

# Profit Drivers for Small Farrow to Finish Operations

Prepared by Dave Stender,  
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For Iowa Pork Congress 1/24/08

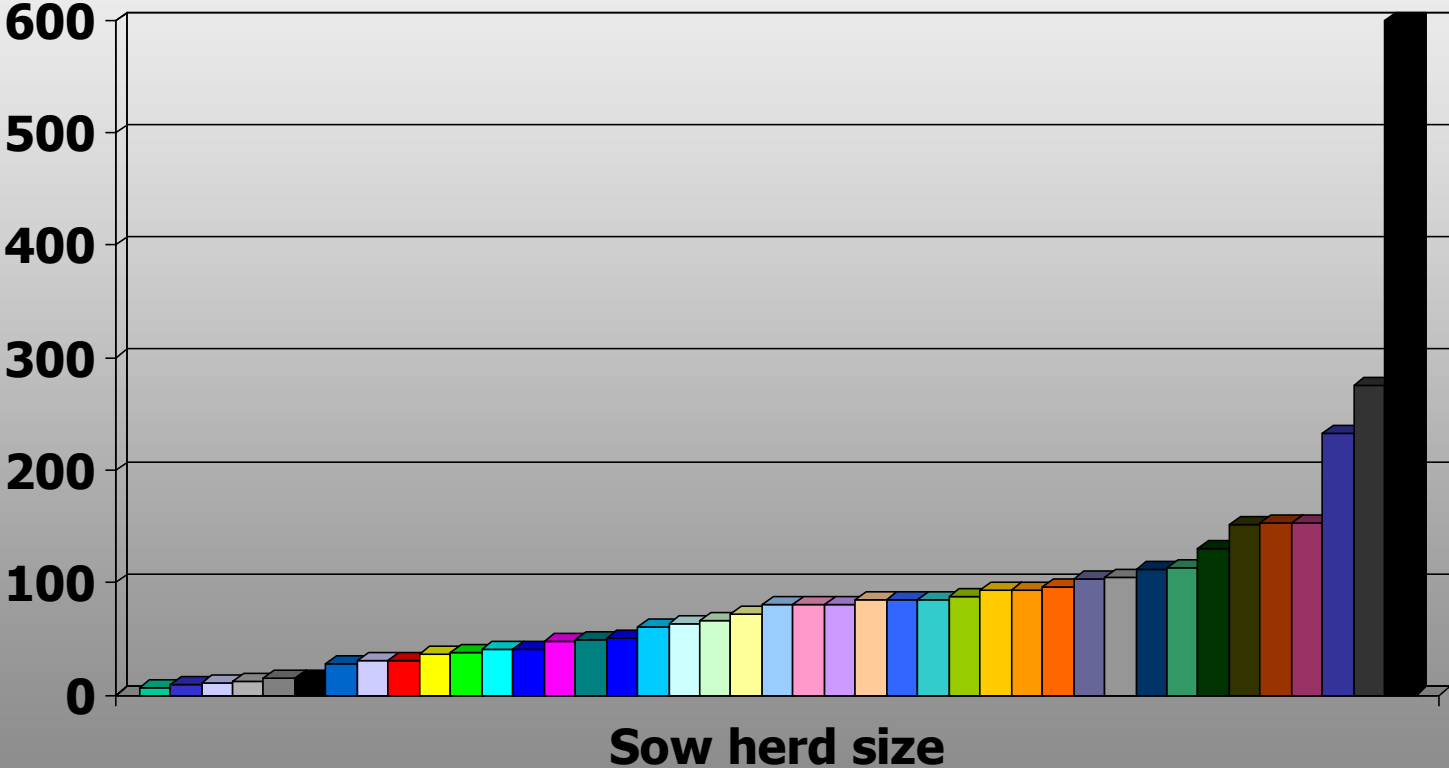
# Number of Producers

- 41 Niche Farrow-to-finish Producers
  - 32 “Natural” (bedded, outdoor access, no antibiotics)
  - 5 Certified Organic
  - 4 Purebred Berkshire

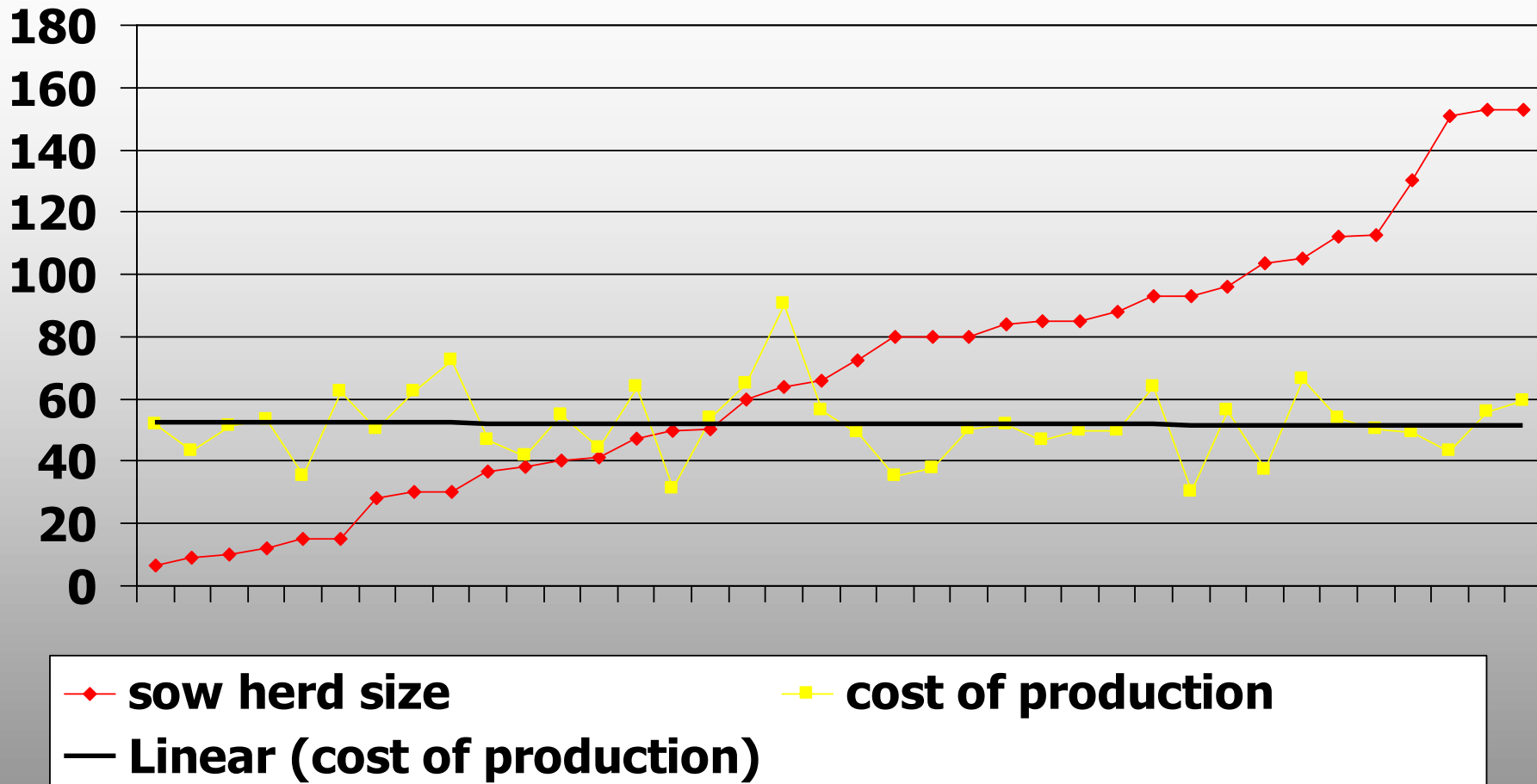
# Prices and Costs Standardized

- Corn = \$2.19 per bushel – 2006 avg.
- Other grains/supplement as reported
- Interest on Capital = 5%
- Labor = \$15 per hour
- Livestock
  - Breeding = \$150 per animal
  - Nursery pig = \$40 for 25 lb. animal
  - Finishers = \$50 per 100 lb.

