

DDGS Cost Management Tool

Developed by
Commercial Agriculture Program - University of Missouri



The DDGS Cost Management Tool was designed to help producers estimate the impact various rations (including DDGS) on their production system.

The Tool is divided into sections, each on a separate tab within the file. The grey cells are used for entering data specific to the operation.

Production & Marketing:

On this tab producers can enter specific production data including information on both nursery and finishing capacity. The marketing section is for projected market price and any weight discounts.

Ingredients:

The ingredients tab allows the user to enter prices of feed ingredients (bu, lb, or ton). At the bottom of the list there is an area for five additional ingredients that are not currently included in the ingredient list.

The next four tabs contain two entry sections - one for rations without DDGS and one including DDGS.

Nursery Rations:

The user can enter up to seven nursery rations. Begin with ration number one and fill in the number of rations used in the system. If a system only includes three rations only the first three rations should contain entries. There are check variables calculated at the bottom of the sheet to ensure each ration includes 2000 lbs of ingredients. The cost of the rations are calculated based on ingredient cost entered on the previous tab.

Nursery Data:

On the Nursery Data tab the user is to enter the number of days on each ration and expected ADG and FE. There is a calculated check variable to the right of the page that indicates how many more days are available in the nursery based on entries on the Production & Marketing sheet.

Finishing Rations:

The user can enter up to seven finishing rations. Begin with ration number one and fill in the number of rations used in the system. There are check variables calculated at the bottom of the sheet to ensure each ration includes 2000 lbs of ingredients. The cost of the rations are calculated based on ingredient cost.

Finishing Data:

On the Finishing Data tab the user is to enter the number of days on each ration and expected ADG and FE. There is a calculated check variable to the right of the page that indicates the number of pounds the animals must gain to meet the target market weight entered on the Production & Marketing sheet.

Results:

The results section is divided into two sections. The first section compares the rations of the two Nursery and two Finishing phases. The second section combines the Nursery and Finishing phases and looks at the impact of limited feeding days (if the number of days need to meet target weight is more than that available for finishing) and impact of selling animals under target weight.

Limitations

There are a few limitations of this spreadsheets 1) the nursery phase can not exceed 50 days, 2) the finishing phase can not exceed 180 days, and 3) the market weight must be between 195-300 lbs.

The spreadsheet is protected so that users can only enter information in the grey cells. There is no password; if you know how to unprotect spreadsheets you are free to do so and make modifications.

This worksheet is for educational purposes only. Its use is not supported by the University of Missouri and User assumes all risks associated with its use.

<http://agebb.missouri.edu/swine/byproducts/index.html>

Production

Weaning age	21	days
Weaning weight	11	lbs

Target market weight	270	lbs
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Nursery:

Days available in nursery	45	days
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Nursery daily production cost (excluding feed costs)	\$0.15	/day
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Finishing:

Days available for finishing	110	days
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Finishing daily production cost (excluding feed costs)	\$0.15	/day
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Marketing

Liveweight base price	\$45.00	per cwt
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Marketing Discounts*:

195-210	\$19.85	per cwt
211-220	\$13.65	per cwt
221-230	\$5.15	per cwt
231-240	\$2.05	per cwt
241-250	\$0.00	per cwt
251-260	\$0.00	per cwt
261-270	\$0.00	per cwt
271-280	\$2.50	per cwt
281-290	\$3.85	per cwt
291-300	\$3.85	per cwt

* Based on August 6, 2007 USDA Market News Prior Day Hog Report

Feed Ingredient Costs

Corn	\$3.25	/bu
DDGS	\$115.00	/ton
Soybean Meal 48%	\$260.00	/ton
Dical, 21% P	\$0.26	/lb
Limestone	\$0.12	/lb
Salt	\$0.02	/lb
Fat	\$0.30	/lb
Vitamin Premix	\$0.44	/lb
Trace Mineral Premix	\$0.37	/lb
Lysine HCL	\$1.02	/lb
Basemix/Supplement	\$1.01	/lb
Whey, dried	\$0.40	/lb
Animal Plasma	\$1.99	/lb
Fish meal	\$0.44	/lb
Lactose	\$0.57	/lb
DL-Methionine	\$1.45	/lb
Zinc Oxide	\$1.22	/lb
Copper Sulfate	\$1.17	/lb
Blood Cells	\$0.39	/lb
Other (type over)		
Other (type over)		
Other (type over)		
Other (type over)		
Other (type over)		

