

The Pork Value Program

David L. Meisinger*

The national pork industry has successfully improved the performance and composition of their animals over the last few decades. Carcasses are longer and leaner at a given weight than ever before. This downward trend in backfat levels was enumerated in a large USDA consist study which looked at 36,000 carcasses. The study showed that 96 percent of the carcasses in the 1980 study graded U.S. #1 or #2 compared with 50 percent in 1968.

The factors contributing to this progress have been both direct and indirect. A large campaign to make producers aware of the need to produce meat-type hogs back in the 1950's brought about genetic selection necessary to accomplish the reduction in fat levels.

The producer's desire to meet the consumer's need for a lean product helps to continue selection of breeding animals which will produce meaty slaughter hogs. Although this direct selection was important in these early days of change, the indirect factors are probably contributing more now. It is fortunate that selection for many more economical traits in the present system have provided the industry with a product of acceptable composition and quality.

In spite of the many improvements noted, it is clearly wrong to suggest that reduction of fatness has been reduced to an optimum level. Some people justify production of excess fat by saying that certain meat packers and processors are in need of fat. This may be true in certain isolated cases, but national prices of 20 cents per pound for fat, compared to four or five times as much for lower value cuts, do not support this statement. Also, it is inefficient use of feed to produce fat which is worth so little. This is evidence that there is still room for improvement in carcass leanness. In addition, a number of consumer surveys have shown that consumers desire more lean. The studies showed that cholesterol and calories also have negative impacts but not as great as fat. It was reported that almost 50 percent of the consumers surveyed indicated a negative reaction to fat in pork.

The need was identified by an NPPC committee in 1980 to increase the lean content of our national population of hogs in order to bring it more in line with consumer desires. They encouraged sponsoring a Pork Value Conference in August, 1981.

Representatives of consumers, foodservice markets, packers, producers and academia expressed their attitudes on the

marketing system and its ability to communicate consumers' desires back to the raw product producer. The overriding concern that resulted from the conference was that the industry must take the necessary steps to increase lean. It was from this conference that an industry consensus evolved that inadequate price differentials were being paid for hogs varying in value, so producers had little incentive to produce the lean pork that consumers want. This resulted in the selection of a Pork Value Task Force. The Task Force represented all segments of the pork industry. Members were appointed by packers, auction markets, terminal markets, independent buying stations and producers using various methods of selling.

After numerous meetings and lengthy discussions over a year's time, the Pork Value Task Force approved a large multi-faceted program. The information, upon which the program is based, came from data generated from the NPPC/USDA research project which involved several state universities in cooperation with the USDA Meat Animal Research Center. The objective of the study was to determine the easily measurable characteristics of live hogs and pork carcasses that explain a high proportion of the difference in the lean content and value of hogs and hog carcasses.

The sample was composed of both barrows and gilts selected from four different body types: (a) Landrace-Yorkshire cross to represent a typical maternal cross; (b) Duroc-Hampshire cross to represent a dark breed sire cross; (c) Duroc-Hampshire-White breed to represent a typical three-way terminal cross; and (d) a crossbred group susceptible to porcine stress syndrome to represent heavy muscled, early maturing hogs. Live-slaughter weights were fairly evenly distributed over the range of 200-to-300 pounds.

Many measurements were taken on the live hogs and on the carcasses. Analysis of the composition of the carcasses was determined by separating halves of the carcasses into meat, fat and bone. The trimmed wholesale cuts were also weighed and priced, using wholesale-cut market prices to establish the value of the carcass from which the cuts came. The research scientists then determined that objective measurements of carcass weight and backfat thickness at the last rib typically account for three-fourths of the variation in carcass values. These carcass measurements could serve as the primary basis for a more accurate carcass evaluation and pricing system for market hogs.

The Task Force decided to focus on price differentials for various kinds of hogs — the amounts above or below the base market price which vary depending on difference in the market value of the component parts of the live hog or the carcass. While a change in the base market price might cause a change in the number of hogs produced, changes in the prices paid for lean hogs vs. fat hogs are necessary to stimulate production of

*D. J. Meisinger, Director, Research and Education, National Pork Producers Council, Des Moines, Iowa 50306

Reciprocal Meat Conference Proceedings, Volume 36, 1983.

Table 1. Lean Guide to Pork Value^a
Based on a Percentage of Base Market Price

Live Wt. Lb.	Carcass ^b Wt. Lb.	% ^c					
		.7	.8	.9	1.0	1.1	1.2
200-210	146-153	104	103	102	101	100	99
211-220	154-161	104	103	102	101	100	99
221-230	162-168	104	103	102	101	100	99
231-240	169-175	103	102	101	100 ^d	99	98
241-250	176-182	102	101	100	99	98	97
251-260	183-190	101	100	99	98	97	96
261-270	191-197	100	99	98	97	96	95
271-280	198-204	99	98	97	96	95	94
281-290	205-212	98	97	96	95	94	93

^aMuscle and fat quality assumed to be acceptable, + 1.5% for thick muscling and - 1.5% for thin muscling.

^bBased on 73% dress.