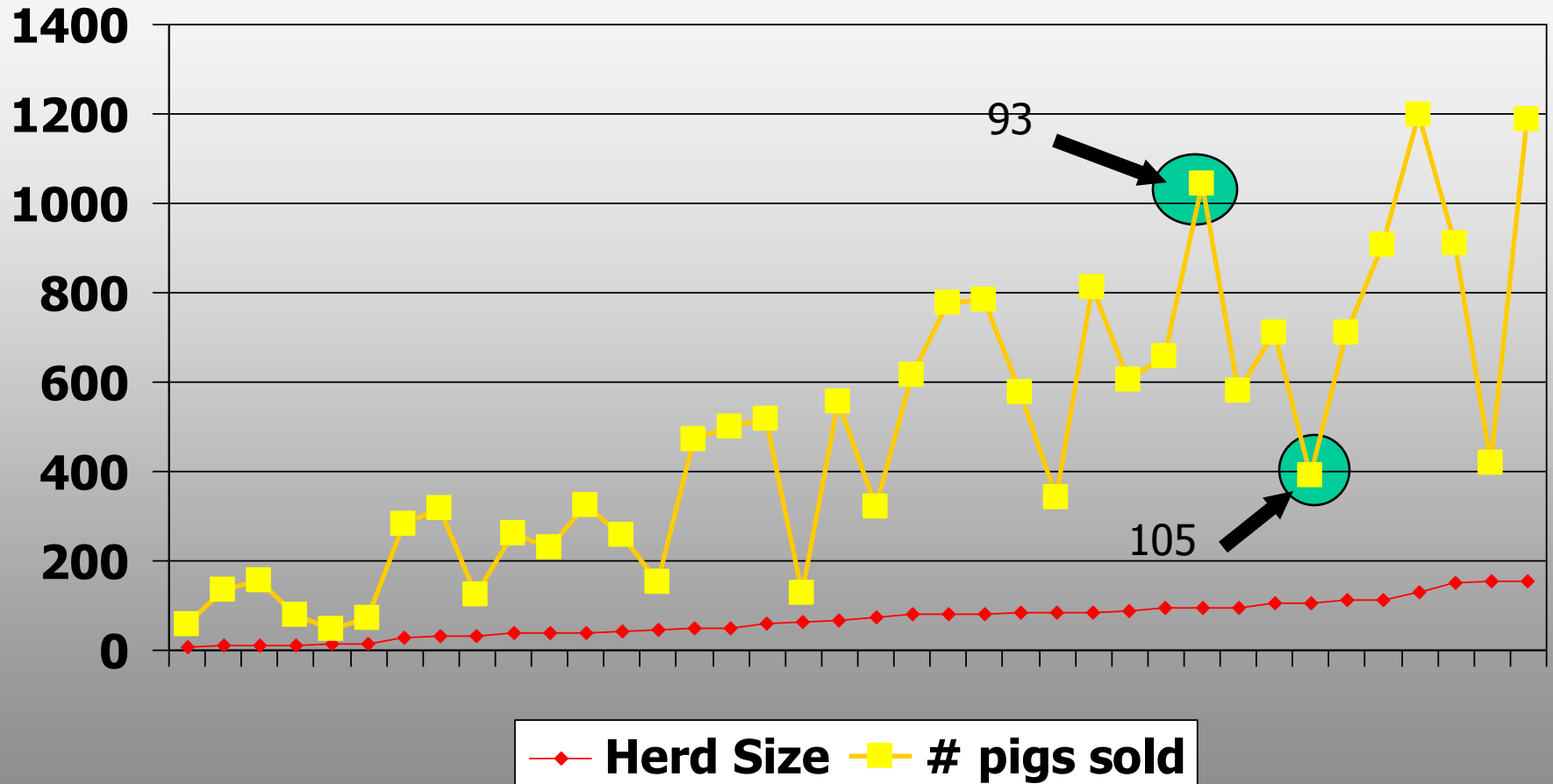
# Sow Herd Size



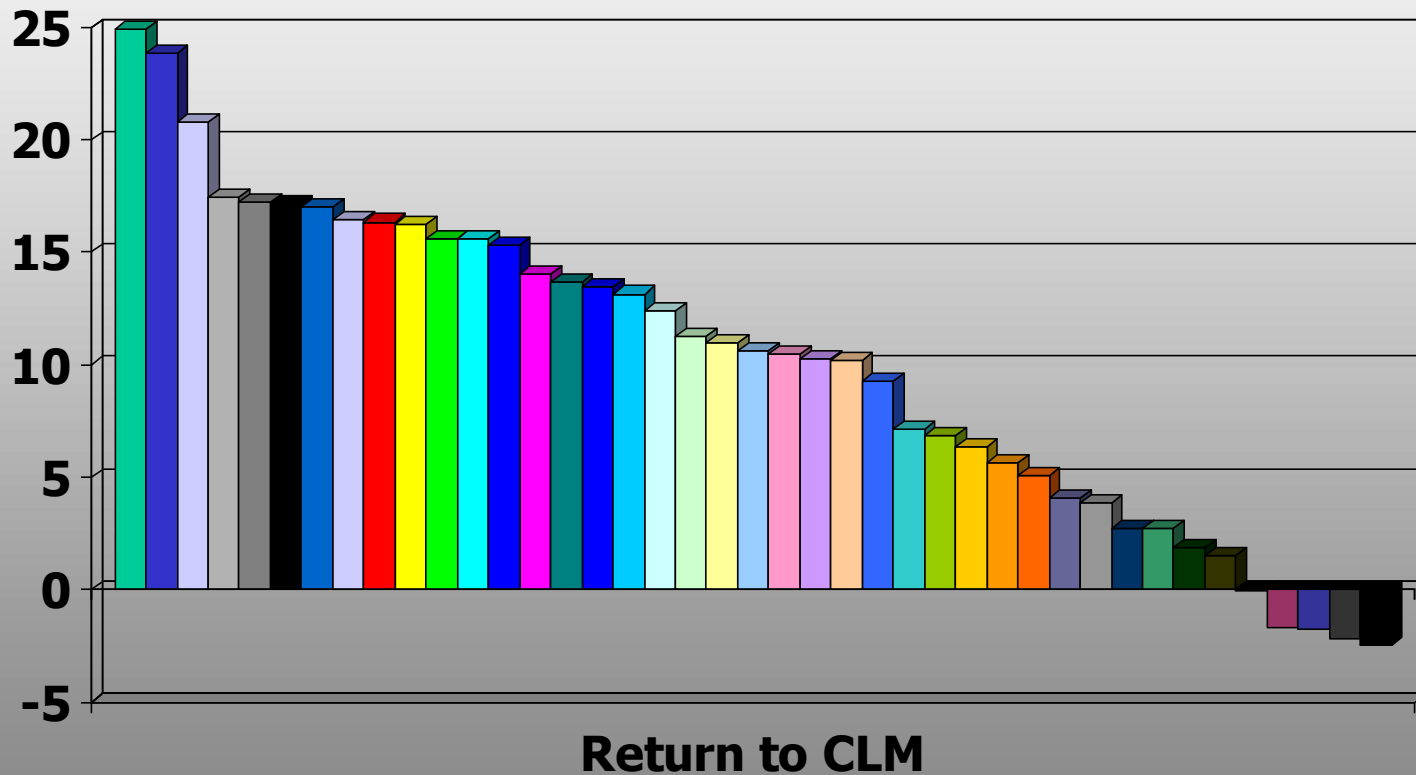
# Sow Herd Size



# Number of Pigs Sold Sorted by Sow Herd Size



# Return to Capital, Labor and Management per cwt Produced



# Sorted by Return to C, L & M

	<b>Average n=41</b>	<b>Top N=15</b>	<b>Bottom n=15</b>
Return to Capital, Unpaid Labor and Management \$/cwt	\$10.08	\$17.43	\$2.17
Return per hour	\$13.17	\$22.66	\$3.02
Return on Capital	-1.27%	26.69%	-24%



# Sorted by Return to C, L & M

	<b>Average n=41</b>	<b>Top N=15</b>	<b>Bottom n=15</b>
Hundred Pounds of Pork Produced	2191	1667	3114
~ Number of 273 lb units	800	600	1100
Number of pigs sold	682	462	1076
Return to Capital, Unpaid Labor & Manage	\$17,740	\$29,875	\$5,886

# Sorted by Return to C, L & M

	<b>Average n=41</b>	<b>Top N=15</b>	<b>Bottom n=15</b>
Feed cost	26.28	23.59	28.08
Operating cost	9.51	6.75	13.01
Total	35.79	30.34	41.09
Fixed cost	3.54	3.12	4.07

# Sorted by Return to Capital, Unpaid Labor & Mgt. (CLM)

	<b>Average n=41</b>	<b>Top 15</b>	<b>Bottom 15</b>
<b>Total variable costs/cwt</b>	<b>\$35.79</b>	<b>\$30.34</b>	<b>\$41.09</b>
<b>Total fixed costs/cwt (5% interest on debt)</b>	<b>\$3.54</b>	<b>\$3.12</b>	<b>\$4.07</b>
<b>Labor costs/cwt (labor valued at \$15/hr)</b>	<b>\$12.72</b>	<b>\$12.59</b>	<b>\$12.06</b>
<b>Total costs/cwt</b>	<b>\$52.05</b>	<b>\$46.05</b>	<b>\$57.22</b>
<b>Market \$/cwt for All Sold</b>	<b>\$48.36</b>	<b>\$49.88</b>	<b>\$47.32</b>

# Sorted by P/S/Y

## (15 farms @ 14 p/s/y; 15 @ 7 p/s/y)

	Top 15 farms	Bottom 15 farms
1. Return Capital, Unpd Labor, Manage, \$/cwt	\$12.13	\$9.59
2. Average Price/Cwt of All Mkt. Animals Sold	\$50.25	\$47.55
3. Total Cost per Cwt. of Pork Produced	\$48.50	\$55.96
4. Feed Cost per Cwt of Pork Produced	\$25.11	\$27.51
5. Other Oper Cost (except Hired Labor), \$/cwt	\$8.68	\$8.53
6. Fixed Costs per Pig Weaned	\$6.84	\$9.36
7. CWT of Pork Produced	2838	1428
8. Pigs per sow per year	13.6	7.0
9. Pig Death Loss, Feeder to Market	7.6	7.8
10. Hours of Labor per Cwt. of Pork Produced	.72	1.07
11. Total Pounds of Feed per Cwt. of Pork Prod	381	439
12. Total Herd Death Loss (% of Pounds of Pork)	2.3	4.9

