TRENDS IN AN OKLAHOMA SWINE CARCASS CONTEST

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Story in Brief

Carcass data from 642 market hogs, 290 barrows and 352 gilts, slaughtered in the State Fair of Oklahoma "Golden Pork Chop Contest" (a swine carcass contest) from 1985 to 1992 were analyzed. The data revealed a trend of decreasing 10th rib fat thickness and increasing percentage lean pork of the carcass in all carcass traits measured. The Hampshire breed had less 10th rib fat depth, greater loin eye area and higher percentage lean pork of the carcass than the crossbreds.

(Key Words: Swine, Carcass Traits.)

Introduction

An analysis of carcass trends of market hogs slaughtered from 1968 to 1984 in the state Fair of Oklahoma "Golden Pork Chop Contest" (a swine carcass contest) was reported by Luce et al. (1985). The authors reported that the market hogs had less desirable carcass traits (higher backfat thickness, smaller loin eye area, and decreased percentage lean pork of the carcass) in 1983 and 1984 than all previous years. Thus, the data from this same carcass contest were analyzed from 1985 to 1992 to determine the subsequent direction of carcass trends.

Materials and Methods

All market hogs entered in the Golden Pork Chop Contest were farrowed after March 1, and exhibited and slaughtered in September of the same year.

The barrows were slaughtered at Cornett Packing Company, Oklahoma City, OK or Reeves Packing Company, Ada, OK and processed at Schwabs Meats, Oklahoma City. Measurements obtained included carcass weight, carcass length, backfat thickness, loin eye area, 10th rib fat depth and an estimate of percentage lean pork (containing 10% fat) of the carcass.

The adjusted slaughter weights were based on cold carcass weights and a standard dressing percentage of 71.7, 72.0 72.4 and 72.7 % for carcasses weighing 143 lb and less, 144 to 168, 169 to 176 and 177 lb and up, respectively. The average adjusted slaughter weights were 229.0, 223.6, 226.4 224.7, 230.5, 235.3, 233.1 and 242.2 lb for years 1985 to 1992, respectively.

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Carcass length, backfat thickness and loin eye area were adjusted each year to a standard of 230 lb using adjustments recommended by the National Swine Improvement Federation (NSIF, 1988). The estimate of percent lean pork containing 10% fat was also conducted using procedures recommended by the NSIF. Data were analyzed using a model that included breed and year and sex.

Results and Discussions

Records on 642 market hogs that were slaughtered from 1985 to 1992 were analyzed. Table 1 presents the number of market hogs slaughtered per breed by year.

Average adjusted backfat thickness for each year (1985 to 1992) is shown in Figure 1. There were differences (P<.01) among years with the market hogs being leaner in 1992 than all previous years. Average 10th rib fat depth for each year is shown in Figure 2. There were differences (P<.01) among years with the market hogs having less 10th rib fat depth in 1992 than all previous years. Average adjusted loin eye area is presented in Figure 3. There were differences among years (P<.01) with the market hogs tending to have the larger loin eyes in years subsequent to 1987. Average percentage lean pork of the carcass for each year is shown in Figure 4. There were differences (P<.01) among years with the market hogs tending to increase in percentage lean pork from 1987 to 1992. Carcass percentage lean exceeded 55.0 in 1991 and 1992.

Table 1. Number of pigs of each breed slaughtered per year.

	Year of show								
Breed	1985	1986	1987	1988	1989	1990	1991	1992	Total
Berkshire			1	5					6
Chester	2	9	15	3	9		4	1	43
Duroc	3	7	7	9	12	4	6		48
Hampshire	19	25	20	26	26	24	22	20	182
Poland	8	4	1	4	6	2	3	2	30
Spot	1	2		2	1		2	1	9
Yorkshire	6	3	2	1	2	1	2		17
Landrace	1						1	4	6
Crossbred	46	31	44	38	49	27	34	32	301
Total	86	81	90	88	105	58	74	60	642

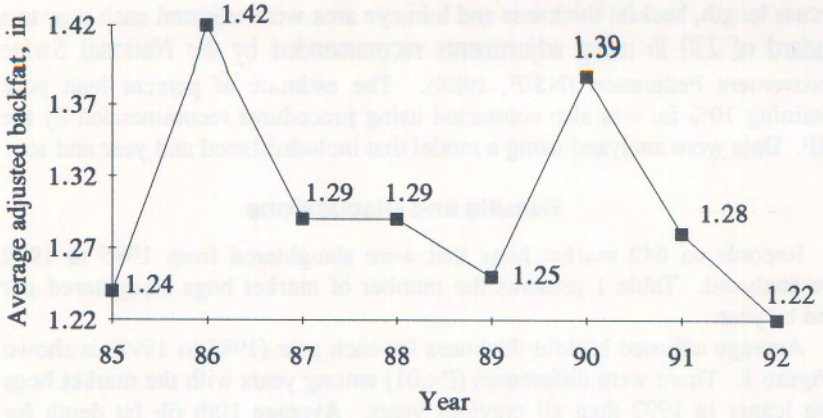

Fig. 1. Average adjusted backfat thickness for the years 1985 to 1992.

