Marketing Cull Sows: Pork Industry Handbook
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pork industry handbook

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Marketing Cull Sows

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Some of the common questions pork producers ask is: What do I do with my cull sows? Should I move them to market as soon as possible or should I feed them for a few weeks? And if I do feed, how many weeks is best?

The answer is the same as for most marketing questions—It depends! There are four factors that should be considered before making a decision about when to market sows.

Condition of the Sow

Probably the most important factor in determining the advisability of feeding is the condition of the sow when the litter is weaned. Light, thin sows that have weaned heavy litters and have lost a lot of weight during lactation are usually better prospects for feeding than heavy sows.

Another aspect to consider is the overall health of the sow at weaning. Lame or seriously ill sows frequently do not regain weight quickly and may be poor prospects for feeding.

There are two primary reasons for feeding cull sows: to allow them time to dry up and thereby avoid any discount on wet sows, and to gain back some of the weight lost during lactation. These are both good reasons. Light sows will often receive a larger discount for being wet than will heavy sows and will usually regain lost weight faster on less feed.

It will usually require about a week of feeding after weaning to avoid a discount for wet sows. Unfortunately, the sow will not gain much weight during the first week after weaning. In fact, research indicates that a sow will lose 2%-6% of her body weight during the first week after weaning, even if she is on a self-feeder.

Table 1 presents what may be a typical growth response for a post-weaning sow on full feed. She will usually lose weight for about a week, then gain weight very rapidly for 1-2 wk., and then finally gain weight more slowly. However, research indicates there is a great deal of variation among sows. Little research has been done on the best ration to feed cull sows. From a logistics perspective, feeding either a standard gestation ration or a finishing ration should be adequate.

Table 1. Typical weights and feed consumption by a 400 lb. cull sow.

Wk. Fed After Weaning	Sow Weight	Total Feed Consumed (Lb.)
0	400	0
1	390	42
2	410	98
3	425	163
4	435	241
5	440	320

In general, the older and larger an animal is, the more difficult feed conversion becomes. Very young pigs can gain 1 lb. of body weight on less than 2 lb. of feed. As the pig matures it requires more feed per pound of gain. A 200 lb. pig will need about 4 lb. of feed per pound of gain. A mature sow on full feed may eat 10-12 lb. of feed per pound of gain; EXCEPT when compensatory gain is involved.

Compensatory gain is the term used to describe the recovery growth that usually occurs after an animal has lost weight. This growth is frequently very rapid and feed efficient. It is compensatory gain that can make sow feeding profitable. For sows, this rapid growth phase will usually begin about 1 wk. after weaning and will continue until most of the lost weight is regained. When compensatory gain stops, it is probably time to market the sow. The sow may still appear to be doing well, but this is a result of the tremendous amount of feed that she is eating. It is hard to make money with feed conversion rates of 10 to 1.

Expected Change in Sow Prices

The second factor to consider is the expected changes in sow prices. The producer may have to take a discount of a dollar per hundredweight or more if sows are marketed wet. Discounts of $2-$5/cwt. are typical. Therefore, sale price can usually be increased simply by holding cull sows until their udders dry up.

In addition to the discount for wet sows, the sow feeder must also anticipate changes in sow prices. These are difficult to forecast accurately, but usually follow market hog price movements. Sow prices have a seasonal pattern. They tend to rise in summer and winter and decline in spring and fall.

Figure 1 shows the Seven Market average weekly price for sows for the period 1980-1988. The seven markets included are National Stock Yards (St. Louis), Kansas City, Omaha, Sioux City, South St. Joseph, South St. Paul and Indianapolis. The most likely periods for increasing sow prices are mid-December through mid-February, June and August. The periods from mid-February through May and September to early December are characterized by declining sow prices. Of course, there is no guarantee the future will be just like the past, but seasonal patterns are hard to break.

During periods of rising sow prices, feeding cull sows has three advantages. The discount on wet sows is avoided, compensatory gain is exploited, and the benefits of a rising market are received.

Price of Feed

The third factor the prospective sow feeder should consider is feed cost. For any swine operation, feed is the major cost. In choosing to feed cull sows, the pork producer is betting that the value of the gain will be more than the feed and nonfeed costs.