# Productivity from 10 most Profitable Herds

<b>Economic Rank</b>	<b>Pigs/L</b>	<b>Litters/ Sow</b>	<b>P/S/Y</b>
1	7.5	2.2	16.6
2	8.1	2.1	16.7
3	7.8	1.6	12.8
4	6.4	1.5	9.6
5	6.9	1.0	6.6
6	7.3	1.7	12.4
7	5.6	1.1	5.9
8	4.8	1.5	7.0
9	8.5	1.4	11.5
10	8.8	0.9	8.1

# Second 10 Most Profitable Farms

Economic Rank	Pigs/L	Litters/Sow	P/S/Y
11	8.9	2.0	17.8
12	6.9	2.1	14.4
13	6.0	2.0	12.0
14	8.0	1.9	15.1
15	6.9	1.5	10.4
16	7.3	1.2	8.8
17	6.2	1.2	7.6
18	6.2	1.3	7.9
19	5.3	1.6	8.7
20	7.5	0.9	6.6

# Third 10 Most Profitable Farms

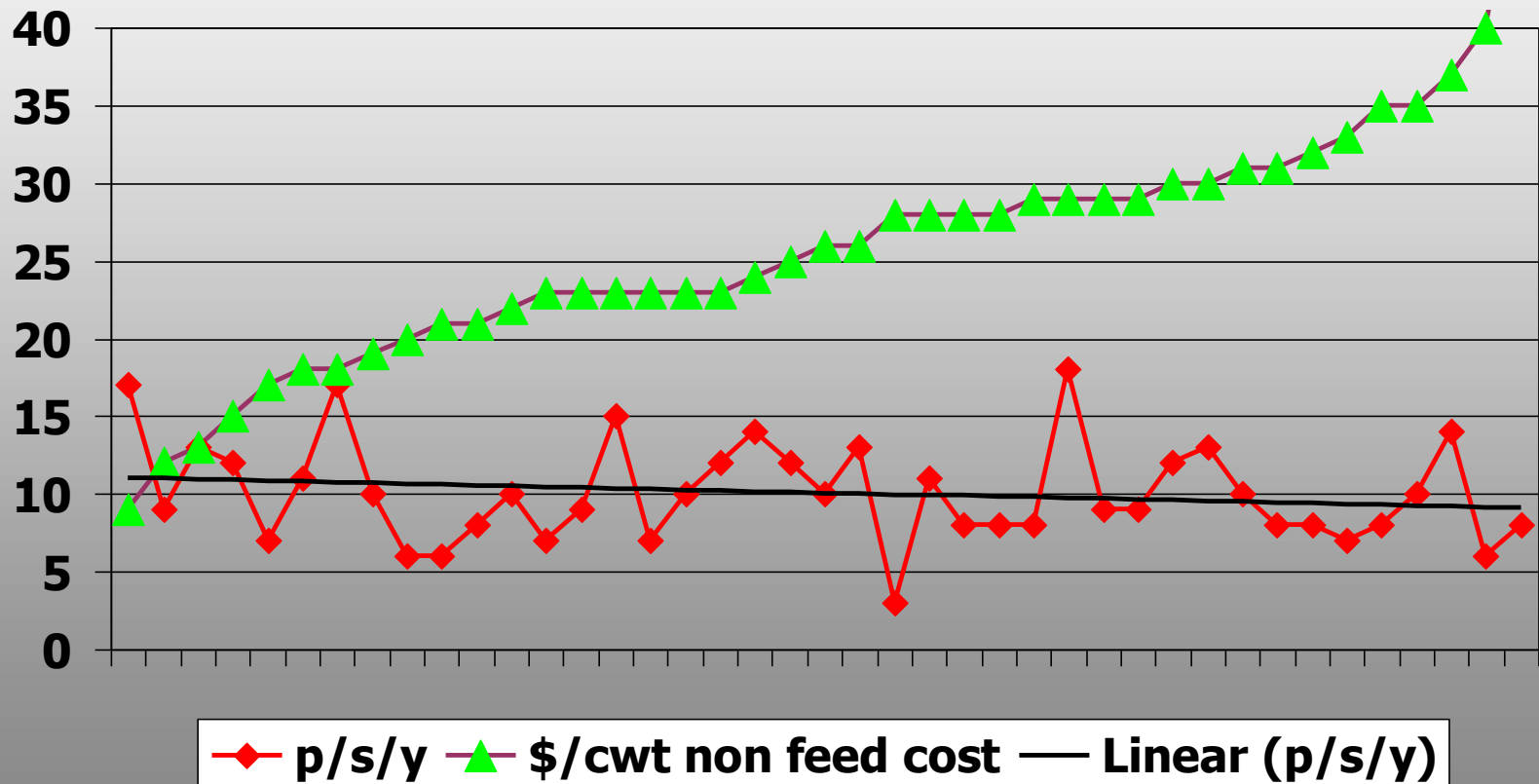
Economic Rank	Pigs/L	Litters/Sow	P/S/Y
21	8.2	1.0	8.1
22	6.6	1.5	10.0
23	6.7	1.0	6.9
24	6.0	1.6	9.4
25	7.0	1.6	10.8
26	5.9	1.7	9.8
27	4.5	1.7	7.8
28	5.1	2.0	10.1
29	6.4	1.3	8.2
30	6.8	1.9	13.1

# Least Profitable Farms

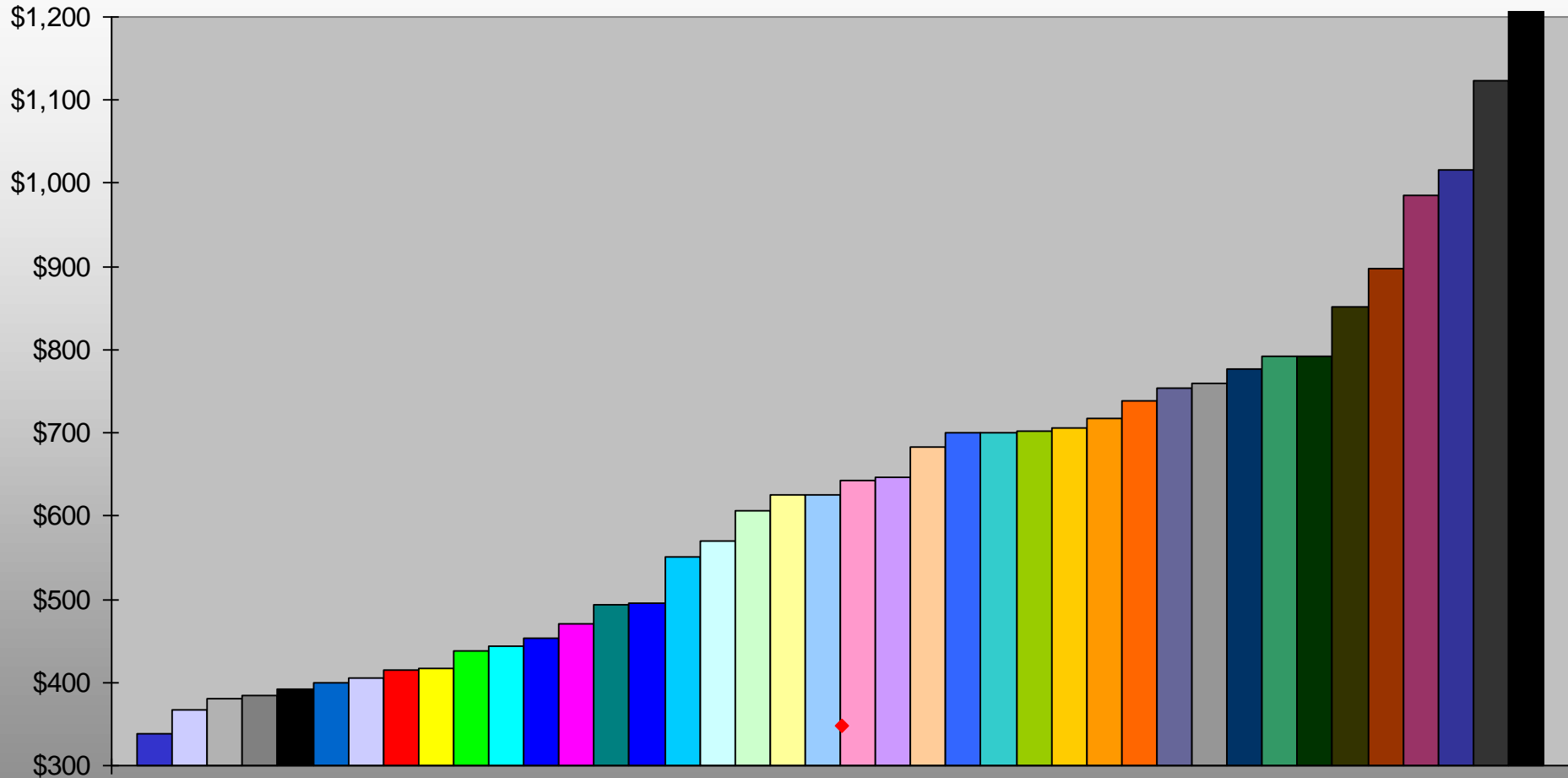
Economic Rank	Pigs/L	Litters/Sow	P/S/Y
31	6.1	1.8	10.9
32	7.2	0.4	3.0
33	6.3	1.0	6.2
34	5.6	1.4	8.1
35	6.7	1.9	12.4
36	6.5	1.4	9.2
37	7.4	1.9	13.8
38	6.6	1.5	10.2
39	7.1	1.8	12.9
40	5.2	1.2	6.4
41	5.9	1.4	8.4



