



Distillers Grains In Cattle Diets – How Much Can I Feed And How Much Can I Pay?

How Much Distillers Can You Feed?

High corn prices have many cattle feeders asking: how much distillers grains can I feed in my finishing diets?

The following data generated by the University of Nebraska explores that very topic. In this trial, yearling steers were fed wet distillers grains from 10 to 50% of the diet dry matter.

TABLE 1. Cattle Performance When Fed Different Levels of Distillers Grains to Finishing Yearlings^a (126 day finishing trial)^b

	Control	10% DG	20% DG	30% DG	40% DG	50% DG
In Wt, lbs	774	772	772	772	774	772
Final Wt, lb	1,234	1,285	1,291	1,313	1,313	1,267
ADG, lb/day	3.65	4.07	4.11	4.31	4.27	3.92
DMI, lb/day	24.0	24.6	25.1	26.0	24.4	23.3
DM/Gain, lb	6.52	6.06	6.10	5.78	5.68	5.92
Diet Fat, % (dmb)	4.2%	5.02	5.85	6.68	7.51	8.33
<u>Carcass Specs.</u>						
Carcass Wt, lb	777	801	807	827	825	796
Marble Score	515	538	520	523	501	505
Yield Grade	2.40	2.77	2.63	2.73	2.75	2.65

^aDiets = Cracked corn, high moisture corn, alfalfa hay & wet distillers grains (33% dry matter).

^bVander Pol, K.J., et al., 2006, U of Nebraska Beef Cattle Rprt., pp. 51-53.

The data in Table 1 suggests cattle can be successfully fed 40% distillers grains in the diet dry matter with little reduction in performance.

The 40% cattle had lower marbling scores compared to the control and lower distillers diets. Other trials also suggest that when dry matter inclusion of distillers gets much beyond 30%, cattle may not grade or marble as well.

Cattle fed distillers at 50% of the diet dry matter (about 35 lbs/hd as fed) had poorer performance, lighter carcass weights, and less marbling than the other treatments. However, the 50% distillers cattle still outperformed the control steers!

Table 2 demonstrates the approximate daily as-fed intake of wet distillers grains when included at 20%, 30%, and 40% of the typical finishing diet dry matter.

TABLE 2. As-Fed Intake Of Wet Distillers Grains When Fed At 20%, 30%, And 40% Of The Diet Dry Matter^a

Feedstuffs	20% DG	30% DG	40% DG
Corn silage, lb	14.8	13.1	14.3
Wet distillers, lb	14.0	21.0	28.0
Cracked corn, lb	13.4	11.5	8.4
Mixed hay, lb	1.0	1.0	1.0
DG435SRU, lb	0.40	0.40	0.40
DMI, lb/hd/day	23.0	23.0	23.0
<u>Diet Specs. (dmb)</u>			
Crude Protein, %	13.0	13.8	15.8
NE _m Mcal/lb	0.96	0.98	1.0
NE _g Mcal/lb	0.65	0.67	0.68
% Fat (dmb)	5.5	6.3	7.0

^aDistillers grains contained 35% dry matter.

These are 1,000 to 1,100 pound steers and the 28 pounds as fed of distillers in the 40% DG diet is

(continued)

more than most producers consider feeding. However, the 40% DG diet allows significantly less corn to be fed and the diet to contain a much higher NEg (0.68 Mcals) for better gain potential.

What Limits The Amount Of Distillers Fed?

In general the level of total fat in the diet dry matter limits the maximum amount of distillers grains to feed. Producers should avoid having much more than 7% total fat in the diet dry matter. The 40% distillers diet in Table 1 contained 7.5% fat on a dry matter basis, while the 50% diet contained 8.33% fat.

Another limiting factor is sulfur content of the distillers. Make sure the level of sulfur is known in the distillers grains so that total dietary sulfur is under 0.35 to 0.4% dry matter basis. If sulfur level in distillers is high (over 0.6% dmb), the 40% inclusion rate is probably too high.

Another limiting factor may be the cost of distillers grains.

What's The Most I Can Pay For Distillers Grains?

Distillers grains bring so much to the table for a cattle feeder that determining how much you can afford to pay is not an easy question to answer. Distillers contain 25% to 30% more energy than corn and provide 28% to 30% crude protein (dry matter basis). Also cattle fed distillers grains consume 5 to 10% more dry matter, resulting in better performance. Relative to corn, Table 3 offers suggestions as to the maximum amount you can pay for distillers grains.

Table 3 takes into account only the cost of energy relative to corn as the maximum amount you should pay for distillers grains in growing/finishing diets for cattle. One should also consider

distance to the plant and the improved performance from distillers in the diet.

TABLE 3. Approximate Maximum Amount To Pay For Distillers Grains In Cattle Diets Given The Price Of Corn

Corn, \$ per Bushel	Dry Matter Concentration of Distillers Grains		
	35% DM	50% DM	90% DM
2.00	\$36.00	\$51.00	\$82.00
2.25	\$41.00	\$57.00	\$93.00
2.50	\$45.00	\$64.00	\$103.00
2.75	\$49.00	\$70.00	\$113.00
3.00	\$54.00	\$77.00	\$123.00
3.25	\$58.00	\$83.00	\$134.00
3.50	\$63.00	\$89.00	\$144.00
3.75	\$67.00	\$96.00	\$154.00
4.00	\$72.00	\$102.00	\$165.00
4.25	\$76.00	\$108.00	\$175.00
4.50	\$80.00	\$114.00	\$185.00

In conclusion, when feeding distillers grains to cattle:

- Consider feeding as much as 40% of the diet dry matter in distillers grains to reduce corn and increase diet energy density.
- Levels beyond 40% of the diet dry matter may reduce performance and carcass merit and provide too much fat in the ration (beyond 7% dmb).
- Before feeding higher intakes of distillers, make sure sulfur content is low (under 0.6% dmb).
- Refer to Technical Bulletin 06-15 "Combinations Of Corn Gluten Feed And Distillers." You can feed a 50:50 combination of gluten feed and distillers in growing finishing diets at up to 60% to 75% of the diet dry matter. The result is very little corn fed!