Table 2 contains estimates of the net gain from feeding a 400 lb. cull sow as compared to selling her immediately after weaning as a wet sow. Feeding periods of 1 to 5 wk. are illustrated along with feed costs of 5¢, 7¢ and 9¢ per lb. In Table 2, the price received for fed sows is either equal to the base price for wet sows or $1, $2, or $3 above the initial price of wet sows. The cost of labor, interest, facilities and other nonfeed expenses is set at $1.50 per sow per week.

As would be expected, feed cost and changes in sow prices are the keys to net gain. Returns vary greatly case-by-case, but tend to be maximized after about 3 wk. of feeding.

Table 3 presents the price increase over wet sow prices needed to break even for different length feeding periods and different feed prices. For example, a 3 wk. feeding period requires a sow price increase of 63¢/cwt. over the wet sow price to cover total costs when sow feed costs 5¢/lb. and nonfeed costs are $1.50/wk. For 7¢ and 9¢ feed, sow price increases of $1.39/cwt. and $2.16/cwt., respectively, are needed to cover costs. Table 3 assumes sow feeding performance as outlined in Table 1.

Table 4 uses the Seven Market weekly average sow prices for 1980-88 (Figure 1) in combination with sow feeding performance described in Table 1 to present the most profitable sow feeding periods for different weeks of the year and different feed prices. For example, over the 9 yr. period 1980-88, cull sows whose litters were weaned during the first week of the year would have earned the

