

CARCASS TRENDS IN AN OKLAHOMA YOUTH BARROW SHOW

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Story in Brief

Carcass data from 928 barrows: (70 Berkshire, 77 Chester White, 147 Duroc, 201 Hampshire, 66 Poland, 79 Spot, 94 Yorkshire and 194 crossbreds) slaughtered in the Oklahoma City 4-H and FFA Livestock shows from 1986 to 1993 are presented. The barrows were the top end of each respective breed selected by a judge in the live show.

In general, the barrows decreased in carcass 10th rib fat thickness and increased in average percentage lean over time. Improvement was also apparent in the more recent years in average adjusted backfat thickness and loin eye area. The Hampshires and the crossbreds tended to excel other breeds in carcass traits.

(Key Words: Swine, Carcass Traits.)

Introduction

An analysis of carcass trends of barrows slaughtered from 1972 to 1984 in the Oklahoma City 4-H and FFA Livestock Shows was reported by Luce et al. (1985). These authors reported that the barrows had less desirable carcass traits (higher backfat thickness, smaller loin eye area, shorter carcass length and decreased percentage lean of the carcass) from 1982 to 1984 as compared to all previous years. Thus, the data from this same show were analyzed from 1986 to 1993 to determine the subsequent direction of carcass trends. The show was not held in 1985.

Materials and Methods

The Oklahoma City Spring 4-H and FFA Livestock Show has from 2300 to 2800 barrows exhibited each year. The top two animals of each breed weight class were slaughtered each year. The number slaughtered per breed each year varied depending on the number of weight classes per breed.

The barrows were slaughtered at Cornett Packing Company, Oklahoma City, OK or Reeves Packing Company, Ada, OK and processed at Schwab 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 (containing 10% fat) of the carcass.

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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 244.7, 249.1, 243.7, 249.8, 241.8, 245.1, 255.8 and 249.1 lb for years 1986 to 1993, respectively. 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 calculated using procedures recommended by the NSIF. The data were analyzed using a model that included breed and year.

Results and Discussions

Records on 928 barrows that were slaughtered from 1986 to 1993 were analyzed. Table 1 presents the number of barrows per breed they were slaughtered.

Average adjusted backfat thickness for each year (1986 to 1993) is shown in Figure 1. There were differences ($P<.01$) among years with the barrows tending to be leaner in the most recent years. Average 10th rib fat depth for each year is shown in Figure 2. There were differences ($P<.01$) among years with the barrows gradually decreasing in 10th rib fat depth over time. Average adjusted loin eye area is presented in Figure 3. There were differences ($P<.01$) among years with the barrows having the largest loin eye areas in the most

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

Breed	Year of show								Total
	1986	1987	1988	1989	1990	1991	1992	1993	
Berkshire	6	7	8	11	8	11	10	9	70
Chester	9	12	10	9	10	9	9	9	77
Duroc	16	17	20	20	20	17	18	19	147
Hampshire	24	25	26	27	25	24	23	27	201
Poland	6	8	10	7	8	8	9	10	66
Spot	8	11	9	11	11	10	9	10	79
Yorkshire	10	8	12	12	12	13	14	13	94
Crossbred	23	24	28	25	24	22	24	24	194
Total	102	112	123	122	118	114	116	121	928

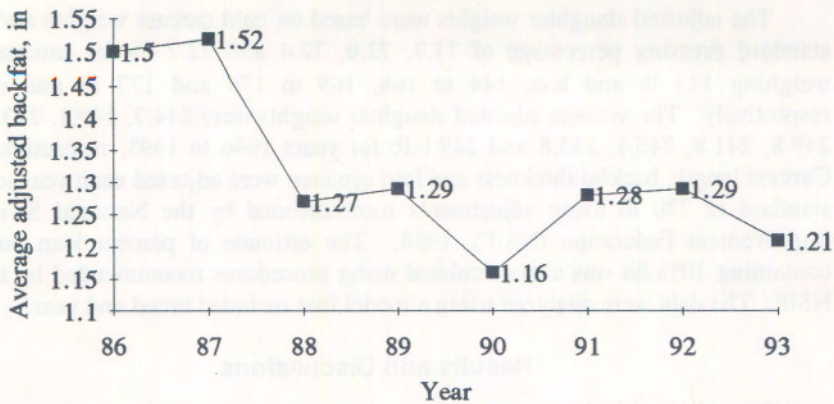


Fig. 1. Average adjusted backfat thickness for the years 1986 to 1993.

