

LattaHarris, LLP
Pork Production,
Cost of Production & Benchmarking
Standards Report

14th Annual Report
Presented by: John McNutt



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LH Benchmarks & Comparative – What it is and What it is Not

- Is a confidential peer group
- Is not a contest – no bragging rights
- Is managerial accounting
 - Is information that managers can use to make decisions
 - How competitive are we
 - Where do we look to make improvements
 - Is not perfect, includes estimates and assumptions, (90% of the way is better than 100% of nothing achieved)



Participation in LH Comparative Report Requirements

- Accrual financial information by stage of growth, production data provided
- Full access by LH staff to needed information
- Grant permission
- Participants from 5 states



LH 2016 Benchmark Process

- Summer 2017 - define estimated benchmark for the year 2016
 - Based on prior year, actual and estimated feed prices for SE Iowa
 - Weekly quotes
 - Feedstuff reported prices and local elevator
 - Apply an estimated purchasing efficiency
 - example: 95% of average weekly posted price for wean to finish*
- Review sales data for market hogs and market sows
 - Market weights, genetic costs adjustments
- Review data base



Process - continued

- August - Review of first draft of 2016 Benchmarks
 - Internal LH staff
 - Consult with industry experts
- Compare benchmarks with client's accrual data
- Refine benchmarks based on observed data
 - 50th & 90th percentile, do they make sense
- Late summer meeting



Y/E 12/31/16 Estimate Benchmarks - 50th & 90th Percentile - Final

	Breed to Wean		Wean to Finish		Whole Herd	
	<i>\$/pig Weaned</i>	<i>\$/pig Weaned</i>	<i>\$/cwt Produced</i>	<i>\$/cwt Produced</i>	<i>\$/cwt Sold</i>	<i>\$/cwt Sold</i>
<i>CWT Gain - CWT Sold</i>			2.68	2.68	2.81	2.81
<i>Cost to Produce Wean Pig</i>			<i>Cost to Add Gain Per Cwt of Gain, W-F</i>		<i>Total Cost / Pig to Market Per Cwt of Pork Sold</i>	
	50th Percentile	90th Percentile	50th Percentile	90th Percentile	50th Percentile	90th Percentile
Labor	\$ 7.07	\$ 5.91	\$ 3.00	\$ 2.70	\$ 5.50	\$ 4.77
Facilities	6.58	5.25	4.79	4.30	7.03	6.05
Other Expenses	2.42	1.51	1.51	1.27	2.35	1.77
Subtotal cost normally borne by contractor	16.07	12.67	9.30	8.27	14.88	12.59
Feed cost	13.85	12.57	27.15	25.29	31.07	28.78
Genetics	5.75	3.35			2.15	1.24
Vet/Med	3.62	2.25	1.98	1.53	3.24	2.29
General and Administrative	1.50	0.92	0.97	0.35	1.49	0.68
Interest Expense - non facility	0.20	-	0.40	0.07	0.46	0.07
Estimated 12 Months Ending 12/31/16	\$ 40.99	\$ 31.76	\$ 39.80	\$ 35.51	\$ 53.29	\$ 45.65

Breakeven Carcass Price Needed @ 75% Yield, y/e 12/31/16	\$ 71.05	\$ 60.87
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Average estimated corn cost \$ 3.43 / bu, decrease of \$.24/bu. from the 2015 cost of \$3.67/bu.

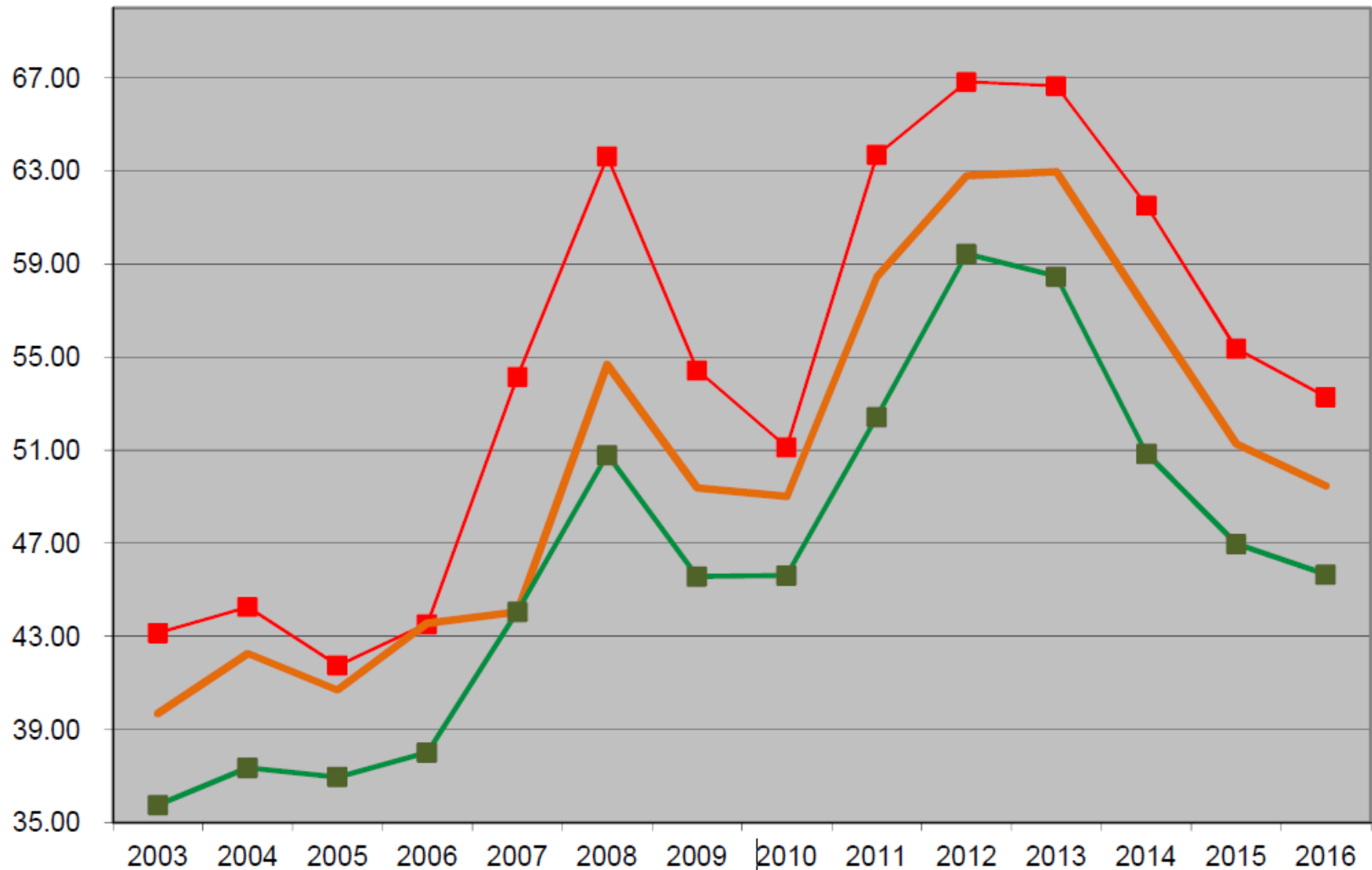
Average estimated bean meal \$ 312/ ton down by \$19/ton from the 2015 cost of \$331/ton

Adjustment for Year End - Due to Change in Corn & SBM Prices

12 Months ending was 9/30/16	\$ 39.78	\$ 30.66	\$ 40.10	\$ 35.63	\$ 53.16	\$ 45.39
12 Months ending was 3/31/17	\$ 39.74	\$ 30.62	\$ 39.92	\$ 40.43	\$ 52.94	\$ 49.92

Benchmark Cost - Farrow to Finish 14 Year

Whole Herd 50th vs. 90th Percentile Compare With Observed



Spread	7.39	6.91	4.79	5.53	10.08	12.81	8.86	5.51	11.26	7.39	8.17	10.65	8.38
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How the Benchmarks Add Up

90th Percentile Example

Cost of weaned pig @ 13 lbs.
= \$31.76/(1-death loss, 4%)
= \$31.76/.96 = **\$33.08**

Cost of Gain
Market Weight 280 pounds
280-13 = 267 pounds of gain
267/100 = 2.67 CWT. of Gain

= \$35.51* 2.67 = **\$94.81**

Cost of a weaned pig sold
\$33.08 + Cost of Gain \$94.81
= **\$127.89**

Divided by CWT. sold
280/100 = 2.80 CWT. Sold
\$127.89/2.80
= **~ \$45.65**

Cost/CWT. Pork Sold
90th percentile



2016 Benchmark Observations

Comparing 2016 to 2015

- **Breed to Wean Cost per Pig Weaned** 95% & 97% respectively
 - 50th Percentile Cost per Pig Weaned down \$ 2.06 to \$ 40.99
 - 90th Percentile Cost per Pig Weaned down \$ 1.01 to \$ 31.76
- **Wean to Finish Cost per Cwt. of Gain** 97% & 97% respectively
 - 50th Percentile Cost per Cwt. of Gain down \$ 1.31 to \$ 39.80
 - 90th Percentile Cost per Cwt. of Gain down \$ 0.99 to \$ 35.51
- **Whole Herd Cost per Cwt. Pork Sold** 96% & 97% respectively
 - 50th Percentile Cost per Cwt. Sold down \$ 2.07 to \$ 53.29/Cwt.
 - 90th Percentile Cost per Cwt. Sold down \$ 1.33 to \$ 45.65/Cwt.