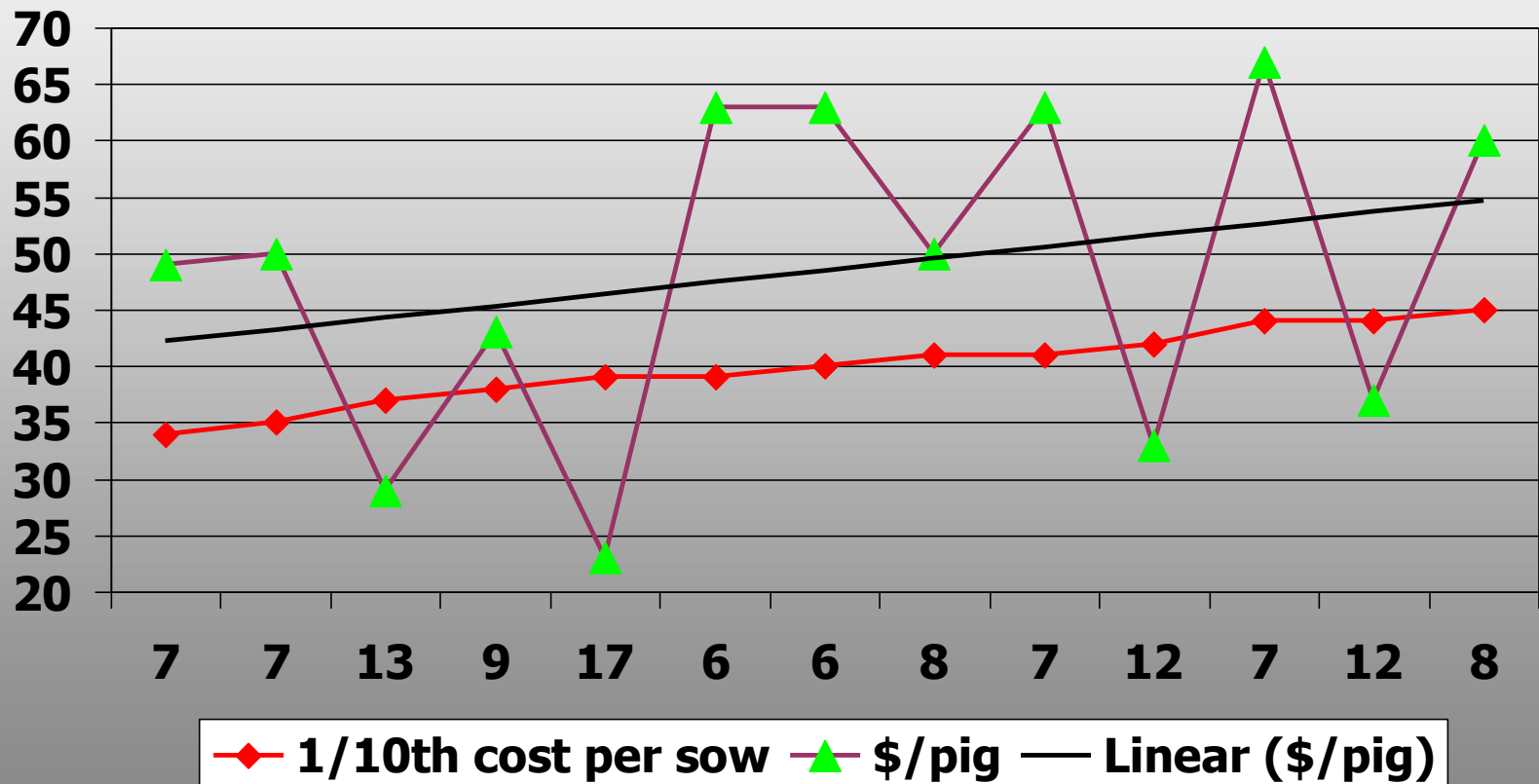
# Effect of p/s/y on non-feed cost/cwt



# Total non-feed cost/sow

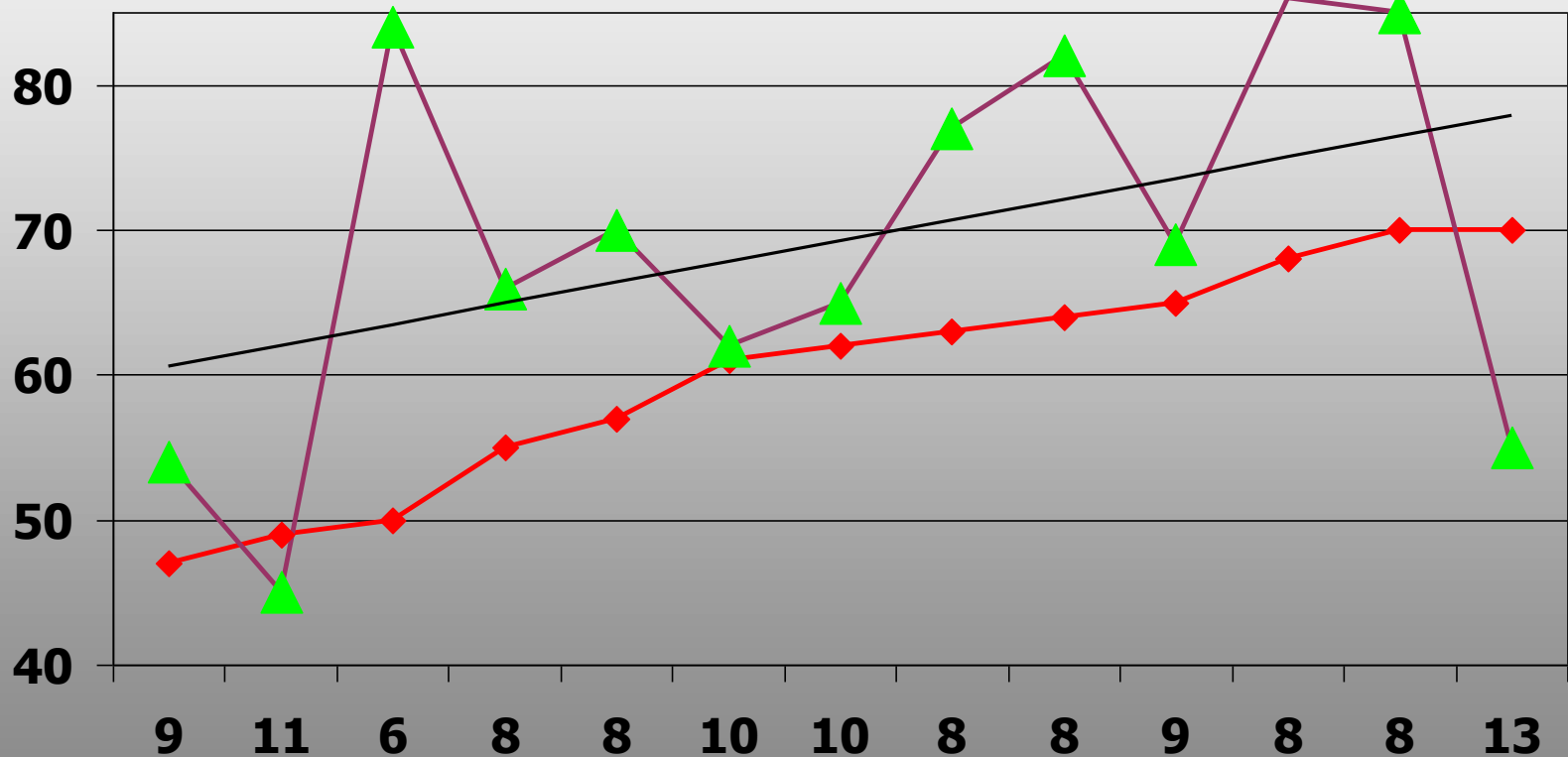


# Effect of p/s/y on non-feed cost/pig sold ( $\$350$ to $\$450$ non-feed cost per Breeding Female)

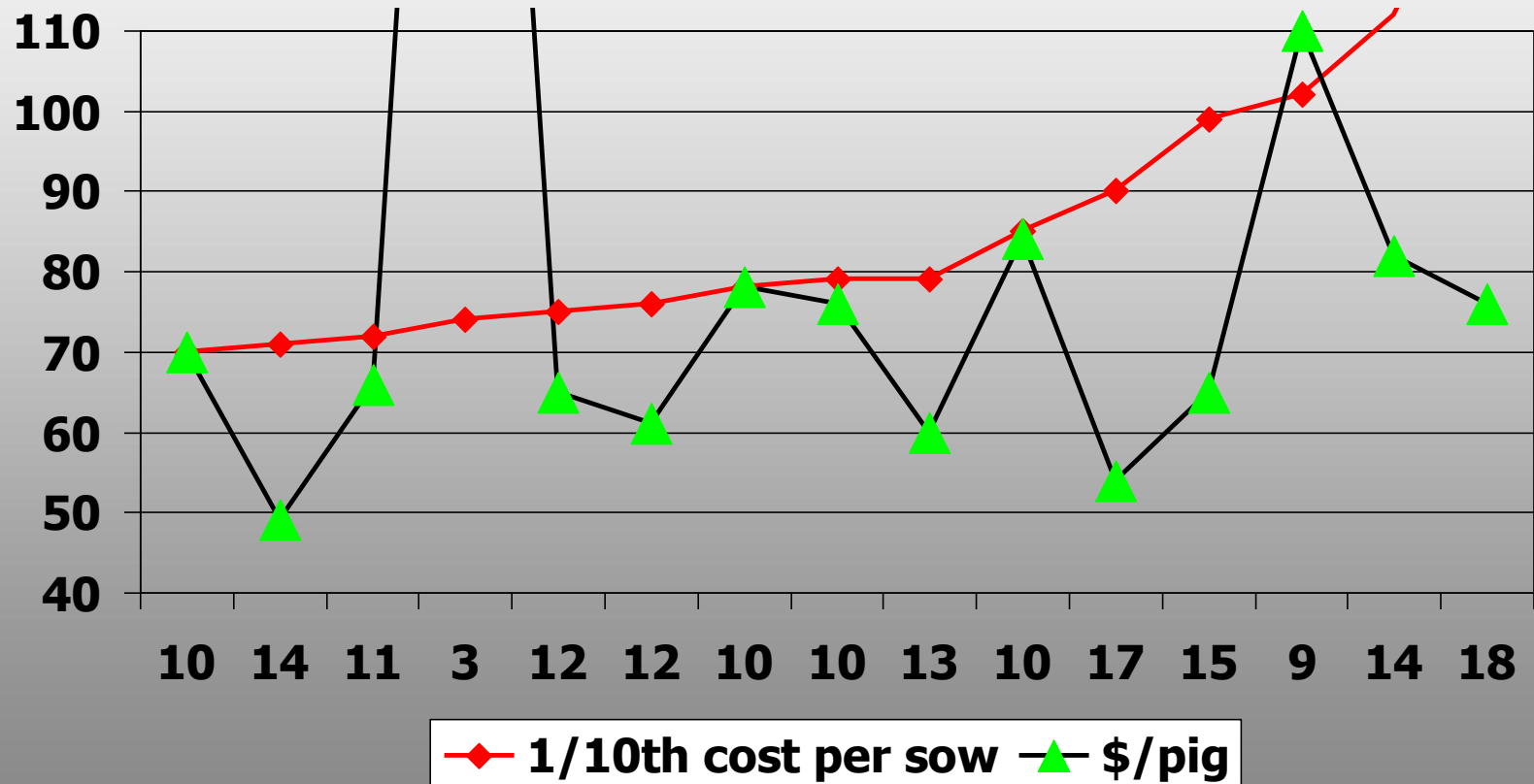


# Effect of p/s/y on non-feed cost/pig sold

(\$470 to \$700 non-feed cost per Breeding Female)



# Effect of p/s/y on non-feed cost/pig sold (\$700 to \$1,350 non-feed cost per Breeding Female)



# Return to Capital, Labor and Management

- 15 out of 41 farms = \$17.43/cwt
- 15 out of 41 farms = \$2.17/cwt
- $\$17.43 - \$2.17 = \$15.26/\text{cwt}$
- Therefore a 270 lb pig can be produced with \$41.20/hd more ( $2.70 * \$15.26/\text{cwt} = \$41.20/\text{hd}$ ) profit.
- Next slide profit drivers are listed remember \$15.26/cwt (\$41.20/hd).

# Comparison of Niche Pork Production Costs Between Top and Bottom Producers (sorted by return to CLM)

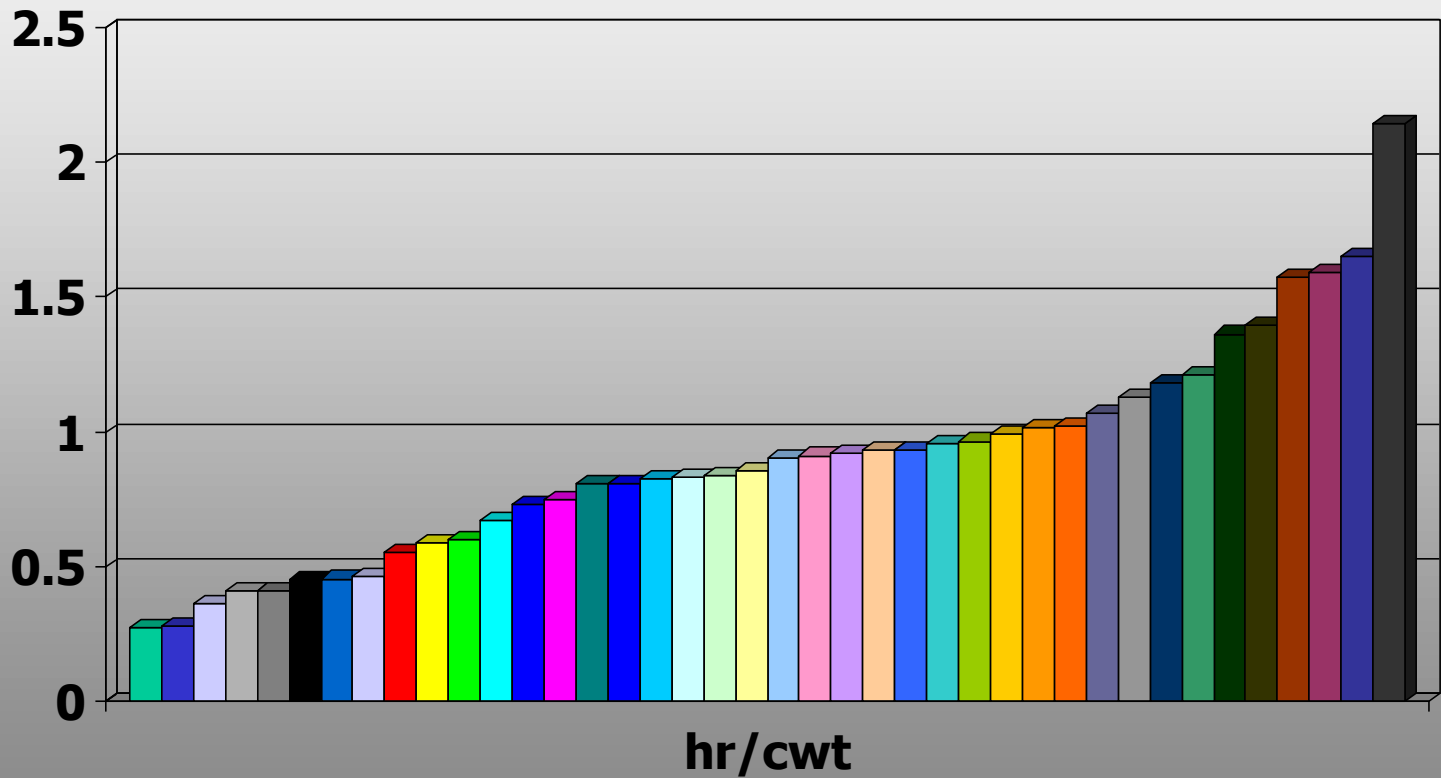
Item	Top 15	Btm 15	Diff	Percent of Difference
<b>Operating costs (feed &amp; other)</b>	<b>\$30.34</b>	<b>\$41.09</b>	<b>+\$10.75</b>	<b>+96.2%</b>