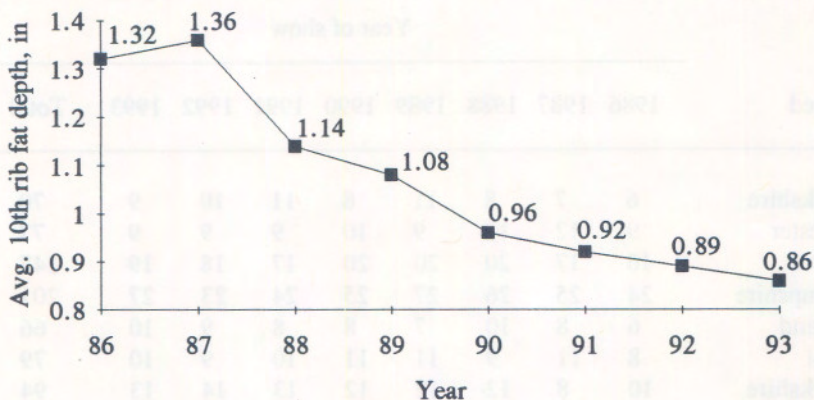


Fig. 2. Average 10th rib fat depth.

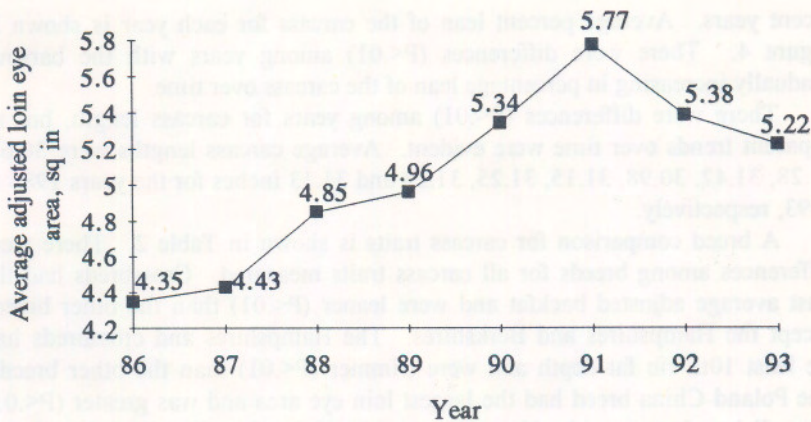


Fig. 3. Average adjusted loin eye area.

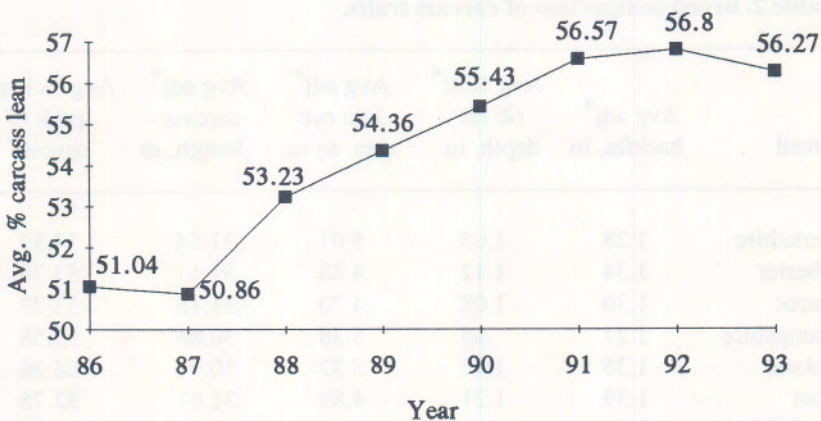


Fig. 4. Average percent lean of carcass.

recent years. Average percent lean of the carcass for each year is shown in Figure 4. There were differences ($P < .01$) among years with the barrows gradually increasing in percentage lean of the carcass over time.