Comparative Cost of Production

Breed to Wean Units, Report Method

- Inventory change is in the divisor
- Divisor is “Pigs Produced – Complete Equivalent”
- Costs are presented in a LH modified “NPPC Financial Standard” format
 - Facilities, labor and other operating reported as “Cost Normally Borne By Contractor”. This allows comparability between farms.
 - Genetics include semen, breeding supplies, royalties, sow depreciation, (gain) loss on sale or death. Breeding stock development costs are capitalized.
 - Example of allocation of capitalized cost; 7% labor, 12% facilities, 4% other, 73% feed, & 4% vet
 - Feed includes grind, mix and delivery
 - Other costs may be adjusted to add a standard charge of \$12/ton
- Totals are presented before general, administrative and finance
- Marketing costs are treated as deductions from revenue
- The reported numbers may not total, the reported metrics are averages and non conforming data points may not be displayed.



Breed To Wean: (detail - see page 16)

63,000 + sows, 1.56 million pigs, Avg. 24.25 pigs/sows/year

- Average cost to produce wean pig: \$36.68
- Farms: 18
 - Range: \$ 27.64 to \$ 47.51
 - Spread: \$ 19.87 *2015 & 2014 it was \$ 15.19 & \$20.50 per pig*
- Labor/Facilities/Other: Range \$ 10.80 to \$18.58
- Genetics: Range \$ 2.41 to \$ 5.92
- Feed: Range \$ 9.97 to \$ 21.90
- Veterinary: Range \$ 1.20 to \$ 6.42
- Of the 7 herds with costs lower than the average of \$ 36.68,
4 < 3,000 and 3 > 3,000 sows



2016 Observations on Sow Sales

- Average pounds sold: 463 lbs., weight down 18 lbs., range: 2016; 429-505 lbs, (2015 - 380-533 lbs; 2014 - 403-527lbs; 2013 - 446-506 lbs)
- Average value cwt: \$34.70, (2015 \$37.20) range 2016 \$31.80 to \$ 41.70, 455 lbs - 440 lbs (2015 \$33.60 to \$41.80)
- Average value per head: 2016 - **\$160**
– (2015 \$180)
- Range: \$145 to \$192 per sow 450 lbs – 505lbs
- Variance high to low per sow: 2016 **\$47** (2015 \$42)
465 lb, & 440lb, \$160 & \$190, = 1,000 sows \$30,000



Comparative Cost of Production for 2016

Breed to Wean Units

Cost per Pig Produced – Complete Equivalent

	2016 Average less than 3,000 sows	2016 Average greater than 3,000 sows	Benchmark – 50 th Percentile	Benchmark – 90 th Percentile
Expenses:				
Personnel	6.84	6.61	7.07	5.91
Facilities	4.79	6.27	6.58	5.25
Other Operating	1.90	1.71	2.42	1.51
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	13.54	14.59	16.07	12.67
Genetics	4.34	4.41	5.75	3.35
Feed	11.98	15.10	13.85	12.57
Veterinary/Medicine	3.78	3.73	3.62	2.25
Total Cost of Production before Administrative & Finance	33.64	37.93	39.29	30.84
Administrative	1.38	1.17	1.50	0.92
Total Cost of Production before Finance	35.02	39.06	40.79	31.76
Interest – non-facility	0.06	0.13	0.20	-
Total Cost of Production (per pig) *	35.08	39.19	40.99	31.76

* Average Columns May Not Total – Metrics are Averages

Comparative Cost of Production

Breed to Wean Units Compare 2016 to 2015

Cost per Pig Produced – Complete Equivalent

	2016 Average less than 3,000 sows	2016 Average greater than 3,000 sows	2015 Average less than 3,000 sows	2015 Average greater than 3,000 sows
Expenses:				
Personnel	6.84	6.61	7.51	5.73
Facilities	4.79	6.27	4.94	6.56
Other Operating	1.90	1.71	2.04	1.78
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	13.54	14.59	14.49	14.08
Genetics	4.34	4.41	4.24	3.98
Feed	11.98	15.10	13.21	12.92
Veterinary/Medicine	3.78	3.73	3.75	3.86
Total Cost of Production before Administrative & Finance	33.64	37.93	35.69	35.09
Administrative	1.38	1.17	1.35	0.98
Total Cost of Production before Finance	35.02	39.06	37.05	36.03
Interest – non-facility	0.06	0.13	0.07	0.16
Total Cost of Production (per pig) *	35.08	39.19	37.11	36.20

*Average Columns May Not Total –
Metrics are averages.

\$4.11/ PIG less <3000 sows

\$0.91 / PIG less > 3000 sows

2016 Comparative - Breed to Wean Units
Cost per Pig Produced Complete Equivalent

Number of Sows in Comparison	57,191
Number of Weaned Pigs	1,564,868

24.61 p/s/y avg/farm

Sorted By:

Farm Code	Sow Herd Size	P/S/Y	Total Personnel	Total Facilities	Total Other	Cost borne by Contractor	Total Genetics	Total Feed	Total Vet	Total b4 G& A & Interest	Total G&A	Total Interest	Total Cost of Production
O	< 3000	27.4	6.10	4.95	1.50	12.55	2.66	10.06	1.20	26.47	1.17	-	27.64
Q	< 3000	23.4	8.09	3.35	0.53	11.98	2.41	12.46	1.71	28.55	0.50	-	29.05
H	> 3000	23.8	5.89	3.98	0.92	10.80	3.95	12.06	2.90	29.71	0.96	0.01	30.68
90th Percentile			5.91	5.25	1.51	12.67	3.35	12.57	2.25	30.84	0.92	-	31.76
F	< 3000	29.0	8.26	4.16	1.90	14.32	3.70	10.48	3.00	31.50	0.65	0.13	32.29
D	< 3000	25.8	6.61	5.05	2.01	13.66	4.86	9.97	2.49	30.98	1.74	-	32.72
Average - 1/2 Standard Deviation			6.19	4.54	1.47	12.84	3.89	11.73	2.94	32.87	0.96	0.04	34.17
R	< 3000	26.1	6.45	4.43	1.09	11.98	5.26	11.74	4.25	33.23	1.65	0.06	34.94
J	> 3000	21.9	5.98	4.29	1.44	11.70	3.49	14.77	4.38	34.33	1.50	-	35.84
Average			6.77	5.42	1.79	13.99	4.37	13.19	3.76	35.31	1.28	0.09	36.68
I	< 3000	28.1	4.65	6.24	3.08	13.97	4.25	11.65	4.81	34.68	2.24	0.02	36.94
P	< 3000	27.5	8.90	5.87	1.47	16.23	5.92	12.28	2.37	36.80	0.67	-	37.48
M	> 3000	20.8	5.18	5.45	2.17	12.80	5.66	13.60	5.32	37.38	0.11	0.20	37.69
K	pur	-	6.38	5.85	1.94	14.18	3.72	14.09	4.45	36.44	1.17	0.10	37.70
G	> 3000	23.9	8.15	8.05	2.07	18.27	4.67	12.07	2.21	37.22	0.59	0.13	37.95
C	< 3000	24.4	5.98	4.51	1.87	12.36	5.11	13.23	5.48	36.18	1.79	0.01	37.98
Average +1/2 Standard Deviation			7.35	6.31	2.12	15.14	4.85	14.66	4.58	37.74	1.60	0.14	39.19
E	< 3000	25.0	7.66	3.35	2.59	13.60	4.52	12.54	6.39	37.04	2.04	0.28	39.36
A	< 3000	23.3	6.19	4.95	2.94	14.08	5.37	13.29	5.39	38.14	1.56	0.09	39.79
L	> 3000	25.1	6.86	9.98	1.74	18.58	4.02	12.65	2.34	37.58	2.38	0.22	40.18
50th Percentile			7.07	6.58	2.42	16.07	5.75	13.85	3.62	39.29	1.50	0.20	40.99
B	> 3000	18.6	6.59	4.91	1.53	13.02	4.73	18.64	6.42	42.82	1.54	0.12	44.48
N	> 3000	24.3	7.99	8.27	1.49	17.74	4.31	21.90	2.51	46.46	0.79	0.25	47.51

