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The Economic Impact of Ethanol and Distiller's Grain Production on Ethanol Producers and Cattle Feeders

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Recent increases in ethanol production have brought about change not only in the ethanol industry but also in the livestock industry. This research evaluated data collected from two surveys regarding the current situation in the ethanol and cattle feeding industries in Iowa and Kansas. The first survey focused on ethanol producers. Data was gathered pertaining to ethanol production, grain acquisition, distiller's grain production and producer's perception of the industry. It was found that over 90 percent of the respondents expected to expand ethanol production over the next six years. If realized, that would increase the amount of feed grain used for ethanol production, as well as increase the amount of distiller's grain produced.

The second survey was administered to cattle feeders and focused on the feeding of distiller's grain, prices paid and cattle feeders' perceptions about distiller's grain as a feed ingredient. Responses showed significant regional differences in distiller's grain usage and prices. Feedyards located in Iowa, Minnesota, Nebraska and South Dakota, on average, fed seven percent more WDGS on an as-is basis than feedyards located in Kansas and Texas. It was concluded that in states with larger supplies of distiller's grain, feedyard operators used more of it in livestock rations.

A binomial logit model was used to determine what factors most affected DDGS (dry) and WDGS (wet) usage. None of the variables included in the DDGS usage model were statistically significant. However, the WDGS usage model indicated that feedyards in Iowa, Minnesota, Nebraska and South Dakota were much more willing to use WDGS in finished cattle rations than feeders in Kansas or Texas. Feedyards feeding 1,000 head or more demonstrated a higher probability of feeding WDGS than feedyards under 1,000 head. Conversely, it was shown that cattle feeders who used steam flaking had a lower probability of feeding WDGS than feeders using dry rolling, while feedyards feeding high-moisture corn had a high probability of feeding WDGS.

The WDGS pricing model showed that feedyards in Iowa and Minnesota paid approximately $14.00 per ton less than feedyards located in Kansas and Texas. It was reasoned that this had much to do with the relatively large amount of ethanol production in Iowa and Minnesota and the correspondingly large distiller's grain supply. The DDGS pricing analysis model yielded one significant result. Large feedyards, those feeding between 4,000 and 15,999 head of cattle, were willing to pay $15.00 less per ton of DDGS than small feedyards feeding less than 1,000 head of cattle. It was concluded that distiller's grain usage and price depended on a feedyard's location and size.