazing summer grass? Perhaps that sounds like a pricey proposition. Besides, ample green grass, some good mineral, salt and plenty of water ought to be enough to encourage respectable weight gains among summer-grazed yearlings.

Maybe so, but think about how the purchase price or rental rate of grazing land has climbed during the past several years. Would it be worthwhile to ponder whether supplementation of grazing yearlings could make the grass go farther while increasing weight gain as well? University of Nebraska (NU) ruminant nutritionist Terry Klopfenstein says supplementing yearlings with a byproduct feed, like distillers' grains, may accomplish both objectives.

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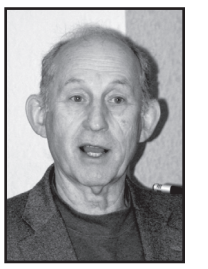

Study results

According to Klopfenstein, the price of summer pasture in 2006 averaged a little more than $27 per animal unit month (AUM). That translates to about $80 per ton of dry matter (DM). The price of distillers' grains at the plant ranged from $70 to $80 per ton. In Klopfenstein's estimation, distillers' grains could be delivered to yearlings on pasture for approximately $120 per ton, as is, or $138 per ton of DM.

"Therefore, distillers' grains would be about 166% of the price of grass. However, distillers' grains have about 200% of the energy value of grass," Klopfenstein explains. "That suggests it would be economical to supplement distillers' grains to yearlings on grass."

To determine the effects of supplementation with distillers' grains, researchers looked at data from six different Nebraska grazing trials and two studies conducted in Kansas. Grazed forage varied from cool-season, smooth brome pastures to upland range consisting primarily of warm-season species, depending on locations of the various experiments. Three of the trials involved yearling heifers and five involved steers. The average weight of all yearlings at the start of the grazing season was 638 pounds (lb.).

According to Klopfenstein, non-supplemented cattle gained an average of 1.6 lb. per day while on grass. For yearlings that were supplemented while on grass, feeding levels were either 0.5% or 1% of body weight. Supplementation at the 0.5% level (4 lb. of distillers' grains at 90% DM) increased average daily gain (ADG) to 2.13 lb. Feeding distillers' grains at the 1% level (7.5 lb.) resulted in an average gain of 2.49 lb. per day.

The length of the grazing trials varied from 54 to 196 days, averaging 100 days. So, based on the distillers' grains cost cited earlier, a yearling fed 4 lb. per day of distillers' grains gained 53 additional pounds in 100 days, at a cost of $24. Based on five-year average prices, the value of the additional gain was $31.10.

But researchers have concluded that supplementation with distillers' grains also affects the amount of forage cattle consume. At moderate stocking rates, Klopfenstein says, a reduction in grazed forage intake of one-half pound for each pound of distillers' grains (DM basis) fed can be expected. For a yearling fed 4 lb. of supplement per day, approximately 189 lb. of forage would be saved. The value of saved forage ($7.60) added to the value of additional weight gain brings the total return to $38.70.

"At the 7.5 level (1% of body weight) of supplemented distillers' grains, the cost would be $45," Klopfenstein adds. "An additional 89 pounds of gain worth $49.96 would be obtained, plus $13.66 for reduced forage use, for a total of $63.62."

Worth consideration

In six experiments, researchers also measured ADG and feed efficiency (FE) of yearlings after they entered finishing programs. Results indicate supplementing distillers' grains on grass does not have a negative effect on subsequent feedlot performance if the grazing period is not more than 150 days and cattle are harvested at equal degrees of fatness.

"Because the yearlings that were finished after supplementation on grass gained at similar rates and efficiencies, we can assume the extra weight gain on grass is maintained to market with no additional costs," Klopfenstein says.

"The five-year average price for that gain is $78 per hundredweight. With the value of the extra gain and forage savings, the yearlings supplemented with 4 pounds per day of distillers' grains would return $48.94 for $24 invested in distillers' grains. Those supplemented with 7.5 pounds per day would return $83.08 for $45 invested in distillers' grains."

To capture that maximum return on investment, however, the yearling operator would have to retain ownership through the feedlot phase.

It's something worth thinking about.