2016 Comparative - Breed to Wean Units
Cost per Sow

Number of Sows in Comparison

57,191

Number of Weaned Pigs

1,386,835

24.56 p/s/y avg/farm

Sorted By:

Sow Herd Size	Farm Code	p/s/y	Total Personnel	Total Facilities	Total Other	Cost borne by Contractor	Total Genetics	Total Feed	Total Vet	Total b4 G& A & Interest	Total G&A	Total Interest	Total Cost of Production
< 3000	Q	23.4	189	78	12	280	56	291	40	667	12	-	679
> 3000	H	23.8	141	95	22	257	94	288	69	708	23	0	731
< 3000	O	27.4	167	136	41	343	73	275	33	724	32	-	756
> 3000	M	20.8	108	113	45	266	118	283	111	777	2	4	783
> 3000	J	21.9	131	94	31	256	76	324	96	753	33	-	785
> 3000	B	18.6	123	91	28	242	88	347	120	797	29	2	828
			148	109	35	307	95	288	71	800	23	1	831
< 3000	D	25.8	170	130	52	352	125	257	64	799	45	-	844
	AVG		168	133	44	345	108	318	89	860	32	2	894
< 3000	A	22.5	139	111	66	317	121	299	121	859	35	2	896
> 3000	G	23.9	195	193	49	437	112	289	53	891	14	3	909
< 3000	R	26.1	168	115	28	312	137	306	111	866	43	2	910
< 3000	C	24.4	146	110	46	301	124	322	134	882	44	0	926
< 3000	F	29.0	239	121	55	415	107	304	87	913	19	4	936
			187	157	53	382	121	348	108	920	40	3	957
< 3000	E	25.0	191	84	65	340	113	313	160	925	51	7	983
> 3000	L	25.1	172	251	44	467	101	318	59	945	60	6	1,010
< 3000	P	27.5	244	161	40	446	163	337	65	1,011	18	-	1,029
< 3000	I	28.1	131	175	87	392	119	327	135	974	63	1	1,038
> 3000	N	24.3	194	201	36	431	105	532	61	1,129	19	6	1,155

Comparative Cost of Production

Breed to Wean Units, Compare 2016 to 2015, Cost per sow

	2016				2015	
	Average less than 3,000 sows	Year to year change	Average greater than 3,000 sows	Year to year change	Average less than 3,000 sows	Average greater than 3,000 sows
Pigs/Inventoried Sow/Year	26.16	108%	23.69	93%	24.24	25.35
Expenses:						
Personnel	178.56	99%	152.28	108%	181.07	141.06
Facilities	122.14	106%	145.84	88%	115.12	166.30
Other Operating	49.22	101%	39.37	87%	48.93	45.20
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	349.92	101%	337.50	96%	345.12	352.56
Genetics	113.89	112%	99.16	109%	102.05	90.69
Feed	303.26	99%	340.01	118%	306.08	287.67
Veterinary/Medicine	94.97	107%	81.12	93%	88.82	86.78
Total Cost of Production before G&A & Finance	862.05	102%	857.15	105%	842.08	817.70
Administrative	36.15	110%	27.16	115%	32.82	23.63
Total Cost of Production before Finance	898.20	103%	882.87	105%	874.90	841.33
Interest – non-facility	1.49	124%	3.07	73%	1.20	4.19
Total Cost of Production (per pig)	899.69	103%	885.94	105%	876.10	845.52

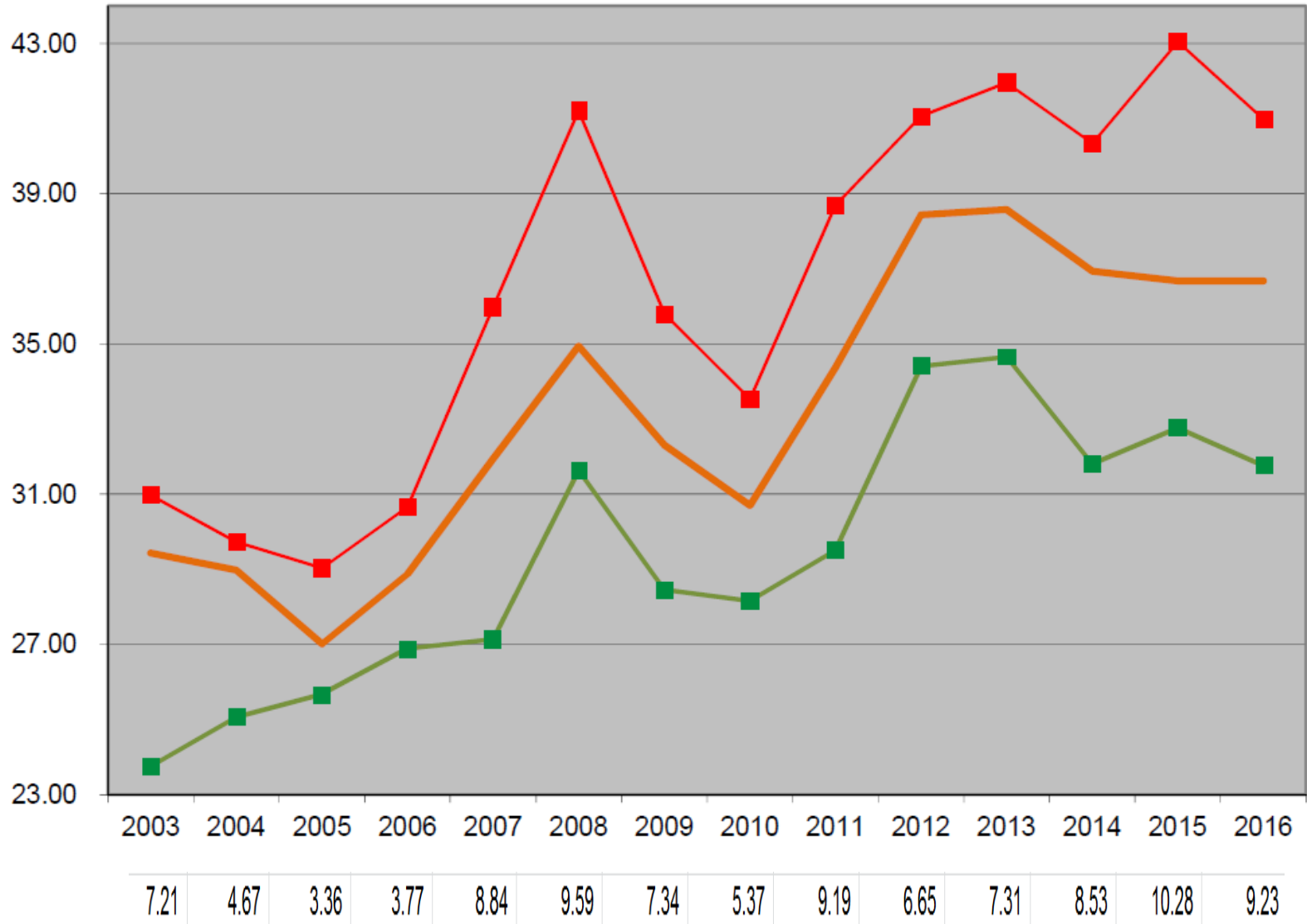
*Average Columns May Not
Total-Metrics are Averages