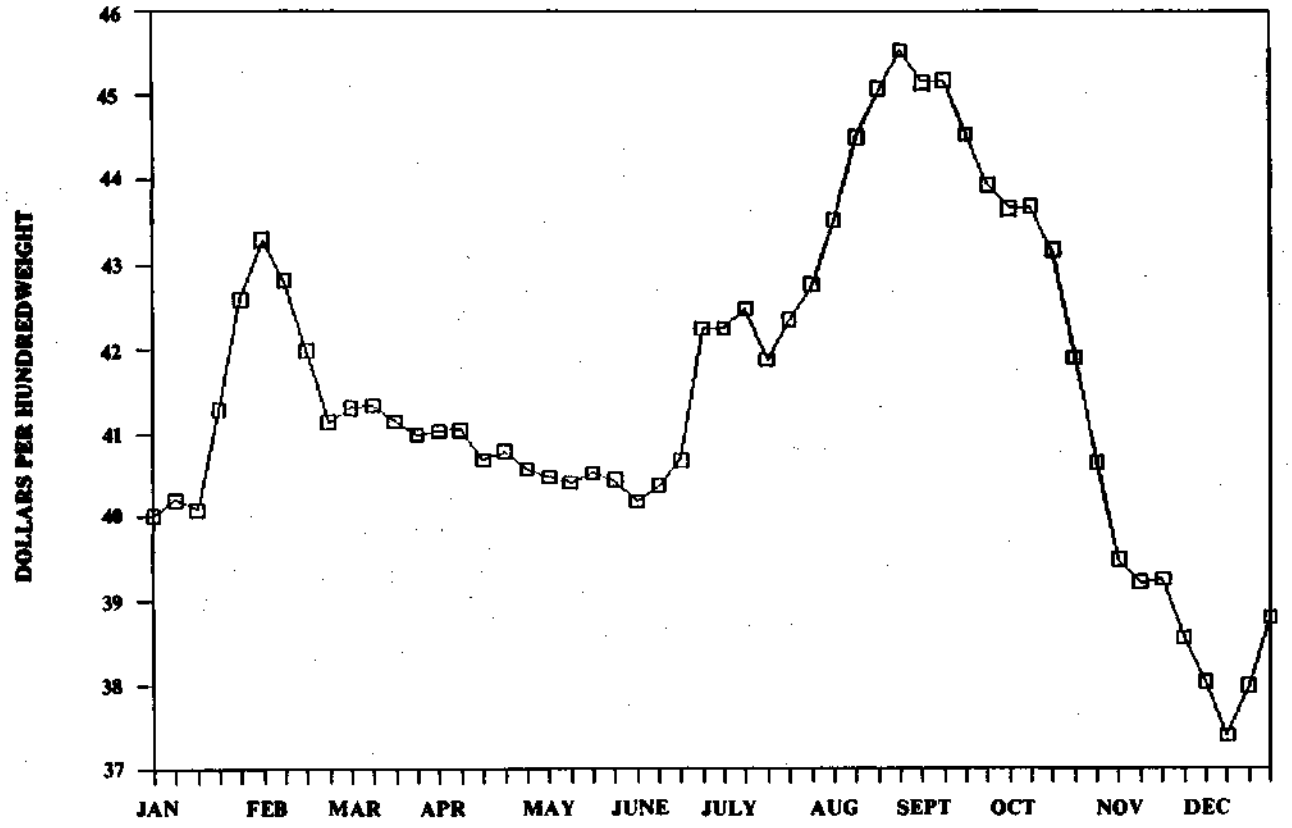

Figure 1. Seven market weekly average sow price, 1980-1988.

Table 2. Estimated gain from feeding a 400 lb. cull sow.

Wk. Fed After Weaning	Sow Weight (lb.)	Total Feed Consumed (lb.)	Sow Price Increase Over Wet Sow ($/cwt.)	Feeding Profit ($/sow)* Feed Price (¢/lb.): 5	7	9
0	400	0	0	0.00	0.00	0.00
1	390	42	0	-7.60	-8.44	-9.28
1	390	42	1	-3.70	-4.54	-5.38
1	390	42	2	0.20	-0.64	-1.48
1	390	42	3	4.10	3.26	2.42
2	410	98	0	-3.90	-5.86	-7.82
2	410	98	1	0.20	-1.76	-3.72
2	410	98	2	4.30	2.34	0.38
2	410	98	3	8.40	6.44	4.48
3	425	163	0	-2.65	-5.91	-9.17
3	425	163	1	1.60	-1.66	-4.92
3	425	163	2	5.85	2.59	-0.67
3	425	163	3	10.10	6.84	3.58
4	435	241	0	-4.05	-8.87	-13.69
4	435	241	1	0.30	-4.52	-9.34
4	435	241	2	4.65	-0.17	-4.99
4	435	241	3	9.00	4.18	-0.64
5	440	320	0	-7.50	-13.90	-20.30
5	440	320	1	-3.10	-9.50	-15.90
5	440	320	2	1.30	-5.10	-11.50
5	440	320	3	5.70	-0.70	-7.10

*Assumes nonfeed cost of $1.50/wk. and a wet sow price of $40/cwt.

Table 3. Increase in price above wet sow price needed to break even when feeding a 400 lb. cull sow.

Wk. Fed After Weaning	Sow Price Increase Needed ($/cwt.) Feed Price (¢/lb.): 5	7	9
0	0.00	0.00	0.00
1	1.95	2.17	2.38
2	0.96	1.43	1.91
3	0.63	1.39	2.16
4	0.93	2.04	3.15
5	1.71	3.16	4.62

*Assumes nonfeed cost of $1.50/wk. and a wet sow price of $40/cwt.

greatest net return if fed for 4 wk. before marketing (assuming feeding costs and performance described earlier). For litters weaned during the 28th week (mid-July), a 5 wk. feeding period would have been most profitable with 5¢/lb. sow feed; a 4 wk. feeding period optimal with 7¢ feed (and a wet sow dock of at least 87¢/cwt.); and a 3 wk. feeding optimal with 9¢/lb. feed (and a wet sow dock of $1.84/cwt. or greater).

If the dock for selling wet sows was less than the minimums specified in Table 4, then feeding cull sows was not profitable and sows should have been sold wet. During mid-October (weeks 42 and 43), selling wet sows would have been the most profitable alternative unless the wet sow dock was well above $3/cwt., and then only a 1 wk. feeding period would have been advisable.

Ease of Handling

The fourth item to consider is the ease with which sow feeding fits the swine operation. In order to feed cull sows profitably, the pork producer must have adequate facilities and labor available. During the summer, sows may require supplemental cooling in order to achieve satisfactory rates of gain. Proper shelter is important during cold or wet weather.