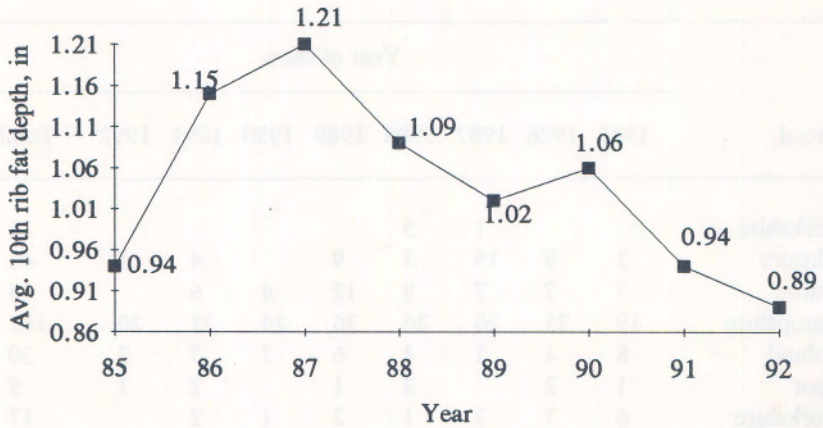

Fig. 2. Average 10th rib fat depth.

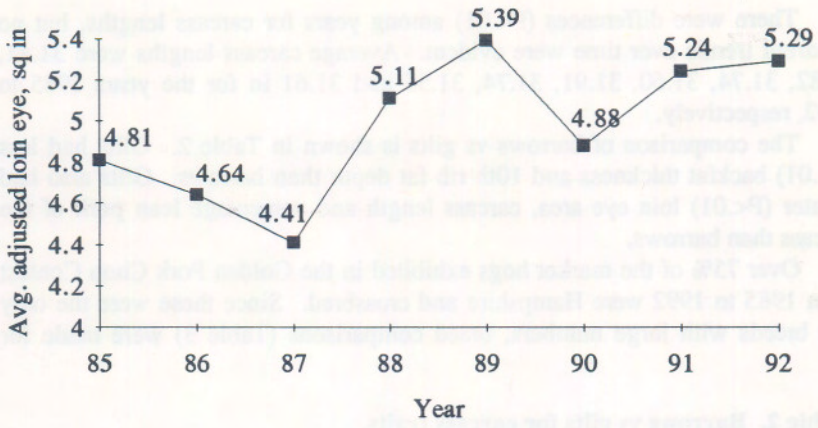

Fig. 3. Average adjusted loin eye area.

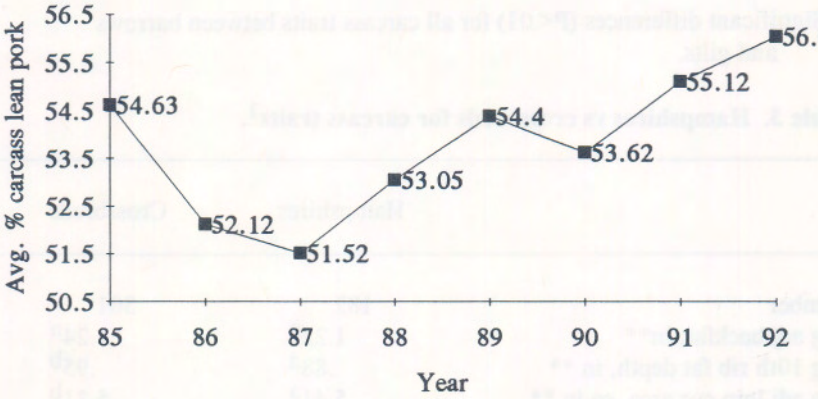

Fig. 4. Average percent lean of carcass.

There were differences (P<.01) among years for carcass lengths, but no apparent trends over time were evident. Average carcass lengths were 31.41, 31.82, 31.74, 31.60, 31.91, 31.74, 31.55 and 31.61 in for the years 1985 to 1992, respectively.

The comparison of barrows vs gilts is shown in Table 2. Gilts had less (P<.01) backfat thickness and 10th rib fat depth than barrows. Gilts also had greater (P<.01) loin eye area, carcass length and percentage lean pork of the carcass than barrows.

Over 75% of the market hogs exhibited in the Golden Pork Chop Contest from 1985 to 1992 were Hampshire and crossbred. Since these were the only two breeds with large numbers, breed comparisons (Table 3) were made for

Table 2. Barrows vs gilts for carcass traits.

	Barrows	Gilts
Number	290	352
Avg adj backfat, in**	1.34	1.26
Avg 10th rib fat depth, in**	1.13	.94
Avg adj loin eye area, sq in**	4.71	5.23
Avg adj carcass length, in **	31.59	31.77
Percent lean pork of carcass, %**	52.63	55.01

**Significant differences (P<.01) for all carcass traits between barrows and gilts.

Table 3. Hampshires vs crossbreds for carcass traits[1].

	Hampshires	Crossbreds
Number	182	301
Avg adj backfat, in**	1.22[a]	1.24[a]
Avg 10th rib fat depth, in **	.88[a]	.95[b]
Avg adj loin eye area, sq in **	5.41[a]	5.21[b]
Avg adj carcass length, in **	31.53[a]	31.64[a]
Percent lean pork of carcass, %**	55.84[a]	55.06[b]

[1]Any two means without a common superscript are different (P<.01).

these two breeds. Hampshires had less 10th rib fat depth (P<.01) and greater (P<.01) loin eye area and percentage lean pork of the carcass than crossbreds. The two breeds were similar for average adjusted backfat and adjusted carcass length.

The data from the market hogs in this contest revealed a trend of decreasing 10th rib fat thickness and increasing estimated percent lean pork of the carcass from 1987 to 1992. Although, the market hogs slaughtered in this show cannot be considered a representative sample of the industry, it reveals a trend that many people feel is occuring industry wide. Gilts were superior to barrows in all carcass traits measured.

Literature Cited

Luce, W.G. et al. 1985. Okla. Agr. Exp. Sta. Res. Rep. MP-117:79.

National Swine Improvement Federation. 1988. Guidelines for uniform swine improvement programs.