\$13.75 / Sow higher cost < 3000 sows

\$30.58 / Sow Difference 2015

Breed to Wean 14 Year History

B-W 50th vs. 90th Percentile Compare with Observed



Breed to Wean 7 Year Average

Breed to Wean Comparative

7 years average, ranked by 7 year average cost of Production

Years 2010,2011,2012,2013,2014,2015,2016

													SORT
ID	Avg Sow > 2000 Head	Average P/S/Y	Average of Personnel	Average of Facilities	Average of Other	Average of contractor	Average of Feed	Average of Genetics	Average of Vet	Average of sub total	Average of G&A	Average of Interest	Average of total
			5.62	5.11	1.63	12.36	13.88	1.85	2.99	31.08	0.80	0.12	32.01
F	<2000	25.86	7.08	4.81	2.70	14.59	13.41	1.82	2.32	32.15	0.96	0.21	33.32
H	>2000	23.63	6.00	5.32	0.77	12.09	15.28	2.47	3.55	33.40	0.31	0.00	33.71
N	>2000	24.23	6.71	7.18	1.15	15.05	12.99	2.78	2.28	33.09	0.61	0.38	34.09
D	<2000	23.77	6.76	4.76	1.96	13.48	12.97	3.17	2.95	32.57	1.62	0.04	34.23
AVG			6.06	5.69	1.86	13.61	14.46	3.02	3.50	34.65	1.19	0.23	36.06
J	>2000	22.07	5.43	5.45	1.34	12.22	16.55	2.22	4.12	35.10	1.53	0.05	36.68
M	>2000	21.50	5.25	6.98	1.94	14.18	14.46	3.87	3.74	36.23	0.11	0.50	36.84
G	>2000	23.35	6.10	5.67	2.09	13.86	15.66	3.14	3.81	36.47	0.29	0.16	36.93
B	>2000	22.38	5.51	4.70	0.99	11.21	17.42	1.98	4.70	35.31	1.56	0.09	36.96
L	>2000	24.25	4.75	10.10	1.31	16.16	14.10	2.63	1.88	34.78	1.84	0.32	36.96
C	<2000	23.62	6.30	4.24	1.80	12.34	15.06	3.70	4.93	36.03	1.91	0.20	38.14
I	<2000	25.28	5.63	5.89	2.57	14.09	14.52	3.71	4.18	36.50	2.02	0.12	38.64
A	<2000	23.25	5.99	4.80	2.62	13.41	16.39	2.82	4.86	37.49	1.65	0.15	39.26
E	<2000	23.17	7.18	3.59	2.33	13.09	15.53	2.78	6.18	37.58	1.83	0.34	39.75
			6.28	6.36	2.36	14.99	15.57	3.66	4.15	38.37	1.39	0.34	40.10

Breed to Wean Comparative Contractor Costs

7 years average, ranked by 7 year average Cost of Contractor

Years 2010,2011,2012,2013,2014,2015,2016

						SORT	
ID		Average P/S/Y	Average of Personnel	Average of Facilities	Average of Other	Average of contractor	
B	>2000	22.38	5.51	4.70	0.99	11.21	
S	>2000	25.73	5.66	4.39	1.58	11.63	
H	>2000	23.63	6.00	5.32	0.77	12.09	
J	>2000	22.07	5.43	5.45	1.34	12.22	
C	<2000	23.62	6.30	4.24	1.80	12.34	
			5.62	5.11	1.63	12.36	
E	<2000	23.17	7.18	3.59	2.33	13.09	
G	>2000	22.29	5.76	5.27	2.10	13.13	
A	<2000	23.25	5.99	4.80	2.62	13.41	
D	<2000	23.77	6.76	4.76	1.96	13.48	
		24.16	6.06	5.69	1.86	13.61	
I	<2000	25.28	5.63	5.89	2.57	14.09	
M	>2000	21.50	5.25	6.98	1.94	14.18	
F	<2000	25.86	7.08	4.81	2.70	14.59	
			6.28	6.36	2.36	14.99	
N	>2000	24.23	6.71	7.18	1.15	15.05	
L	>2000	24.25	4.75	10.10	1.31	16.16	

Comparative Cost of Production

Wean to Finish Units, Report Method

- Divisor is “Pounds Produced”
- Inventory change is in the divisor
- Genetic cost not included. Calculation is cost to add a pound of gain.
- Purchase pig pounds are accounted for as an adjustment to pounds produced
- Contract fees are allocated by percentage:
 - Example 45% labor, 41% facilities and 14% other. To allow comparability between farms.
- Costs are presented in a LH modified “NPPC Financial Standard” format.
 - Facilities, labor and other reported as “Cost Normally Borne By Contractor”. This allows comparability between farms.
 - Feed includes grind, mix and delivery
 - Other cost may be adjusted to add a standard charge of \$12/Ton
 - Example of allocation: 18% labor, 75% facilities, 7% other operating
- Totals are presented before general and administrative and before finance
- Marketing costs are treated as deductions from revenue
- The reported numbers may not total, the reported metrics are averages and non conforming data points may not be displayed.



Wean to Finish: (detail - see page 25)

~ 335,538,000 million pounds produced , ~ 1.26 million pigs,

- Average cost to add 100 lbs. of gain: \$ 36.87
 - Farms: 15
 - Range: \$ 34.61 to \$ 42.96 per cwt.
 - Spread: \$ 8.35/cwt. ~ \$ 22.29 / pig
 - 2015 spread \$ 10.69/cwt. ~ \$ 28.50 / pig (- \$6.51 from 2015)
- Labor/Facilities/Other: Range \$ 5.73 to \$ 12.49
- Feed: Range \$ 23.67 to \$ 28.79
- Veterinary: Range \$ 0.81 to \$ 2.15
- The 9 herds under the average: \$ 36.87
 - 3 produce > 100,000 cwt. and 6 produce < 100,000 cwt.
 - 100,000 CWT = 10,000,000 pounds gain = ~37,000 pigs*



Comparative Cost of Production for 2016

Wean to Finish Units, Cost per CWT Produced

100,000 CWT=10 Million Pounds

	2016 Average less than 100,000 CWT	2016 Average greater than 100,000 CWT	Benchmark – 50 th Percentile	Benchmark – 90 th Percentile
Expenses:				
Personnel	2.64	3.00	3.00	2.70
Facilities	4.47	4.91	4.79	4.30
Other Operating	1.15	1.36	1.51	1.27
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	8.26	9.27	9.30	8.27
Genetics	0	0	0	0
Feed	25.78	26.58	27.15	25.29
Veterinary/Medicine	1.31	1.25	1.98	1.53
Total Cost of Production before Administrative & Finance	35.34	37.09	38.43	35.09
Administrative	0.50	0.52	0.97	0.35
Total Cost of Production before Finance	35.84	37.62	39.40	35.44
Interest – non-facility	0.17	0.23	0.40	0.07
Total Cost of Production (per cwt.)	36.02	37.84	39.80	35.51

* Average Columns May Not Total – Metrics are Averages

Comparative Cost of Production

Wean to Finish Units, Cost Per Hundred Weight Of Gain

	Average 2016	Average 2015	Benchmark – 50 th Percentile 2016	Benchmark – 90 th Percentile 2016
Expenses:				
Personnel	2.81	2.47	3.00	2.70
Facilities	4.67	4.44	4.79	4.30
Other Operating	1.25	1.23	1.51	1.27
Total of Labor, Facilities, and Other Costs Normally Borne by Contractors	8.73	8.14	9.30	8.27
Genetics	0	0	0	0
Feed	26.15	28.60	27.15	25.29
Veterinary/Medicine	1.28	1.25	1.98	1.53
Total Cost of Production before G&A & Finance	36.16	37.98	38.43	35.09
Administrative	0.51	0.54	0.97	0.35
Total Cost of Production before Finance	36.67	38.52	39.40	35.44
Interest	0.20	0.17	0.40	0.07
Total Cost of Production (per cwt.) *	36.87	38.70	39.80	35.51