A very real prospect to keep in mind is the possibility of declining sow prices during the feeding period. If sow prices do drop sharply, no amount of compensatory gain will offset the loss. If you cannot handle the risk, selling wet sows may be the best option.

Summary

Pork producers have a choice every time they cull a sow: to feed or not to feed. There are conditions under which it appears that selling sows shortly after weaning is the best choice—if the sow is lame, you are short on facilities, have heavy sows that lost little weight during lactation, have high feed costs, or expect a decline in sow prices.

However, in general, it appears that a 2-4 wk. feeding program can be profitable, especially during months in which seasonal uptrends in prices are expected. Beyond 4 wk., the sow probably will experience little additional compensatory gain and consequently feed conversion should drop sharply. Any added profit will have to come on the strength of rising sow prices.

Table 4. Optimal sow feeding duration for 400 lb. cull sows, 1980-88*.

Month	Week of Year Litter Is Weaned	5¢ Feed		7¢ Feed		9¢ Feed	
		Optimal Feeding Duration (wks.)	Minimum Wet Dock** ($/cwt.)	Optimal Feeding Duration (wks.)	Minimum Wet Dock** ($/cwt.)	Optimal Feeding Duration (wks.)	Minimum Wet Dock** ($/cwt.)
Jan.	1	4	0.00	4	0.00	4	0.62
	2	4	0.00	4	0.00	3	0.00
	3	3	0.00	3	0.00	3	0.00
	4	2	0.00	2	0.00	2	0.00
	5	2	0.68	2	1.17	2	1.66
Feb.	6	2	2.24	1	2.67	1	2.88
	7	3	2.07	3	2.89	1	3.19
	8	3	1.22	3	2.03	2	2.59
	9	3	0.58	2	1.23	2	1.72
March	10	3	0.92	2	1.59	2	2.08
	11	3	0.90	3	1.72	2	2.20
	12	3	0.69	3	1.50	2	2.05
	13	2	0.88	2	1.37	2	1.86
April	14	3	0.85	3	1.67	2	2.28
	15	3	1.11	2	1.71	2	2.20
	16	3	0.84	2	1.56	2	2.05
	17	3	1.01	2	1.76	2	2.25
	18	3	0.67	3	1.49	2	2.10
May	19	3	0.67	2	1.40	2	1.89
	20	3	0.88	2	1.43	2	1.92
	21	5	0.00	5	1.54	2	2.30
	22	4	0.00	4	0.22	4	1.43
June	23	3	0.00	3	0.00	3	0.09
	24	3	0.00	3	0.00	2	0.03
	25	3	0.00	3	0.00	2	0.34
	26	2	0.68	2	1.17	2	1.66
July	27	4	0.25	3	1.23	3	2.04
	28	5	0.00	4	0.87	3	1.84
	29	4	0.00	4	0.00	3	0.42
	30	4	0.00	3	0.00	3	0.00
	31	4	0.00	3	0.00	3	0.00
Aug.	32	3	0.00	3	0.00	3	0.00
	33	3	0.00	2	0.29	2	0.78
	34	3	0.24	3	1.06	2	1.75
	35	2	1.21	2	1.70	2	2.19
Sept.	36	2	1.48	2	1.97	1	2.43
	37	3	1.93	2	2.58	2	3.07
	38	3	1.27	3	2.08	2	2.72
	39	2	1.14	2	1.63	2	2.17
Oct.	40	2	1.39	2	1.88	2	2.37
	41	1	2.49	1	2.70	1	2.91
	42	1	3.23	1	3.44	1	3.65
	43	1	3.15	1	3.36	1	3.57
	44	3	2.13	2	2.95	2	3.44
Nov.	45	2	1.24	2	1.73	2	2.22
	46	2	1.67	1	2.05	1	2.26
	47	2	2.23	2	2.72	1	2.98
	48	4	0.88	4	2.08	1	2.78
Dec.	49	4	0.00	4	0.78	3	1.62
	50	3	0.00	3	0.00	3	0.20
	51	3	0.00	3	0.00	2	0.44
	52	5	0.00	5	0.41	2	1.12

*Assumes nonfeed cost of $1.50/wk.

**If the dock for wet sows is less than given amount, then selling wet sows is advised.

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