

## SOW INDEXES AND FIELD EXPERIENCE

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The productivity of the sow herd is foundation of commercial production. For a commercial pork operation to be successful, the sow herd must breed regularly, farrow large litters, and wean a large healthy litter. In 1973, Fink's Durocs were experiencing sows that would farrow large litters, however, some sows would milk and raise 8 or more big healthy pigs and other sows would start to dry up in several udder sections. These sows would raise 4 or 5 big pigs and several smaller pigs. For this reason I tried to develop a "Simple Sow Index". There is no such thing as a "Simple" index as the 5 years testing have proven.

First, I visited many sow herds to find out if milk production in sows could be improved by selection. Dave Cox, Wyoming, Illinois gave me the best example of sow selection for production. He had marketed between 10 and 11 pigs per litter for a three year period (1972-1974). What to look for? Dave said he only kept sows that weaned 10 or more per litter from the time he started raising pigs. He put emphasis on only saving gilts from these sows that raised the largest litters and shipping the gilts from poor litters, poor milking sows, and sows with bad disposition. His sow herd was much alike in physical make up. They were lean, deep chested, very deep and open ribbed, extra long, and loose. Their udders were very pliable when dry, yet sectioned off when in production. Dave Cox has been very successful not only in production but in exhibiting champion barrows and truckloads on the state and national level.

My experiences led me to the following conclusions:

1. Sows can be selected for milk production.
2. Since milk flow peaks at about 21 days, selection should be made at this time.

3. Milk production probably follows sow families.
4. Heritability for these traits may be higher than estimated (low 10 to 15% range).

I developed the following sow index to help Fink's Durocs improve sow and gilt selection for more production in our herd.

$$\frac{\text{Birth weight} + 21 \text{ day litter wt. gain}}{\text{cont. group average for birth wt.} + 21 \text{ day litter wt.}} = \text{Index}$$

It was my conviction that you need lots of pigs born to have heavy 21 day litter weights. I will discuss our herd results later.

At the past two NSIF meetings the sow productivity committee has looked at this very problem. The committee decided that if possible we should develop a universal program for all commercial producers (minimum program) and an expanded program for seed stock producers. These are published in the N.S.I.F., Dec. 6-7, 1976, Record of Proceeding.

Briefly here is a look at the minimum program and the expanded program. (Reader should refer to the December 1976 proceeding of the NSIF pages 41 through 44).

Results - Before I give the results, I would like to remind you that for 5 years our herd has been on the expanded program through the PACE program. We have a purebred herd and most of our selection is for many other traits.

Here is a look at our results.

First, in 1973 we had one sow (8-6) that made a tremendous record. She farrowed 13 pigs and raised all 13. Her first index was 172 compared to the contemporary average index of 100. This sow during 7 litters farrowed an average of 12 pigs and weaned 9 with an index of 125. Today she has left 7 daughters and many other descendants in our herd.

Our herd average in 1973 for birth wt. plus 21 day litter wt. gain was 97.3 lbs. In 1977 (to date) our herd average has increased to 103.1 lbs. It is interesting to look at the following sow production summary of four sows ranking 1st, 4th, 9th and below average.

Table

<u>Sow</u>	<u>No. of Litters</u>	<u>No. Far.</u>	<u>No. at 21 days</u>	<u>Sow Index</u>	<u>Rank in Herd</u>
8-6	7	12	9	125.1	1st
7 daughters	23	9.3	7.5	112.2	
14-5	6	9.5	8.2	120.0	4th
5 daughters	7	9.7	8.0	96.5	
34-2	8	10	8.0	114.1	9th
12 daughters	24	9	7.8	105.4	
21-3	7	9	7.0	101.2	below ave.
7 daughters	20	8.7	7.8	105.8	

We consider sow families very important. Here is a very brief look at the 5 best sow families presently in our herd. We have tested over 40 sow families and have eliminated some top producing sows because of type, underlines, etc.

The following sow families have survived the test for structural soundness, type, and production.

We have saved gilts from our best sows in these sow families. I wish all good producing sows had 100% good producing daughters. It just doesn't work that way. However, on the average we feel it is the best way to select replacement gilts for our herd.

#### Sow Family Production Summary

Table

<u>Sow family</u>	<u>No. of sows</u>	<u>Range in Prod. Index</u>	<u>Average Index</u>
Master Gal	46	123 to 75	102.2
Duke's Gal	27	126 to 81	105.9
Duchess	43	117 to 78	100.6
Gracie	9	110 to 81	96.5
Queen	6	111 to 104	107.5

Average Herd Index = 100

You can put much more faith in sow families with large number of records. We find a gilt that does well raising a large litter the first time will usually do above average in later lactations. The same is true for gilts below average.

Here is a look at 6 sires from over 30 tested.

Sire Performance Summary

Table

<u>Sire</u>	<u>No. of Daughters</u>	<u>Sow Index</u>
Rampage	6	117
Viewpoint	5	111
OK	38	106
F.B. Colossal	38	105
Banker	45	104
F.B. National Bank	19	99

Herd Average Index = 103

In conclusion, I am positive sow milk production (1) can be selected for, (2) it is more highly heritable than presently estimated, (3) it tends to follow sow lines, (4) certain breeds have more milk production capacity than others, and (5) there are a few physical traits associated with milk production.

I am glad the N.S.I.F. has identified this as a problem area and that there is a national guideline to help producers improve sow production.