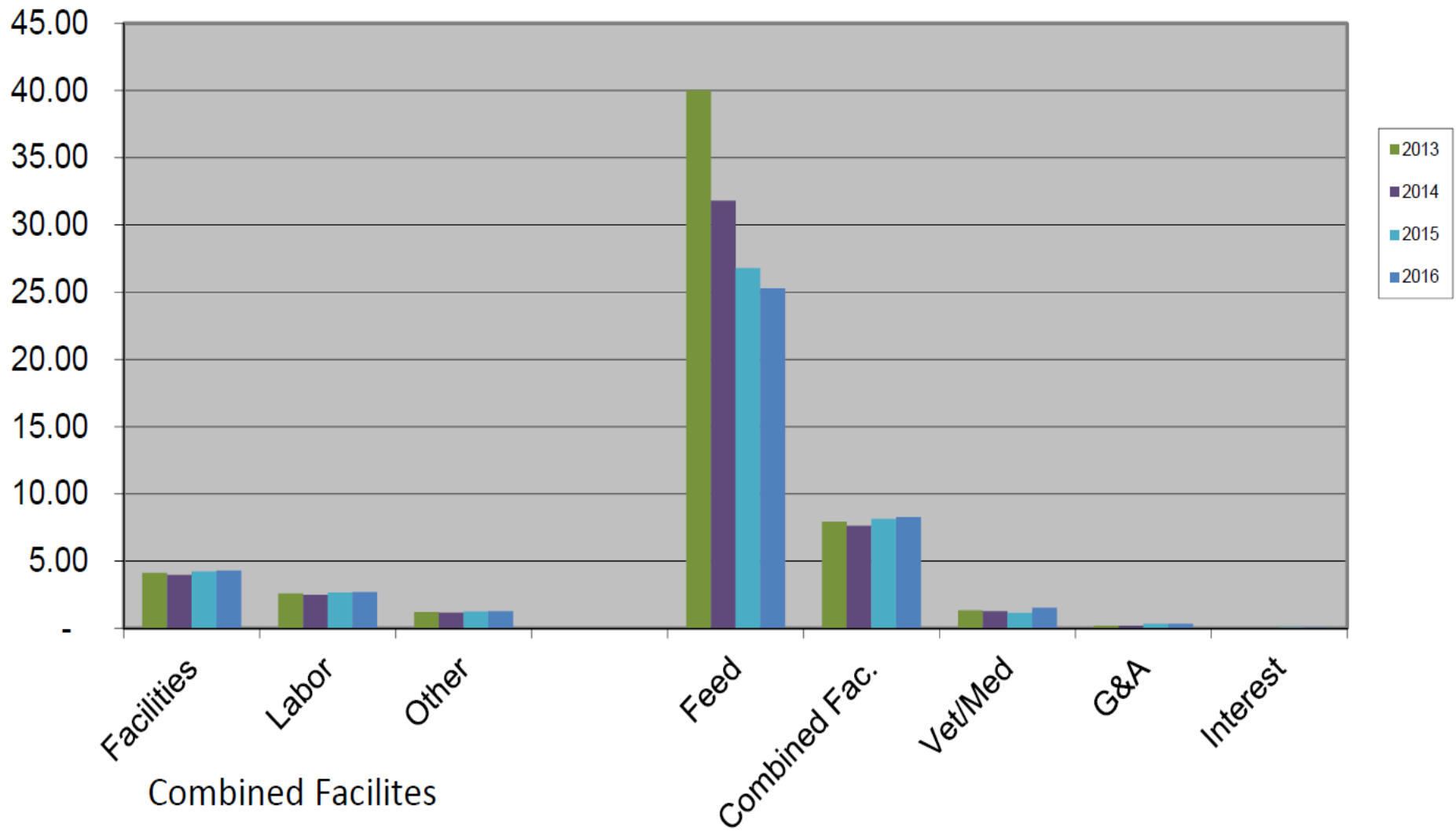
2016 Comparative - Wean To Finish
Cost per CWT of Gain

Number of Pigs	1,256,696
Number of CWT in Comparison	3,355,377

Sorted By:

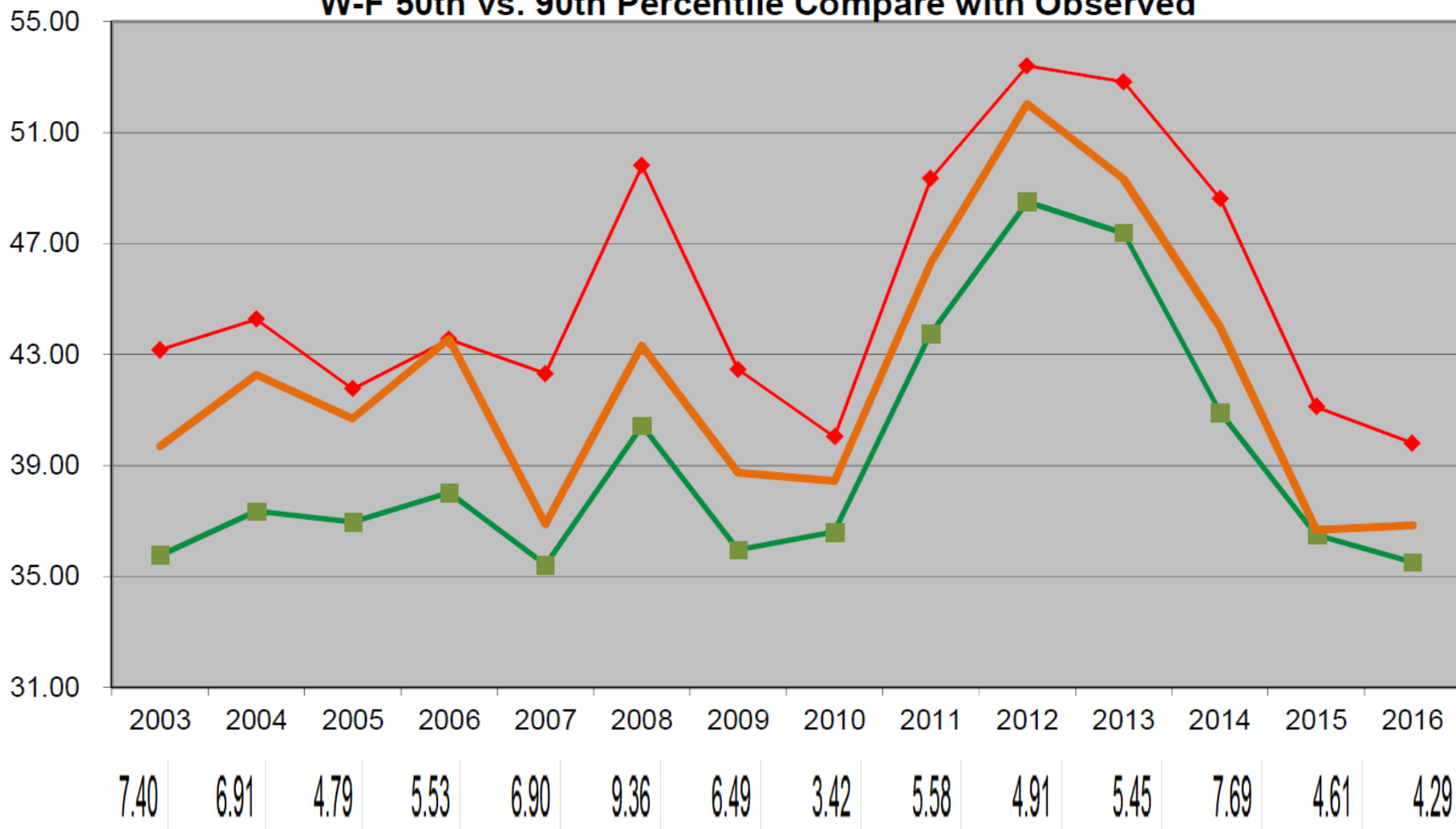
Farm Code	> 100,000 cwt	Total Personnel	Total Facilities	Total Other	Cost borne by Contractor	Total Feed	Total Vet	Total b4 G& A & Interest	Total G&A	Total Interest	Total Cost of Production
M	N	2.11	3.33	1.47	6.91	26.19	1.06	34.16	0.45	-	34.61
C	Y	3.18	3.89	1.18	8.25	25.22	1.01	34.48	0.16	0.15	34.79
K	N	2.33	5.60	1.01	8.94	24.50	1.08	34.52	0.61	-	35.13
O	Y	2.30	4.19	0.94	7.43	25.10	2.01	34.54	0.59	-	35.13
L	N	2.63	3.94	1.62	8.19	25.42	1.70	35.31	0.36		35.67
N	N	4.04	1.05	0.64	5.73	28.58	0.81	35.12	0.51	-	35.63
Average - 1/.		2.21	3.94	0.92	7.92	25.34	1.02	35.06	0.37	0.07	35.72
G	N	3.14	5.12	0.79	9.05	24.63	0.91	34.59	0.39	0.77	35.75
90th Percentile		2.70	4.30	1.27	8.27	25.29	1.53	35.09	0.65	0.07	35.81
I	N	2.42	4.16	1.11	7.69	25.99	1.62	35.30	0.53	0.05	35.88
D	Y	0.50	7.70	0.29	8.49	25.99	1.37	35.85	0.63	0.21	36.69
Average		2.76	4.76	1.24	8.75	26.12	1.23	36.11	0.53	0.20	36.84
H	N	2.27	7.13	1.97	11.37	23.67	1.13	36.17	0.88	0.13	37.18
Average + 1/.		3.31	5.57	1.56	9.59	26.90	2.17	37.16	0.70	0.33	37.96
E	Y	4.29	3.35	1.35	8.99	27.49	0.97	37.45	0.19	0.37	38.01
B	Y	2.69	4.53	2.93	10.15	25.48	0.92	36.55	1.41	0.18	38.14
J	N	2.14	5.40	0.62	8.16	27.23	2.15	37.54	0.29	0.45	38.28
F	Y	2.96	4.56	1.55	9.07	28.79	1.27	39.13	0.07	-	39.20
50th Percentile		3.00	4.79	1.51	9.30	27.15	1.98	38.43	0.97	0.40	39.80
A	Y	5.08	6.16	1.25	12.49	27.96	1.20	41.65	0.63	0.69	42.97