Nursery Rations - No DDGS

Pounds of Ingredients in Ration
(each ration must contain 2,000 lbs of ingredients)

Ingredient	Unit Cost	Nursery 1	Nursery 2	Nursery 3	Nursery 4	Nursery 5	Nursery 6	Nursery 7
Corn	\$3.25 /bu	710.0	790.0	1,067.0	1,272.0			
Soybean Meal 48%	\$260.00 /ton	250.0	400.0	520.0	650.0			
Dical, 21% P	\$0.26 /lb	10.0	22.0	32.0	45.0			
Limestone	\$0.12 /lb	8.0	12.0	15.0	15.0			
Salt	\$0.02 /lb	2.0	6.0	6.0	5.0			
Fat	\$0.30 /lb	120.0	100.0	100.0				
Vitamin Premix	\$0.44 /lb	5.0	5.0	5.0	5.0			
Trace Mineral Premix	\$0.37 /lb	3.0	3.0	3.0	3.0			
Lysine HCL	\$1.02 /lb	3.0	3.0	3.0	3.0			
Basemix/Supplement	\$1.01 /lb							
Whey, dried	\$0.40 /lb	500.0	500.0	200.0				
Animal Plasma	\$1.99 /lb	160.0	50.0	40.0				
Fish meal	\$0.44 /lb	120.0	100.0					
Lactose	\$0.57 /lb	100.0						
DL-Methionine	\$1.45 /lb	1.5	1.5	1.5	1.0			
Zinc Oxide	\$1.22 /lb	7.5	7.5	7.5				
Copper Sulfate	\$1.17 /lb				1.0			
Blood Cells	\$0.39 /lb							
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Total pounds in ration		2,000	2,000	2,000	2,000			
Per ton cost of ration		\$759.16	\$496.26	\$346.98	\$180.84			
Per pound cost of ration		\$0.38	\$0.25	\$0.17	\$0.09			

Nursery Rations - Including DDGS

Pounds of Ingredients in Ration
(each ration must contain 2,000 lbs of ingredients)

Ingredient	Unit Cost	Nursery 1	Nursery 2	Nursery 3	Nursery 4	Nursery 5	Nursery 6	Nursery 7
Corn	\$3.25 /bu	503.0	599.0	884.0	1,103.0			
DDGS	\$115.00 /ton	200.0	200.0	200.0	200.0			
Soybean Meal 48%	\$260.00 /ton	250.0	400.0	520.0	620.0			
Dical, 21% P	\$0.26 /lb	10.0	10.0	10.0	41.0			
Limestone	\$0.12 /lb	15.0	15.0	20.0	18.0			
Salt	\$0.02 /lb	2.0	6.0	6.0	5.0			
Fat	\$0.30 /lb	120.0	100.0	100.0				
Vitamin Premix	\$0.44 /lb	5.0	5.0	5.0	5.0			
Trace Mineral Premix	\$0.37 /lb	3.0	3.0	3.0	3.0			
Lysine HCL	\$1.02 /lb	3.0	3.0	3.0	3.0			
Basemix/Supplement	\$1.01 /lb							
Whey, dried	\$0.40 /lb	500.0	500.0	200.0				
Animal Plasma	\$1.99 /lb	160.0	50.0	40.0				
Fish meal	\$0.44 /lb	120.0	100.0					
Lactose	\$0.57 /lb	100.0						
DL-Methionine	\$1.45 /lb	1.5	1.5	1.5	1.0			
Zinc Oxide	\$1.22 /lb	7.5	7.5	7.5				
Copper Sulfate	\$1.17 /lb				1.0			
Blood Cells	\$0.39 /lb							
Total pounds in ration		2,000	2,000	2,000	2,000			
Per ton cost of ration		\$759.45	\$493.90	\$342.72	\$177.93			
Per pound cost of ration		\$0.38	\$0.25	\$0.17	\$0.09			