^cBased on average 1981 prices; however, when calculated on 1982 prices, no major changes were evident.

^dRepresents the average hog marketed in 1980-81.

lean hogs and discourage production of fat hogs.

The Lean Guide (Table 1) is based on measurements of backfat at the last rib and live or carcass weight. When these two criteria result in a determination of a percentage of 103, it means that the producer of that hog should receive 3 percent more than the base market price for that hog or carcass. Assuming that carcass quality (color, marbling and texture) is acceptable, an additional 1.5% is added or subtracted, depending on whether the hog or carcass is heavy or light muscled.

Packers may use the same procedure to determine their premiums and discounts which was used by our research scientists to determine premiums and discounts shown in the Lean Guide. Note that these are for illustrative purposes only. Each packer would base his premiums and discounts on his cutout tests and current values of the wholesale products from the hog carcass. The Lean Guide is to be viewed as a uniform system which uses weight and backfat, plus a subjective muscling score, to arrive at the percentage above or below the base market price which should be awarded based upon the merit of the hog or carcass.

Whether hogs are in large or small supply, and regardless of profit/loss structure, there should be a continual effort to identify and pay more for lean carcasses. Dollar averaging should be discouraged at every stage of marketing, either for the live hog or the carcass. This would include auctions, order buying, central public markets or direct sales to packers.

The Task Force recognizes that each packer utilizes pork somewhat differently and therefore has different "ideal" specifications for establishing value. Base prices paid for live hogs or carcasses are therefore based on different criteria and could not be expected to be uniform throughout the industry. However, it would be highly desirable if live or carcass characteristics of a packer's base price were objectively described so that a producer could easily assess a hog's value.

The percentages provide some evidence to producers of value differences that can exist among pork carcasses that vary in leanness. However, it should be clearly understood that, in reality, the percentages are constantly changing based on factors such as packer utilization of the end product, volume of hogs available, packers' needs for hogs, prices of heavy versus light weight cuts, etc. Packers are encouraged to develop their own cutout information and price analysis so that a similar table could be continually updated to reflect current price differentials.

One question that arises frequently asks why the Lean Guide pays premiums toward light lean hogs. It is reasonable to think that the industry should encourage production of hogs which can stay lean at heavier weights. This would spread producer reproductive costs over more units of pork produced, thereby enhancing efficiency. It would also be more efficient for the packer to slaughter the heavier hogs.

The answer to that question relates to the origin of the values. The percentage values used in the Lean Guide were derived from yellow sheet quotations for primal cuts. These percentages relate to the actual value of the cuts from hogs varying in backfat, weight and muscling. If a particular packer's end product is processed, or if he sells a boneless vacuum-packaged product, his price differentials would surely favor heavy lean hogs. That is why the program must be flexible enough to accommodate the entire industry.

The Pork Value Task Force has clearly recommended the use of objective measurements for determination of the value of market hogs. Currently, the industry is still looking for an acceptable electronic device which can objectively measure the fat depth and even muscle depth of carcasses at chain speeds typical in many U.S. packing plants today. A great deal of interest and activity has been generated and, hopefully, within the near future this stumbling block will be overcome.

A model would have a great impact on the producers of seedstock in establishing a visual image for breeders to follow in selection of breeding stock. A model picture would subjectively and visually depict differences in cutability or lean yield to be used in estimating differences in live-hog value. A team of pork producers, seedstock breeders and university experts set out to develop such a model. They wrote a job description for this standard of performance which reads as follows:

"This 240 lb. crossbred market barrow is from a litter of 10 pigs marketed. He demonstrates a feed conversion efficiency of 2.5 from birth to a market age of 150 days. At slaughter, his last rib fat depth measurement is .7 inch and his loin eye area is 5.8 sq. in. The average of his three backfat measurements is 1.0 inch. His 180 lb., 32-inch-long carcass yields 105 lbs. of lean pork. He demonstrates a lean gain of $\frac{3}{4}$ lb. per day of age."

Summary

The Pork Value Program originated because of a need to ensure consumer acceptability of pork. The program involves communication of consumer desires for lean pork back to the

seedstock pork producer who can incorporate these wishes into his genetic selection program.

The Pork Value Program involves a system of pricing differentials which provide incentives to producers of lean, meaty hogs and discourages the marketing of fat, light-muscled hogs. The Lean Guide to Pork Value uses backfat, weight and muscling to communicate the worth of a market hog. Packers and markets are encouraged to develop their own values for each backfat and weight cell, depending upon their own cutout tests and product values.

An additional component of the Pork Value Program uses an artist's rendition of the ideal hog — SYMBOL. His job description is as follows:

SYMBOL is a 240 lb. barrow from a litter of ten pigs marketed. He demonstrated a feed conversion efficiency of 2.5 from birth to a market age of 150 days. At slaughter, his last rib fat depth measurement was .7 of an inch and his loin muscle area was 5.8 sq. in. The average of his three backfat measurements was 1.0 in. His 180 lb., 32 in. carcass would yield 105 lbs. of lean pork. He demonstrated a lean gain of $\frac{3}{4}$ lbs. per day of age.