Fixed costs	\$3.12	\$4.07	+\$0.95	+8.5%
Labor costs	\$12.59	\$12.06	-\$0.53	-4.7%
Total costs	\$46.05	\$57.22	+\$11.17	100.0%
<b>Feed costs</b>	<b>\$23.60</b>	<b>\$28.08</b>	<b>+\$4.50</b>	<b>40.2%</b>
<b>Other operating \$</b>	<b>\$6.75</b>	<b>\$13.01</b>	<b>+\$6.26</b>	<b>56.0%</b>

# Sorted by each individual line (top 15 vs btm 15 farms)

Note: data on each line are from different sets of farms	top 15 farms	lowest 15 farms	Difference/Cwt for each factor
<b>Return to Cap. Labor, Mgt. (\$/cwt)</b>	<b>\$17.43</b>	<b>\$2.17</b>	<b>+\$15.26/cwt</b>
<b>Total Cost/Cwt Produced</b>	<b>\$41.27</b>	<b>\$63.21</b>	<b>+\$21.94/cwt</b>
1. Hours Labor/Cwt Produced	.47	1.28	+\$12.15/cwt
2. Other Op. Costs/Cwt (exc Hired L.)	\$4.19	\$13.06	+\$8.87/cwt
3. Feed Efficiency (lbs/cwt)	344	482	+\$8.75/cwt
4. Pigs weaned per litter	7.8	5.6	+\$8.52/cwt
5. Price of feed/ton	\$105.40	\$143.60	+\$7.03/cwt
6. Litters weaned per sow per year	1.9	1.1	+\$6.93/cwt
7. \$/Cwt for All Mkt Animals Sold	\$51.90	\$ 45.06	+\$6.84/cwt
8. Fixed Costs/Cwt Produced	\$0.53	\$5.73	+\$5.20/cwt
9. Pig Death Loss Feeder to Market	2.3%	14.5%	+\$3.07/cwt



