



## Use of Distillers Dried Grains w/ Solubles (DDGS) In Today's Swine Diets

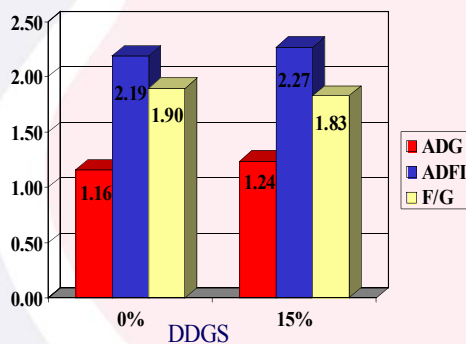
The increase in feed ingredient prices over the last six weeks has caused pork producers to evaluate their nutrition programs. For every \$1.00/bushel increase in corn price, feed cost per head on a wean to finish basis increases \$10.60. Combine that with the proliferation of ethanol plants either under construction or in the planning stages and the most frequently asked question appears to be "Is feeding DDGS cost effective, and if so, how much can be fed?"

Hubbard Feeds has done a number of research trials over the last four years on feeding DDGS. We recommend feeding DDGS when cost effective. This month's Tech-Line will highlight the research on feeding various levels of DDGS and the expected outcome in average daily gain and feed conversion.

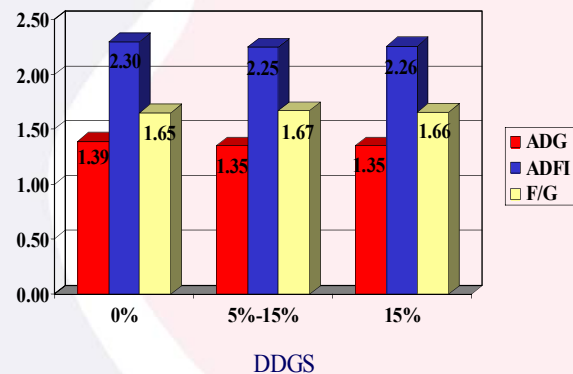
The amount of DDGS available in the next 4-6 years is expected to almost double, due to the number of ethanol plants that are scheduled to come into production. DDGS should be available to almost every producer. The first question that must be answered should be "Is feeding DDGS cost effective?" Hubbard Feeds has a number of spreadsheets available that allow producers to input corn, soybean meal, DDGS and premix costs to determine if feeding DDGS is economical. If you are interested in one of these spreadsheets, contact your Hubbard Feeds representative.

Once the decision has been made to feed DDGS, the next question should be at what levels. Below is a summary of research Hubbard Feeds did on feeding DDGS to 25-60 lb pigs.

**Trial 5-522 (320 pigs, 21 days, 25 to 50 lbs)**



**Trial 6-502 (455 pigs, 28 days, 25 to 65 lbs)**

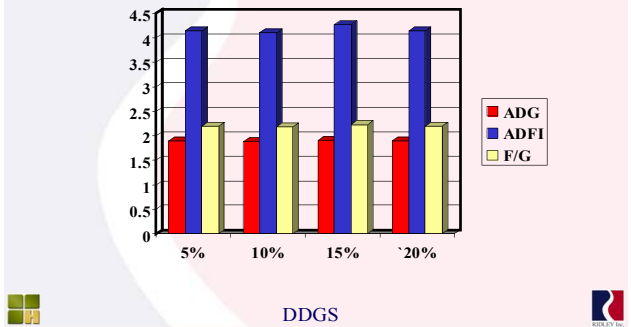


In these two trials there was a minimal affect on performance, even when DDGS were fed at 15% of the diet. Hubbard Feeds recommendations for feeding DDGS in the 25-50 lb pig are currently 10% of the diet. However, when a consistent high quality source is available, DDGS inclusion can be pushed up to 15%.

Our research indicates that higher levels of DDGS can be fed in the growing/finishing stage. Multiple trials have indicated no detrimental effect on performance with 15% DDGS. Once again when one takes the time to carefully evaluate the DDGS source, it is possible to increase the inclusion to 20%.

We must also not forget that as the level of DDGS in the swine diet increases above 20%, performance may decrease. Flowability and palatability may also decrease while carcass concerns like soft bellies may become more prevalent. These concerns are currently being evaluated by the Hubbard Feeds nutrition staff.

**Trial F0311 (1000 pigs, 83 days, 65 to 220 lbs)**



One other point that should be taken under consideration, is the tradeoff between the savings of feeding DDGS vs. the reduction in performance as levels of DDGS increase. The following graph compares the performance of pigs feed 0% DDGS vs. 30% DDGS. These performance numbers were extracted from a 2003 peer reviewed journal article (Fu, et al 2003). From this research, it can be interpreted that producers who face time and space constraints will have a lower feed cost per pig by feeding higher levels of DDGS, but the pigs will not gain as much, therefore their return over feed costs will be lower.

If additional space is available to counter the reduction in performance, then feed cost per pig is less with the higher feeding levels of DDGS and the return over feed cost will actually be better.

In conclusion when evaluating DDGS in swine diets, every angle must be considered. There will most likely be a savings from feeding DDGS, especially when/if the corn to DDGS price spread increases. There is a variation from plant to plant so it is important to identify the plant that will be used and pull out of it as consistently as possible. Taking samples from a plant can help identify amino acid levels and digestibility, which will allow for custom formulation.

Table 1. Effect of decreased performance due to high DDGS inclusions on the cost of production when space is or is not limited.

DDGS %	Fu et al. 2003 University of Missouri 63-270 lbs	
	0	30
ADG	2.28	2.15
ADFI	5.6316	5.3105
F:G	2.47	2.47
Final BW	270.48	258.65
Diet Cost (\$/ton)	110	104
Feed Consumed	512.48	483.26
Diet Cost/pig	\$28.19	\$25.13
Cost / lb of gain	\$0.136	\$0.128
Return over Feed	\$65.19	\$62.91
Calculations when additional space is available to counter loss in performance		
Finisher Cost (\$41/yr)	\$0.11	\$0.11
Additional Wt Needed (lbs)	0	11.83
Days Needed	0.00	5.50
Additional Days Cost	\$0.00	\$0.62
Additional Feed Cost	0.000	\$1.519
Diet Cost + Space Cost	\$28.19	\$26.72
Cost / lb of gain	\$0.136	\$0.129
Return over Feed	\$65.19	\$66.66

Overall Hubbard Feeds considers DDGS to be an important factor in managing higher ingredient costs. For more information, contact your Hubbard Feeds representative.