Wean to Finish 90th Percentile



Benchmark Cost - Wean to Finish 14 Year History

W-F 50th vs. 90th Percentile Compare with Observed



Wean to Finish 6 Year Averages

Wean to Finish Comparative

6 years average 2011,2012,2013,2014,2015,2016

Greater than 200,000 CWT Sold

Sorted by:

ID	Average of Personel	Average of Facilities	Average of Other	Average of contractor	Average of Feed	Average of Genetics	Average of Vet	Average of sub total	Average of G&A	Average of Interet	Average of total
b90	2.58	4.03	1.19	7.80	32.86	-	1.17	41.83	0.29	0.02	42.14
D	2.14	4.84	1.05	8.03	33.97	-	1.18	43.18	0.49	0.33	44.00
H	2.40	6.54	1.59	10.55	31.93	-	0.84	43.31	0.65	0.12	44.08
B	2.51	4.08	2.32	8.91	32.54	-	0.88	42.33	1.85	0.26	44.44
AV	2.65	4.58	1.30	8.53	33.84	-	1.20	43.56	0.58	0.39	44.52
G	2.33	5.68	0.85	8.85	33.61	-	0.71	43.17	0.51	0.91	44.59
C	2.95	4.12	1.38	8.45	35.03	-	1.07	44.54	0.19	0.15	44.88
b50	3.26	5.02	1.64	9.92	34.62	-	1.46	46.00	0.76	0.76	47.51
E	3.71	3.90	1.70	9.31	36.70	-	0.51	46.52	0.46	0.57	47.54
A	3.14	5.65	1.21	10.00	35.18	-	0.97	46.14	0.78	0.79	47.71

Comparative Cost of Production

Farrow to Finish Units / Whole Herd

Report Method

- Inventory change is adjusted against cost by percentage allocation. Percentage allocation determined by cost allocation prior to addition of inventory change.
- Divisor is “Pounds Sold”
- Purchased (sold) pig cost (credit) are allocated to cost categories by use of a percentage allocation method:
 - 18% facilities, 36% feed, 18% labor, 12% genetics, 8% vet, 5% other, 3% G&A
- Contract fees are allocated by percentage:
 - 32% labor, 52% facilities and 16% other. To allow comparability between farms.
- Costs are presented in a LH modified “NPPC Financial Standard” format
 - Facilities, labor and other reported as “Cost Normally Borne By Contractor”. This allows comparability between farms.
 - Genetics (same as Breed to Wean)
 - Feed (same as Wean to Finish)
- Totals are presented before general and administrative and before finance
- Marketing costs are treated as deductions from revenue
- The reported numbers may not total, the reported metrics are averages and non conforming data points may not be displayed.



Breed to Finish/Whole Herd: (*detail – see page 32*)

- Average cost to produce a 100 lbs. of pork: \$ 49.46
 - Farms: 12
 - Range: \$ 44.26 to \$ 56.37 per cwt
 - Spread: \$ 12.11 or \$ 33.91 per pig at 280 lbs
2015 spread \$10.73, \$30.04 at 280 lbs
- Labor/Facilities/Other: Range \$ 10.51 to \$ 17.48
- Feed: Range \$ 26.15 to \$ 35.13
- Veterinary: Range \$ 1.38 to \$ 3.61
- Of the 6 herds under the average cost \$ 49.46
 - 2 sold > 11,000,000 pounds
 - 4 sold < 11,000,000 pounds



Comparative Cost of Production 2016

Farrow to Finish / Whole Herd, Cost Per Hundred Weight

	Average less than 8 million live lbs sold	Average greater than 8 million live lbs sold	Benchmark – 50 th Percentile	Benchmark – 90 th Percentile
Expenses:				
Personnel	5.80	5.10	5.50	4.77
Facilities	6.20	7.71	7.03	6.05
Other Operating	1.96	2.19	2.35	1.77
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	13.96	15.00	14.88	12.59
Genetics	1.32	1.52	2.15	1.24
Feed	29.35	30.10	31.07	28.78
Veterinary/Medicine	2.15	2.45	3.24	2.29
Total Cost of Production before Administrative & Finance	46.78	49.08	51.34	44.90
Administrative	.80	1.41	1.49	0.68
Total Cost of Production before Finance	47.58	50.49	52.83	45.58
Interest	0.10	0.24	0.46	0.07
Total Cost of Production (per cwt.)	47.68	50.73	53.29	45.65

Comparative Cost of Production

Bred to Finish Units/Whole Herd Compare 2016 to 2015

	2016 Average less than 8 million live lbs. sold	2016 Average greater than 8 million live lbs. sold	2015 Average less than 8 million live lbs. sold	2015 Average greater than 8 million live lbs. sold
Expenses:				
Personnel	5.80	5.10	5.23	4.75
Facilities	6.20	7.71	7.64	7.35
Other Operating	1.96	2.19	1.59	1.85
Total of Labor, Facilities, and Other Costs Normally borne by Contractors	13.96	15.00	14.47	13.94
Genetics	1.32	1.52	1.46	1.55
Feed	29.35	30.10	32.82	31.23
Veterinary/Medicine	2.15	2.45	2.20	2.43
Death Loss Factor	0	0	0	0
Total Cost of Production before Administrative & Finance	46.78	49.08	50.94	49.16
Administrative	.80	1.41	1.00	1.29
Total Cost of Production before Finance	47.58	50.49	51.94	50.44
Interest	0.10	0.24	0.30	0.16
Total Cost of Production (per cwt)	47.68	50.73	52.24	50.60
	\$3.05, \$ 1.09/pig		\$ 1.64, \$.59/pig	

