

Performance of heifers fed a corn silage based diet and supplemented with soybean meal versus distillers dried grains plus solubles. J. B. Corners* and J. E. Williams, *University of Missouri-Columbia.*

A study was conducted using 63 Angus crossbred heifers (234.5 ± 18.97 kg) to compare Distillers Dried Grains with Solubles (DDGS) versus Soybean Meal (SBM) as a supplemental protein source. Animals were assigned to three treatments, which were SBM and two levels of DDGS, fed as a top-dressed supplement. Treatments were formulated to provide .30 kg SBM (12.5% CP, 1.08 Mcal NEg/kg; SBM), .30 kg DDGS (11.7% CP, 1.08 Mcal NEg/kg; LDDGS) and .76 kg DDGS (12.5% CP, 1.10 Mcal NEg/kg; HDDGS). The basal diet consisted of corn silage (22.2% DM, 8.61% CP, .79 Mcal NEg/kg), soyhulls and corn. Data were analyzed as a split plot design, while overall data were analyzed as a randomized block design (pen was the experimental unit). The ADG for the HDDGS group was numerically greater ($P < 0.13$) than SBM, while ADG was similar ($P > 0.64$) for the SBM and LDDGS groups. During the 112-day study, DMI ($P > 0.74$) and F:G ratio ($P > 0.24$) did not differ. Numerically higher ADG and numerically improved F:G ratio created a lower cost of gain ($P < 0.11$) for the HDDGS treatment compared to the SBM group. An in situ study was conducted with two mature Angus cows consuming the test basal diet and a mixture of .45 kg SBM and .45 kg DDGS. The DDGS and SBM (4.0 g in triplicate) were placed in Dacron bags and incubated up to 48 hours. The DM ($P < 0.03$) and N ($P < 0.02$) disappearance for SBM were increased compared to DDGS. These results revealed that the greater amount of protein escaping ruminal degradation is potentially available for utilization in the small intestine, and improved ADG in the High DDGS treatment. Based on findings, DDGS is an economically viable replacement for SBM in a corn silage based diet for growing heifers.

Item	SBM	LDDGS	HDDGS	SE	P<
ADG, kg/d	1.23 ^a	1.20 ^a	1.34 ^b	0.034	.13
DMI, kg/d	7.70	7.72	7.99	0.277	.74
F:G Ratio, kg/kg	6.26	6.43	5.96	0.083	.24
Cost/100 kg Gain	61.82 ^a	58.96 ^a	55.80 ^b	1.297	.11

^{a,b} Values in rows not sharing a common superscript are different ($P < .13$).

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