Nursery Production Data - No DDGS

	Rations						
	Nursery 1	Nursery 2	Nursery 3	Nursery 4	Nursery 5	Nursery 6	Nursery 7
Days on Ration	2	5	14	21			
Expected ADG	0.45	0.75	1.00	1.25			
Expected FE	1.10	1.35	1.50	2.00			
Total lbs of feed consumed/pig	0.99	5.06	21.00	52.50			
Total lbs gained per ration	0.90	3.75	14.00	26.25			
Weight upon completing ration	12	16	30	56			
Cumulative days in nursery	2	7	21	42			
Cost of feed per lb	\$0.38	\$0.25	\$0.17	\$0.09			
Feed Cost/Pound of Gain	\$0.42	\$0.33	\$0.26	\$0.18			
Feed cost of ration per pig	\$0.38	\$1.26	\$3.64	\$4.75			

Nursery Production Data - Including DDGS

	Rations						
	Nursery 1	Nursery 2	Nursery 3	Nursery 4	Nursery 5	Nursery 6	Nursery 7
Days on Ration	2	5	14	21			
Expected ADG	0.35	0.65	0.95	1.20			
Expected FE	1.25	1.50	1.60	2.10			
Total lbs of feed consumed/pig	0.88	4.88	21.28	52.92			
Total lbs gained per ration	0.70	3.25	13.30	25.20			
Weight upon completing ration	12	15	28	53			
Cumulative days in nursery	2	7	21	42			
Cost of feed per lb	\$0.38	\$0.25	\$0.17	\$0.09			
Feed Cost/Pound of Gain	\$0.47	\$0.37	\$0.27	\$0.19			
Feed cost of ration per pig	\$0.33	\$1.20	\$3.65	\$4.71			

Finisher Rations - No DDGS

Pounds of Ingredients in Ration
(each ration must contain 2,000 lbs of ingredients)

Ingredient	Unit Cost	Finisher 1	Finisher 2	Finisher 3	Finisher 4	Finisher 5	Finisher 6	Finisher 7
Corn	\$3.25 /bu	1,498.0	1,568.0	1,638.0	1,683.0	1,718.0	1,783.0	
Soybean Meal 48%	\$260.00 /ton	450.0	380.0	310.0	275.0	240.0	175.0	
Dical, 21% P	\$0.26 /lb	15.0	15.0	15.0	10.0	10.0	10.0	
Limestone	\$0.12 /lb	21.0	21.0	21.0	18.0	18.0	18.0	
Salt	\$0.02 /lb	7.0	7.0	7.0	7.0	7.0	7.0	
Fat	\$0.30 /lb							
Vitamin Premix	\$0.44 /lb	3.0	3.0	3.0	2.0	2.0	2.0	
Trace Mineral Premix	\$0.37 /lb	3.0	3.0	3.0	2.0	2.0	2.0	
Lysine HCL	\$1.02 /lb	3.0	3.0	3.0	3.0	3.0	3.0	
Basemix/Supplement	\$1.01 /lb							
Whey, dried	\$0.40 /lb							
Animal Plasma	\$1.99 /lb							
Fish meal	\$0.44 /lb							
Lactose	\$0.57 /lb							
DL-Methionine	\$1.45 /lb							
Zinc Oxide	\$1.22 /lb							
Copper Sulfate	\$1.17 /lb							
Blood Cells	\$0.39 /lb							
Total pounds in ration		2,000	2,000	2,000	2,000	2,000	2,000	
Per ton cost of ration		\$157.38	\$152.35	\$147.31	\$142.91	\$140.40	\$135.72	
Per pound cost of ration		\$0.08	\$0.08	\$0.07	\$0.07	\$0.07	\$0.07	

Finisher Rations - Including DDGS

Pounds of Ingredients in Ration
(each ration must contain 2,000 lbs of ingredients)