2016 Comparative - Bred to Finish

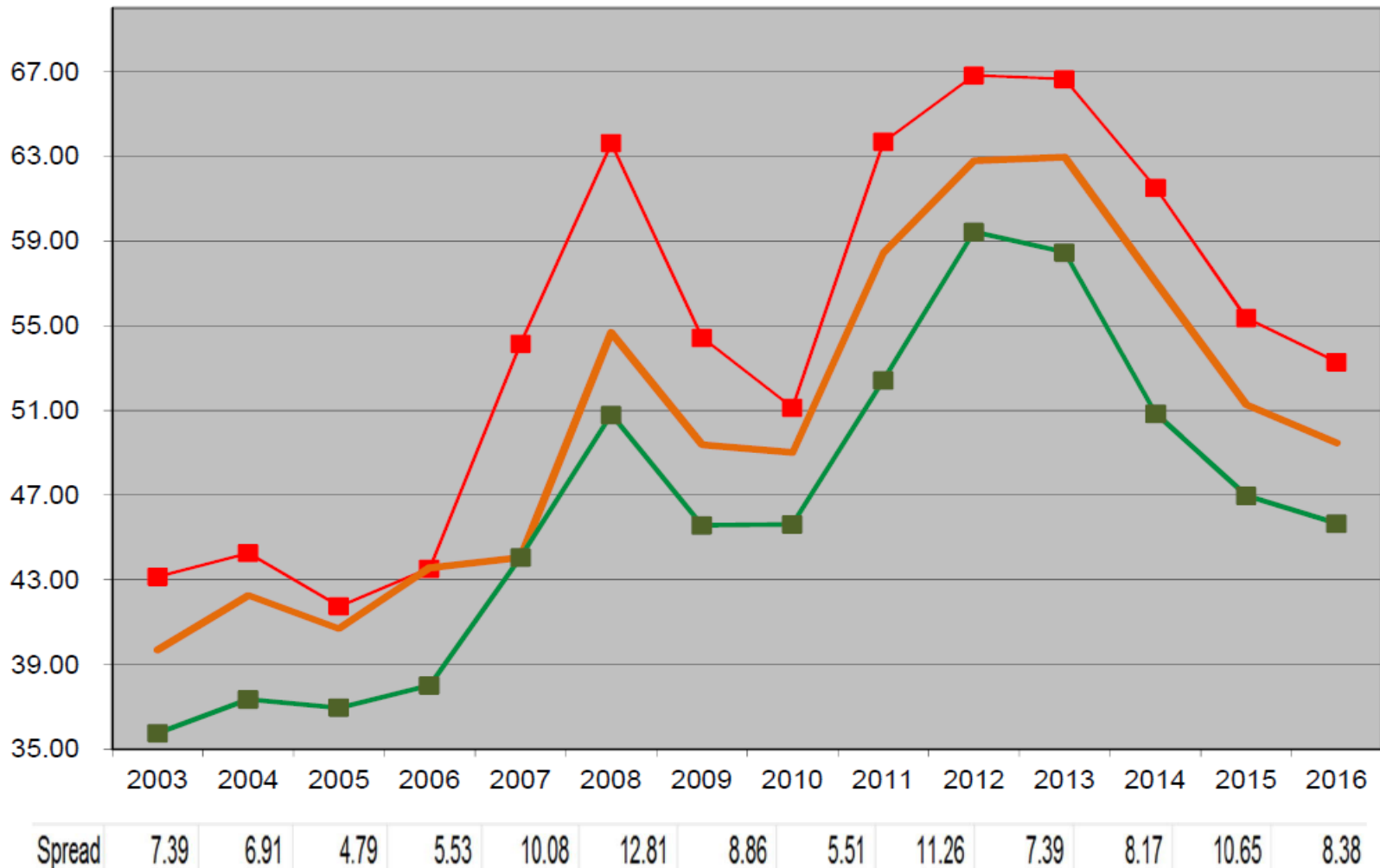
Cost per CWT sold

Number of CWT in Comparison	237,006
Number of Pigs Marketed	1,015,740

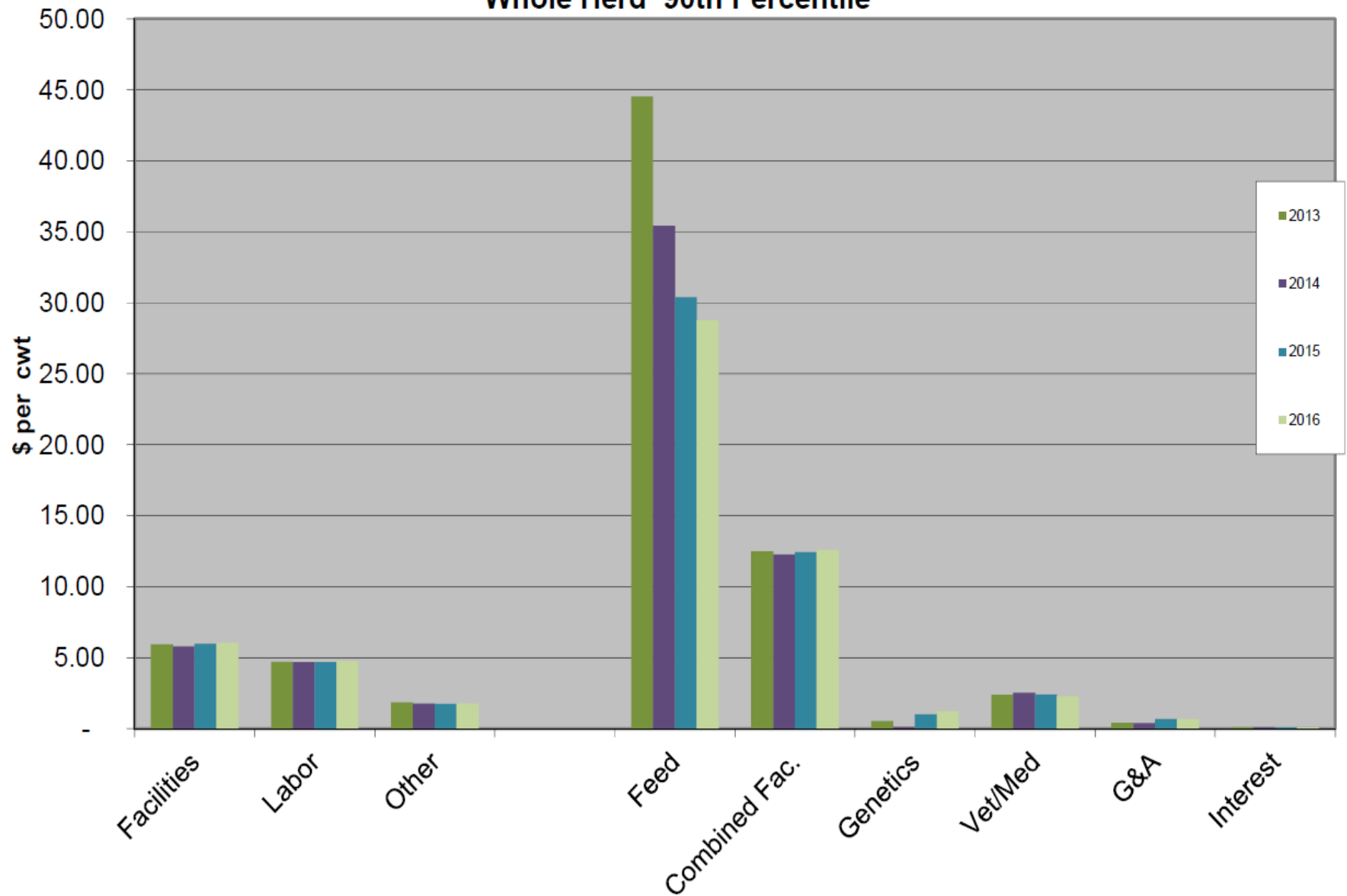
												Sorted By:
ID	SIZE	Personnel	Facilities	Total Other	Contractor	Total Genetics	Total Feed	Total Vet	& Interest	Total G&A	Interest	Production
J	<11 mil	6.85	2.85	0.80	10.50	1.06	30.65	1.38	43.59	0.67	-	44.26
B90		4.77	6.05	1.77	12.59	1.24	28.78	2.29	44.90	0.68	0.07	45.65
H	>11 mil	5.58	5.78	1.74	13.10	0.26	29.10	2.56	45.02	0.61	0.16	45.79
L	>11 mil	5.47	6.33	1.92	13.72	0.91	28.37	1.79	44.79	1.07	0.14	46.00
A	<11 mil	6.67	5.88	3.69	16.24	1.15	26.15	1.43	44.97	1.53	0.02	46.52
C	<11 mil	5.72	7.52	1.52	14.76	2.38	27.50	1.94	46.58	0.84	-	47.42
STD-.5		4.95	6.06	1.65	13.59	1.09	28.55	1.96	46.45	0.81	0.10	47.67
I	<11 mil	4.28	7.08	1.82	13.18	1.36	30.06	3.59	48.19	0.69	0.45	49.33
AV		5.39	7.08	2.09	14.56	1.44	29.79	2.33	48.12	1.16	0.18	49.45
E	>11 mil	5.10	8.43	2.93	16.46	1.54	28.30	1.74	48.04	2.21	0.25	50.50
K	>11 mil	5.50	7.65	1.95	15.10	0.66	32.39	2.41	50.56	0.28	0.02	50.86
STD+.5		5.83	8.10	2.53	15.54	1.78	31.03	2.69	49.78	1.51	0.25	51.24
G	<11 mil	5.19	5.82	1.91	12.92	1.99	32.32	2.67	49.90	1.14	0.37	51.41
D	<11 mil	5.66	9.03	2.79	17.48	1.48	28.74	2.38	50.08	1.17	0.19	51.44
B50		5.50	7.03	2.35	14.88	2.15	31.07	3.24	51.34	1.49	0.46	53.29
B	>11 mil	5.01	7.42	3.13	15.56	2.63	28.75	3.61	50.55	2.73	0.23	53.51
F	>11 mil	3.67	11.15	0.92	15.74	1.82	35.13	2.42	55.11	0.96	0.31	56.38