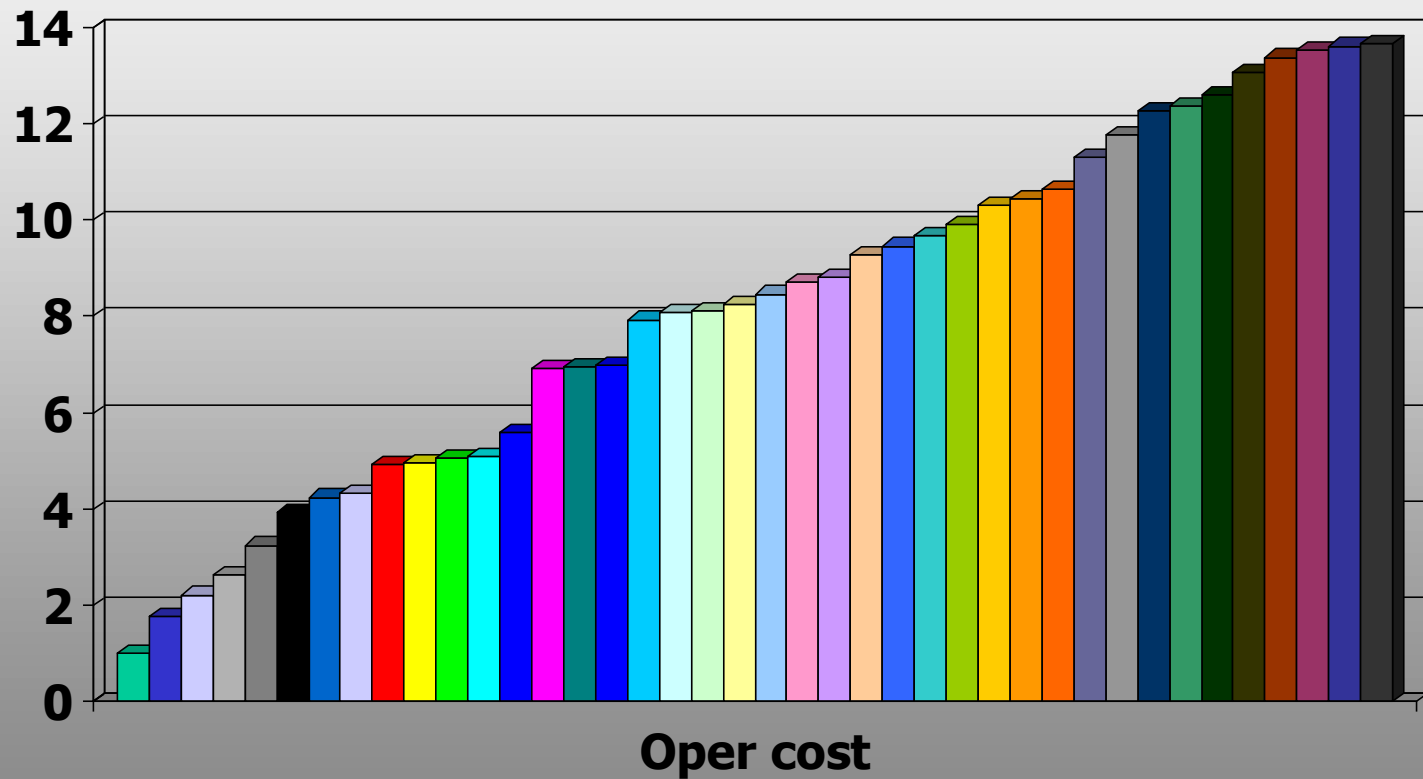
# Hours/cwt produced



# Labor Efficiency Considerations

- Herd and Worker Productivity
- Daily chore differences—
  - Feeding/cleaning/bedding systems – by hand?
  - Small # head/off site chores/repairs/construction
  - Frequent moving pigs/Processing pigs
  - Lactation sow in and out of crate
- Solid manure handling system differences
- Facility setup – setup/teardown farrow pens
- Distance to market, sort time, size of load,
- Feed system on farm
- Single owner operator- broad knowledge to learn

# Operating Cost/\$cwt



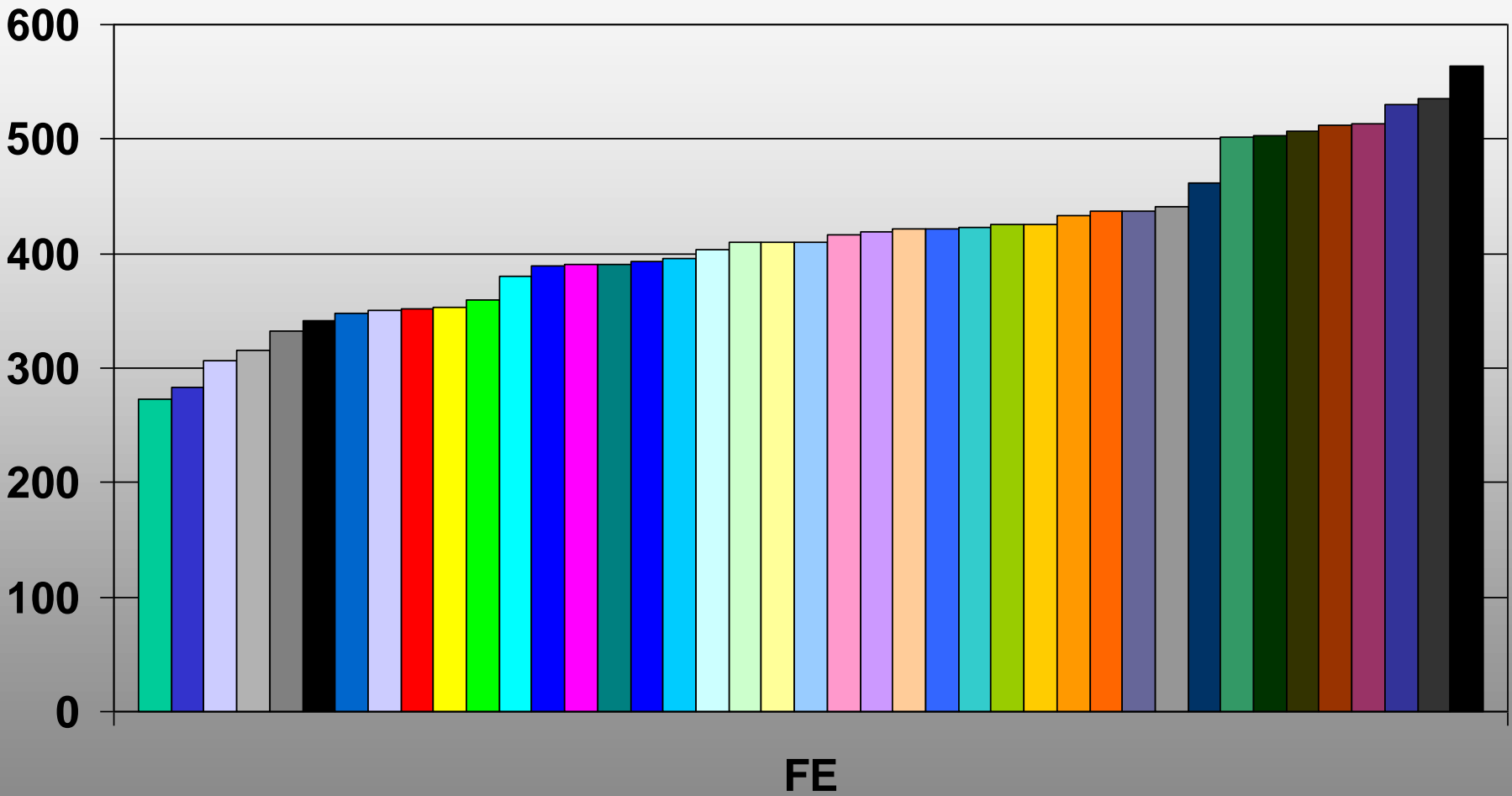
# Other Oper \$ (exc Hired L.)