Ingredient	Unit Cost	Finisher 1	Finisher 2	Finisher 3	Finisher 4	Finisher 5	Finisher 6	Finisher 7
Corn	\$3.25 /bu	961.0	1,031.0	1,280.0	1,399.0	1,530.0	1,783.0	
DDGS	\$115.00 /ton	600.0	600.0	400.0	300.0	200.0		
Soybean Meal 48%	\$260.00 /ton	390.0	320.0	270.0	250.0	220.0	175.0	
Dical, 21% P	\$0.26 /lb	6.0	6.0	8.0	10.0	12.0	10.0	
Limestone	\$0.12 /lb	27.0	27.0	26.0	25.0	24.0	18.0	
Salt	\$0.02 /lb	7.0	7.0	7.0	7.0	7.0	7.0	
Fat	\$0.30 /lb							
Vitamin Premix	\$0.44 /lb	3.0	3.0	3.0	3.0	2.0	2.0	
Trace Mineral Premix	\$0.37 /lb	3.0	3.0	3.0	3.0	2.0	2.0	
Lysine HCL	\$1.02 /lb	3.0	3.0	3.0	3.0	3.0	3.0	
Basemix/Supplement	\$1.01 /lb							
Whey, dried	\$0.40 /lb							
Animal Plasma	\$1.99 /lb							
Fish meal	\$0.44 /lb							
Lactose	\$0.57 /lb							
DL-Methionine	\$1.45 /lb							
Zinc Oxide	\$1.22 /lb							
Copper Sulfate	\$1.17 /lb							
Blood Cells	\$0.39 /lb							
Total pounds in ration		2,000	2,000	2,000	2,000	2,000	2,000	
Per ton cost of ration		\$151.27	\$146.23	\$143.09	\$142.05	\$139.59	\$135.72	
Per pound cost of ration		\$0.08	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	



Finisher Rations - No DDGS

	Rations						
	Finisher 1	Finisher 2	Finisher 3	Finisher 4	Finisher 5	Finisher 6	Finisher 7
Days on Ration	21	21	28	21	12	7	
Expected ADG	1.55	1.90	2.10	2.25	1.90	1.80	
Expected FE	2.20	2.60	3.00	3.40	3.90	4.35	
Total lbs of feed consumed/pig	71.61	103.74	176.40	160.65	88.92	54.81	
Total lbs gained per ration	32.55	39.90	58.80	47.25	22.80	12.60	
Weight upon completing ration	88	128	187	234	257	270	
Cumulative days in finisher	21	42	70	91	103	110	
Cost of feed per lb	\$0.08	\$0.08	\$0.07	\$0.07	\$0.07	\$0.07	
Feed Cost/Pound of Gain	\$0.17	\$0.20	\$0.22	\$0.24	\$0.27	\$0.30	
Feed cost of ration per pig	\$5.64	\$7.90	\$12.99	\$11.48	\$6.24	\$3.72	

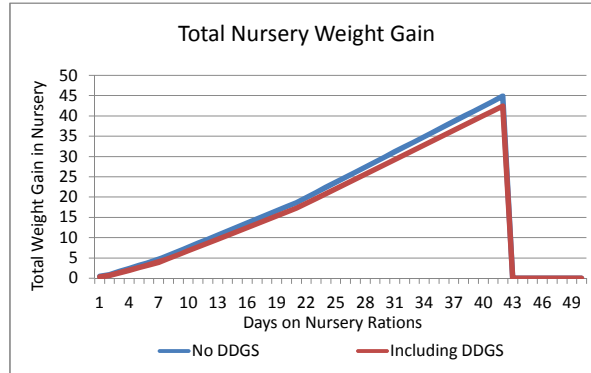
Finisher Rations - Including DDGS

	Rations						
	Finisher 1	Finisher 2	Finisher 3	Finisher 4	Finisher 5	Finisher 6	Finisher 7
Days on Ration	21	21	28	21	12	7	
Expected ADG	1.40	1.75	2.05	2.20	1.85	1.80	
Expected FE	2.40	2.80	3.15	3.50	4.00	4.35	
Total lbs of feed consumed/pig	70.56	102.90	180.81	161.70	88.80	54.81	
Total lbs gained per ration	29.40	36.75	57.40	46.20	22.20	12.60	
Weight upon completing ration	83	120	177	223	245	258	
Cumulative days in finisher	21	42	70	91	103	110	
Cost of feed per lb	\$0.08	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	
Feed Cost/Pound of Gain	\$0.18	\$0.20	\$0.23	\$0.25	\$0.28	\$0.30	
Feed cost of ration per pig	\$5.34	\$7.52	\$12.94	\$11.48	\$6.20	\$3.72	