Benchmark Cost Breed to Finish Cost per CWT Sold

Whole Herd 50th vs. 90th Percentile Compare With Observed



Whole Herd 90th Percentile



Breed to Finish 7 Year Average

Breed to Finish Comparative

7 years average, ranked by 7 year average cost of Production

Years 2010,2011,2012,2013,2014,2015,2016

AVERAGE > 8,000,000 lbs per year

											SORT	
ID	Average of Personnel	Average of Facilities	Average of Other	Average of Contractor	Average of Feed	Average of Genetics	Average of Vet	Average of Sub total	Average of G&A	Average of Interest	Average of Total	
B90	4.57	1.74	5.74	12.06	35.85	0.70	2.19	50.80	0.52	0.15	51.47	
A	7.27	3.41	5.56	16.23	34.87	0.03	1.32	52.45	1.36	0.23	54.04	
H	4.99	1.66	6.17	12.82	37.82	0.74	2.30	53.68	0.39	0.14	54.21	
C	5.46	1.77	7.35	14.58	35.84	1.54	1.75	53.71	0.83	0.28	54.82	
AV	5.21	2.00	7.02	14.23	36.39	1.02	2.18	53.79	1.07	0.40	55.26	
E	4.83	2.58	7.61	15.02	35.57	1.02	1.54	53.15	2.07	0.46	55.68	
F	4.76	1.50	7.41	13.66	38.14	1.04	1.95	54.80	0.68	0.52	56.00	
G	4.57	1.97	5.69	12.23	37.65	2.01	2.58	54.46	1.17	0.40	56.03	
D	5.26	2.65	8.24	16.16	36.40	0.71	1.71	54.98	0.99	0.21	56.18	
B	4.53	2.38	7.39	14.30	37.29	1.57	2.83	55.99	1.58	0.46	58.03	
B50	5.48	2.42	7.16	15.06	38.10	1.40	2.91	57.47	1.24	0.86	59.57	

2016 Observations on Market Sales

- Average market weight: 282 lbs, *(down 1# from 2015)*
- Average value per cwt: \$ 49.35, *(\$7.05 down from 2015)*
- Average value per head: \$ 139, *(down \$21.00 from 2015)*
- Average weight of “off value”: 169 lbs. *(same from 2015)*
- Average value of “off value” per head \$ 41.00
(down \$15.00 per head from 2015)
- Percentage “off valued” 2% , *(up .8% from 2015)*
 - Range 0.9% - 4.4%

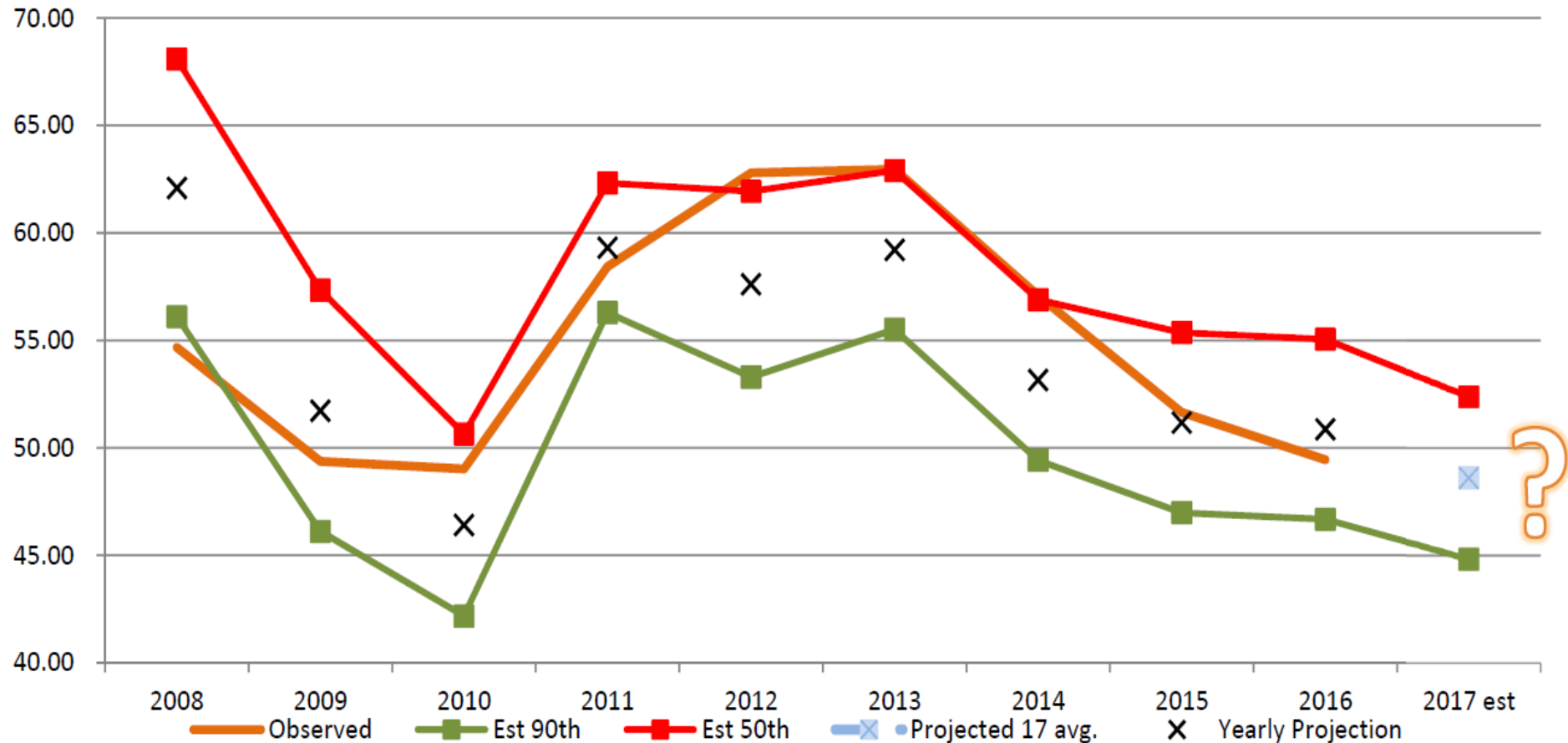


Observation on Profit Margins

- Average net revenue per head: \$139
(2015 - \$160, \$56.40; 2014 - \$220, \$78.21 per Head & CWT Sold)
 - Net \$49.35 per CWT, average \$139 per head
 - Range \$ 141 to \$ 133, spread \$ 8 per head (2015 \$26)
 - Market weight range 262 to 284 (2015 269 to 289)
- 50th percentile cost \$ 149.95 per head
 - Average Potential Loss per head ~ (\$11)
- 90th percentile cost \$ 128.43 per head
 - Average Potential Profit per head ~ \$ 11.00
- Spread Potential @ average revenue & 90th percentile cost = **\$22 /pig sold 4yr avg. ~ \$25**
(Spread 90th to 50th in 2015 - \$23; 2014 - \$30; 2013 - \$22,)



Whole Herd COP, How good was last years estimate?



Y/E 12/31/17 Estimate Benchmarks - 50th & 90th Percentile -Preliminary as of 8/18/17

	Breed to Wean		Wean to Finish		Whole Herd	
	<i>\$/pig Weaned</i>	<i>\$/pig Weaned</i>	<i>\$/cwt Produced</i>	<i>\$/cwt Produced</i>	<i>\$/cwt Sold</i>	<i>\$/cwt Sold</i>
<i>CWT Gain - CWT Sold</i>			2.68	2.68	2.81	2.81
<i>Cost to Produce Wean Pig</i>			<i>Cost to Add Gain Per Cwt of Gain, W-F</i>		<i>Total Cost / Pig to Market Per Cwt of Pork Sold</i>	
	50th Percentile	90th Percentile	50th Percentile	90th Percentile	50th Percentile	90th Percentile
Labor	\$ 7.08	\$ 5.92	\$ 3.00	\$ 2.71	\$ 5.51	\$ 4.78
Facilities	6.59	5.26	4.79	4.32	7.04	6.07
Other Expenses	2.43	1.52	1.52	1.28	2.36	1.78
Subtotal cost normally borne by contractor	16.10	12.70	9.31	8.31	14.91	12.63
Feed cost	13.67	12.40	26.24	24.45	30.14	27.92
Genetics	5.75	3.35			2.15	1.24
Vet/Med	3.62	2.25	1.98	1.53	3.24	2.29
General and Administrative	1.50	0.92	0.97	0.35	1.49	0.68
Interest Expense - non facility	0.20	-	0.39	0.07	0.45	0.07
Estimated 12 Months Ending 12/31/17	\$ 40.84	\$ 31.62	\$ 38.89	\$ 34.71	\$ 52.38	\$ 44.83
Breakeven Carcass Price Needed @ 75% Yield, y/e 12/31/16					\$ 69.84	\$ 59.77

Average estimated corn cost \$ 3.20 / bu, decrease of \$.23/bu. from the 2016 cost of \$3.43/bu.

Average estimated bean meal \$ 306/ ton down by \$4/ton from the 2016 cost of \$312/ton

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