There were differences ($P < .01$) among years for carcass length, but no apparent trends over time were evident. Average carcass lengths were 30.61, 31.28, 31.42, 30.98, 31.15, 31.25, 31.23 and 31.13 inches for the years 1986 to 1993, respectively.

A breed comparison for carcass traits is shown in Table 2. There were differences among breeds for all carcass traits measured. Crossbreds had the least average adjusted backfat and were leaner ($P < .01$) than the other breeds except the Hampshires and Berkshires. The Hampshires and crossbreds had the least 10th rib fat depth and were trimmer ($P < .01$) than the other breeds. The Poland China breed had the largest loin eye area and was greater ($P < .01$) than all breeds except the Hampshires and crossbreds. The Berkshire breed had the longest carcass length and was ($P < .01$) longer than all breeds except the Yorkshire. The Hampshires and crossbreds had the highest average percent lean of the carcass and were higher ($P < .01$) than the other breeds.

The data from the barrows in this show reveal a trend for carcass traits in swine to improve in recent years. Although the barrows slaughtered in this show cannot be considered a representative sample of the industry, it reveals a trend that many people feel is occurring industry wide.

Table 2. Breed comparison of carcass traits.

Breed	Avg adj* backfat, in	Avg 10th* rib fat depth, in	Avg adj* loin eye area, sq in	Avg adj* carcass length, in	Avg % lean pork of carcass
Berkshire	1.28	1.05	5.01	31.54	54.39
Chester	1.34	1.12	4.88	31.11	53.78
Duroc	1.30	1.08	4.70	31.15	53.73
Hampshire	1.27	.95	5.30	30.84	55.56
Poland	1.35	1.11	5.32	30.91	54.26
Spot	1.39	1.21	4.89	31.01	52.75
Yorkshire	1.34	1.05	4.96	31.37	54.48
Crossbred	1.26	.95	5.24	31.12	55.63

*Significant differences among breeds ($P < .01$).

The Hampshire breed and the crossbreds tend to excel other breeds in carcass traits. Personal observation by the senior author at each show was that a larger majority of the crossbreds were Hampshire crosses.

Literature Cited

- Luce, W.G. et al. 1985. Okla. Agr. Exp. Sta. Res. Rep. MP-117:73.
National Swine Improvement Federation. 1988. Guidelines for uniform swine improvement programs.

(Joy Warden, Swine, Carcass Traits)

Introduction

An analysis of carcass traits of market hogs slaughtered from 1983 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 part of the carcass) in 1983 and 1984 than all previous years. Thus, the data from this carcass contest were analyzed from 1983 to 1985 to determine the regression direction of carcass traits.

Materials and Methods

All market hogs entered in the Oklahoma Pork Chop Contest were harvested after March 1 and exhibited and slaughtered in September of the same year. The hogs were slaughtered at Crown Slaughter Company, Oklahoma City, OK or Rowan Packing Company, Ada, OK and processed at 50 weeks. Meat, Oklahoma City. Measurements obtained included carcass weight, carcass length, backfat thickness, loin eye area, loin rib fat depth and an estimate of percentage lean part (containing 10% fat) of the carcass. The adjusted slaughter weights were based on cold carcass weights and a standard dressing percentage of 71.1, 71.0, 71.4 and 71.7 % for carcasses weighing 143 lb and less, 144 to 168, 169 to 174 and 175 lb and up, respectively. The average adjusted slaughter weights were 239.0, 238.4, 234.7, 230.5, 232.7, 231.1 and 241.2 lb for years 1983 to 1985, respectively.

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