- 15 out of 41 farms = \$4.19/cwt
- 15 out of 41 farms = \$13.06 /cwt
- $\$13.06 - \$4.19 = \$8.87/\text{cwt}$
- Therefore a 270 lb pig can be produced with \$23.95/hd less ( $2.70 * \$8.87/\text{cwt} = \$23.95/\text{hd}$ ) operating cost

# Operating Cost Considerations

- Pig flow-- throughput, cost for under-filled facility
- Pasture production – lower operating cost
- Utilities LP/electric, low insulation, drafty facilities, frost free water, rural water Vs well, 125 lamp 3 wk Vs 250 9 wk
- Bedding cost, purchased Vs home harvest
- Facility rent or contract payments
- Feed processing – on site Vs hired
- Health bills – products and services
- Repairs, Supplies, machine hire
- Multi-cite production, low fuel efficiency vehicle

# Feed Efficiency



# Feed Efficiency

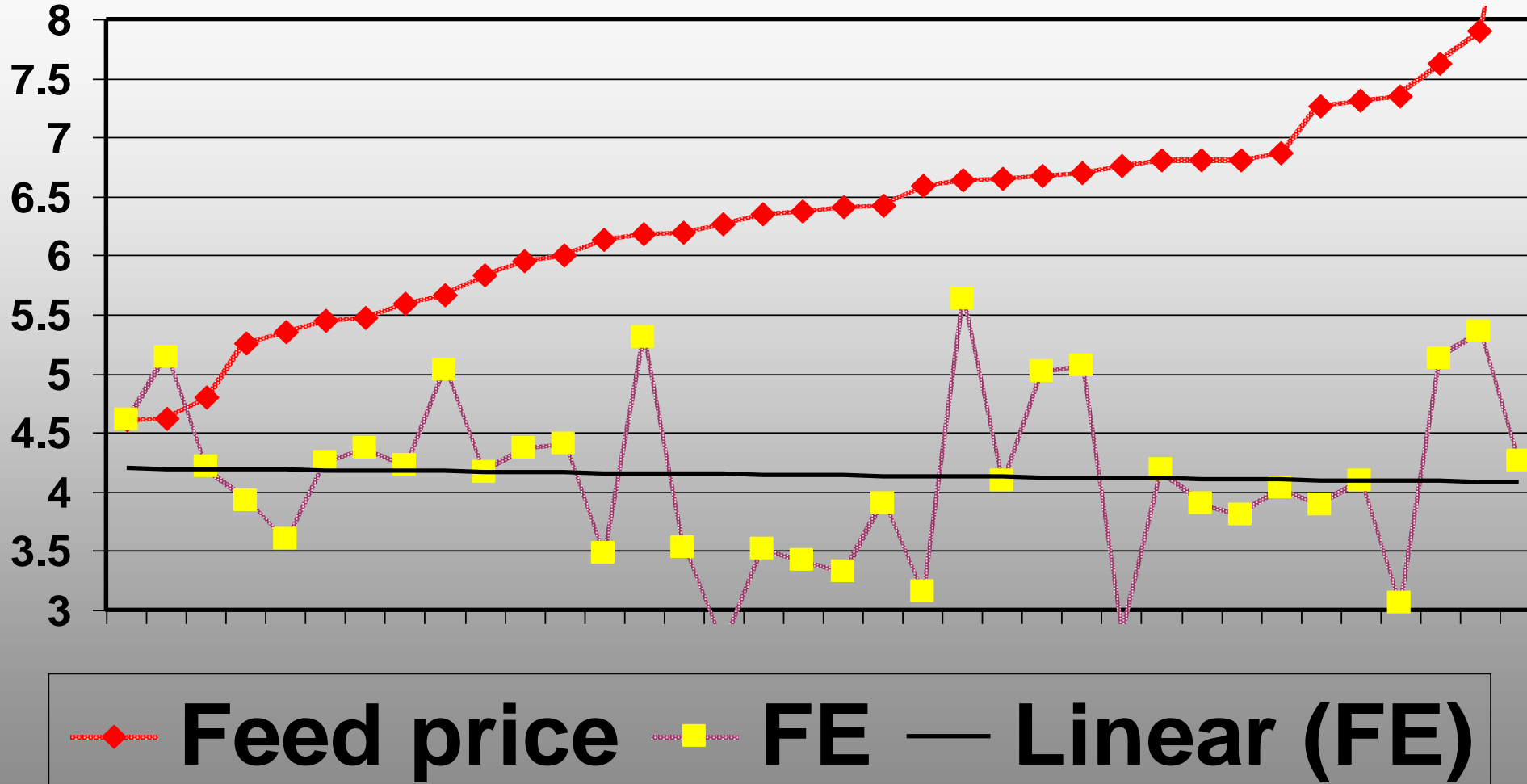
- 15 of 41 farms = 344 lb feed/cwt gain
- 15 of 41 farms = 482 lb feed/cwt gain
- Difference is 138 lbs of feed/cwt gain, 138 lbs of feed in 2006 \* \$.0637/lb (\$127.40/ton) = \$8.79/cwt gain
- \$8.79/cwt gain \* 2.70 cwt = \$23.73/head

# Considerations for Feed Efficiency

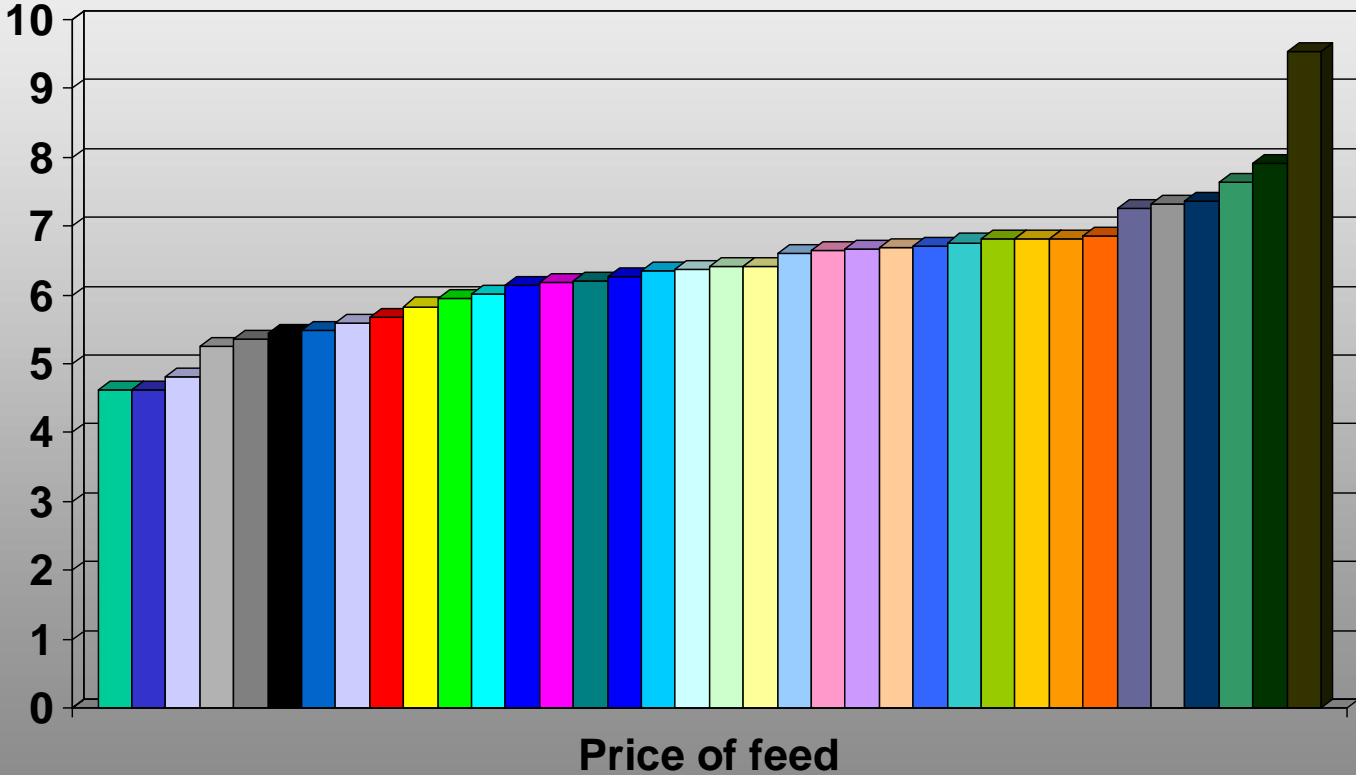
- Finisher feeder wastage minimized;
- Overfeeding gestation sows;
- Over weight market pigs;
- Large weight variation in feeding pen;
- Low pigs per sow per year;
- Miss estimate of pig weights (fed the wrong diet);
- Lack of antibiotic;
- Poor environmental conditions such as mud lot, cold or heat stress,
- Tail biting
- Low health status of continuous flow herd
- Young pig disease setback,
- Lack of heterosis
- Low genetic quality.
- Using less than effective antibiotic substitute



# Feed Price/ FE



# Price of Feed



# Sorted by Price of Feed

- 15 of 41 farms at \$143.60/ton = ***\$.0718/lb of feed***
- 15 of 41 farms at \$111/ton = ***\$.0555/lb of feed***
- Difference = ***\$.0163/lb of feed***
- Average FE 4.13 \* 270 = ~1155 lb feed per head.
- Therefore  $$.0163 * 1155 = \$18.83/\text{pig}$