Nursery Ration Results

Rations with No DDGS	
Weight added in nursery	45
Weight leaving nursery	56
Days in nursery	42
Total cost of nursery feed	\$10.02
Per pound cost of gain in nursery	\$0.22

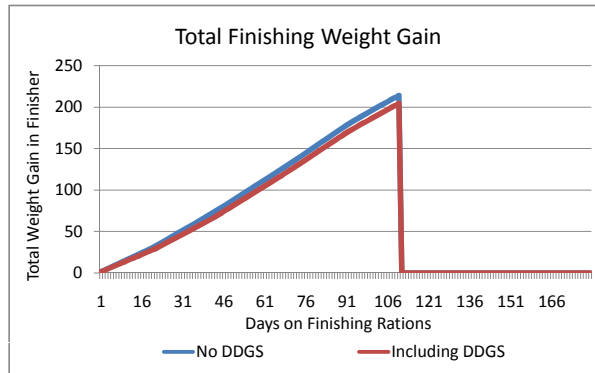
Rations Including DDGS	
Weight added in nursery	42
Weight leaving nursery	53
Days in nursery	42
Total cost of nursery feed	\$9.89
Per pound cost of gain in nursery	\$0.23



Finishing Ration Results

Rations with No DDGS	
Weight added in finisher	214
Finished weight	270
Days in finisher	110
Total cost of finishing feed	\$47.97
Per pound cost of gain in finisher	\$0.22

Including DDGS	
Weight added in finisher	205
Finished weight	258
Days in finisher	110
Total cost of finishing feed	\$47.20
Per pound weight cost of gain in finisher	\$0.23



Results

Rations with No DDGS		Rations Including DDGS	
Selling weight	270	Selling weight	258
Target market weight	270	Target market weight	270
Deviation from target weight	0	Deviation from target weight	-12
Revenue per pig sold	\$121.41	Revenue per pig sold	\$116.10
Total cost of nursery feed	\$10.02	Total cost of nursery feed	\$9.89
Nursery daily production cost	\$6.30	Nursery daily production cost	\$6.30
Total cost of finishing feed	\$47.97	Total cost of finishing feed	\$47.20
Finishing daily production cost	\$16.50	Finishing daily production cost	\$16.50
Total Costs	\$80.79	Total Costs	\$79.89
Revenue minus costs *	\$40.62	Revenue minus costs *	\$36.21

* Not including the cost of weaned pig

* Not including the cost of weaned pig

Impact of Limited Feeding Days

Days available for finishing	110	Days available for finishing	110
Current scheduled finishing days	110	Current scheduled finishing days	110
Does current schedule exceed available finishing days?	No	Does current schedule exceed available finishing days?	No

Impact of Feeding to Target Market Weight

Does current schedule reach target market weight?	Yes	Does current schedule reach target market weight?	No
		Days required to meet target weight	117
Impact of Feeding to Target Market Weight			
		Target selling weight	270
		Revenue per pig sold	\$121.50
		Total cost of nursery feed	\$9.89
		Nursery daily production cost	\$6.30
		Total cost of finishing feed	\$50.74
		Finishing daily production cost	\$17.50
		Total Costs	\$84.43
		Revenue minus costs *	\$37.07

* Not including the cost of weaned pig

Comparison Table (per pig sold)

Rations with No DDGS		Rations Including DDGS	
Base Ration	\$40.62	DDGS Base Ration	\$36.21
		Difference from Base Ration	-\$4.41
Limited feeding days	None	Limited feeding days	None
Difference from Base Ration	None	Difference from Base Ration	None
		Difference from DDGS Base Ration	None
Selling at target weight	None	Selling at target weight	\$37.07
Difference from Base Ration	None	Difference from Base Ration	-\$3.55
		Difference from DDGS Base Ration	\$0.86