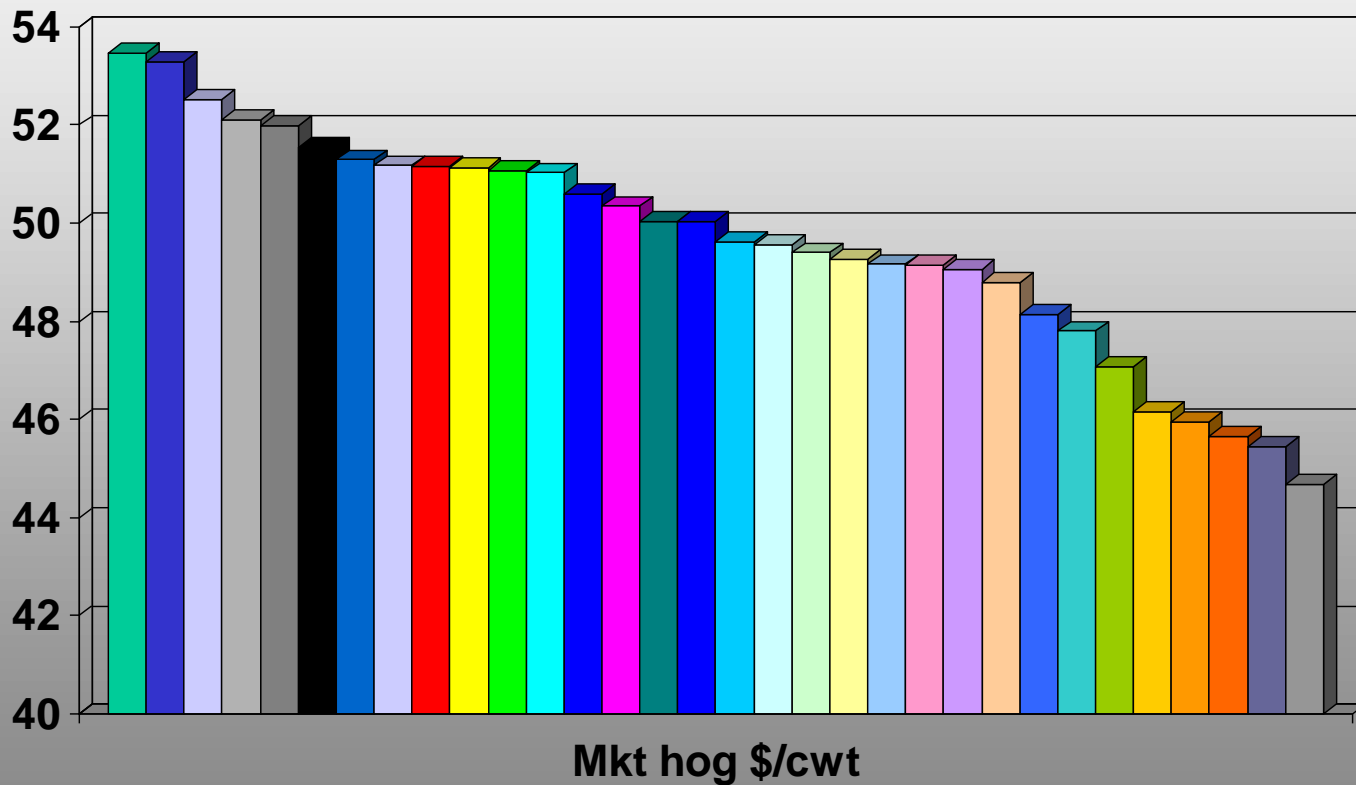
# Sorted by Price of Feed

<b>Price paid for feed \$/ton</b>	<b>\$143.60</b>	<b>\$111.00</b>
<b>Total Pounds of Feed per Cwt. of Pork Prod</b>	<b>429</b>	<b>431</b>
<b>Total Pounds of Supplement per Cwt. of Pork Prod</b>	<b>95</b>	<b>71</b>
<b>Total Pounds of Corn per Cwt. of Pork Prod</b>	<b>326</b>	<b>360</b>
<b>Corn Price</b>	<b>\$2.19/bu</b>	<b>\$2.19/bu</b>

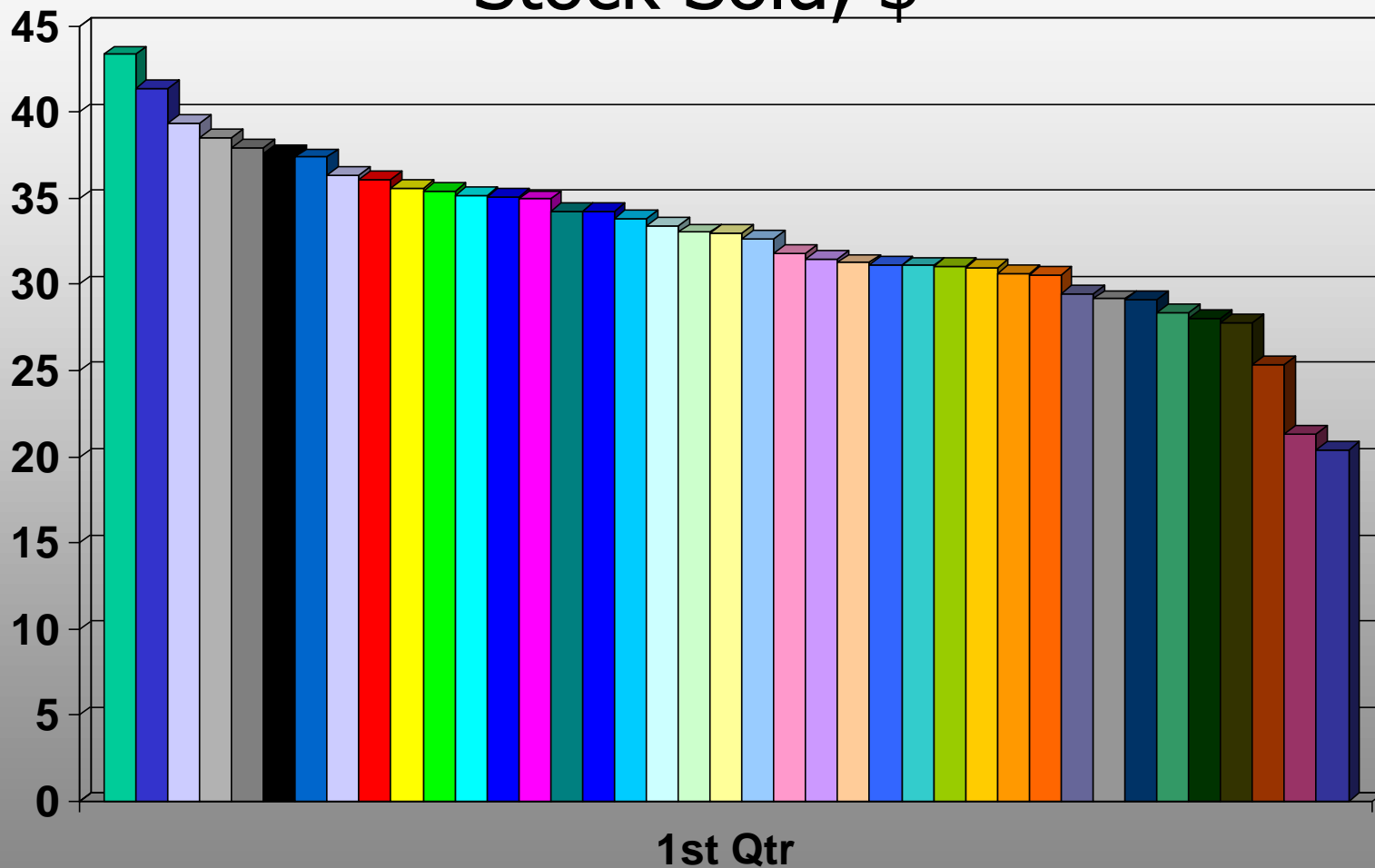
# Considerations for Feed Price

- Least cost diet ingredients;
- Minimize high cost additives;
- High intake lactation diet too nutrient dense for small litters
- Feeding high lean protein and premix to low lean pigs
- Miss estimate of pig weights (over-fortified)
- Using high cost feed ingredient substitutes;

# Average Price per Cwt. of Market Hogs, \$



# Average Price per Cwt of Cull Breeding Stock Sold, \$



Sorted by All Market Price  
 15 farms @~ \$52/cwt; 15 @ \$45/cwt

1. Return Capital, Unpd Labor, Manage, \$/cwt	\$ 10.51	\$ 9.55
2. Average Price/Cwt of All Mkt. Animals Sold \$	\$ 51.90	\$ 45.06
3. Total Cost per Cwt. of Pork Produced, \$	\$ 56.30	\$ 45.75
8. Pigs per sow per year	10.5	8.5
9. Pig Death Loss, Feeder to Market	5.2%	8.8%

Market price did not sort profit groups



# Profit Drivers

<b>Note: data on each line are from different sets of farms</b>	<b>top 15 farms</b>	<b>lowest 15 farms</b>	<b>Difference/Cwt for each factor</b>
1. Hours Labor/Cwt Produced	.47	1.28	+\$12.15/cwt
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3. Feed Efficiency (lbs/cwt)	344	482	+\$8.75/cwt
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8. Fixed Costs/Cwt Produced	\$0.53	\$5.73	+\$5.20/cwt
9. Pig Death Loss Feeder to Market	2.3%	14.5%	+\$3.07/cwt

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