

# PROGRESS OF AN OKLAHOMA SWINE CARCASS CONTEST

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## Story in Brief

The "Golden Pork Chop Contest" is a swine carcass contest for animals from across the country that are exhibited in the State Fair of Oklahoma. A total of 866 market hogs, 359 barrows and 507 gilts, were harvested and evaluated from 1985 to 1996. Average adjusted backfat thickness ranged from 1.42 inches (1986) to 1.02 inches (1996). Tenth rib fat depth was lowest in 1995 (.72 in) and 1996 (.70 in). Average adjusted loin eye area ranged from 4.44 sq in (1987) to 6.62 sq in (1996). Percentage of carcass lean containing 10% intramuscular fat was lowest in 1987 (51.7%) and highest in 1992 (56.2%). Carcass lean (%) containing 5% intramuscular fat was reported for 1994 to 1996 and ranged from 52.5% to 55.9%. Carcass traits measured were more desirable for gilts when compared with barrows. The Hampshire breed had less 10<sup>th</sup> rib fat depth, greater loin eye area and a higher percentage of carcass lean than crossbreds; however, crossbreds produced longer carcasses.

(Key Words: Swine, Carcass Trait.)

## Introduction

Analyses of carcass trends of market hogs harvested from 1968 to 1992 in the State Fair of Oklahoma "Golden Pork Chop Contest" have been reported by Luce et al. (1985, 1994). Market hogs evaluated in 1983 and 1984 had less desirable carcass traits (increased backfat thickness, smaller loin eye area, and decreased percentage of carcass lean) than hogs previously evaluated. Moreover, carcasses evaluated from 1987 to 1992 exhibited decreasing 10<sup>th</sup> rib fat depth and increasing estimated percent carcass lean. Contest data from 1993 to 1996 were analyzed to determine recent progress of the contest. These data are presented with 1985 to 1992 data as a review.

## Materials and Methods

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

Market hogs were harvested at Cornett Packing Company, Oklahoma City, OK, Reeves Packing Company, Ada, OK or Ralph's Packing Company, Perkins, OK. Carcass data obtained by university personnel following harvest included: carcass weight, carcass length, backfat thickness, loin eye area, and 10<sup>th</sup> rib fat depth. Carcass length, backfat thickness and loin eye area were adjusted to a standard of 230 lb following National Swine Improvement Federation guidelines (NSIF, 1988). Moreover, estimates of lean pork were based on an equation using carcass weight, 10<sup>th</sup> rib fat depth, and loin eye area as variables (NPPC, 1991). Prior to 1994, estimates of carcass lean pork were based on 10% intramuscular fat content and from 1994 to present estimates of carcass lean pork were based on 5% intramuscular fat.

Harvest weights were adjusted based on cold carcass weights and a standard dressing percentage of 71.7, 72.0, 72.4, and 72.7% for carcasses weighing 143 lbs and less, 144 to 168, 169 to 176, and 177 lbs and up, respectively. The average adjusted slaughter weights were 229.6, 223.6, 226.4, 224.7, 230.7, 235.0, 232.8, 242.1, 237.2, 239.3, 239.4, 243.0 for 1985 to 1996, respectively.

## **Results and Discussion**

Carcass data for 866 market hogs that were harvested from 1985 to 1996 were analyzed. Table 1 presents market hogs harvested stratified by breed and year.

Average adjusted backfat thickness is presented by year in Figure 1. Carcasses evaluated in 1996 had less ( $P<.01$ ) average adjusted backfat thickness than carcasses in previous contests. Moreover, carcasses in the 1995 and 1996 contests possessed less ( $P<.01$ ) average 10<sup>th</sup> rib fat depth than other carcasses (Figure 2). Average adjusted loin eye area is presented in Figure 3. Muscling differences were noted with adjusted loin eye area being smallest ( $P<.01$ ) in 1987 and largest ( $P<.01$ ) in 1996. Care must be taken when comparing carcass lean percentage in Figure 4 as the assumed intramuscular fat content was changed from 10% to 5% in the 1994 contest. Carcass lean percentage exceeded 55.0% in 1991, 1992, 1993 and 1995. Differences were observed for carcass length with longer ( $P<.01$ ) carcasses observed in 1994 and 1995 (not in tabular form). Average carcass lengths were 31.40, 31.81, 31.73, 31.65, 31.89, 31.73, 31.54, 31.60, 31.99, 32.16, 32.33, and 31.80 in for the years 1985 to 1996, respectively.

Carcass data stratified by sex-class is presented in Table 2. Gilts had more ( $P<.01$ ) desirable measurements than barrows for all carcass traits evaluated.

Carcass data for selected breed-class, Hampshire vs crossbred, is presented in Table 3. These breeds were chosen because they comprise 78% of the market hogs exhibited from 1985 to 1996 in the "Golden Pork Chop Contest". Average adjusted backfat thickness did not differ ( $P>.01$ ) between carcasses from Hampshire and crossbred market hogs. Additionally, carcasses from Hampshire hogs had less ( $P<.05$ ) adjusted 10<sup>th</sup> rib fat depth as well as greater ( $P<.01$ ) adjusted loin eye area and percentage carcass lean. However, carcasses from crossbreds were longer ( $P<.01$ ).

Golden Pork Chop Contest data indicates that measures of muscling (adjusted loin eye area) and fat (10<sup>th</sup> rib fat depth) for carcasses have improved in the contests evaluated. This review is intended to illustrate the progress of the "Golden Pork Chop Contest" and is not considered a representative sample of the industry.

## **Literature Cited**

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**Table 1. Number of pigs of each breed harvested per year.**

Breed	<u>Year of show</u>												Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	
Berkshire			1	5							1	1	8
Chester	2	9	15	3	9		4	1	1	2	1		47
Duroc	3	7	7	9	12	4	6		3		2	3	56
Hampshire	19	25	20	26	26	24	22	20	28	23	15	17	265
Poland	8	4	1	4	6	2	3	2	1	2			33
Spot	1	2		2	1		2	1				1	10
Yorkshire	6	3	2	1	2	1	2		6	3	3		29
Landrace	1						1	4				1	7
Crossbred	46	31	44	38	49	27	34	32	17	22	36	35	411
Total	86	81	90	88	105	58	74	60	56	52	58	58	866

**Table 2. Carcass traits stratified by sex-class.**

	Barrows	Gilts
Number	359	507

Average adjusted backfat thickness, in**	1.29	1.21
Average 10 <sup>th</sup> rib fat depth, in**	1.04	.87
Average adjusted loin eye area, sq in**	5.08	5.66
Average adjusted carcass length, in*	31.73	31.87
Percent carcass lean, %**	52.94	55.47

<sup>a</sup> Carcass lean: 1985 to 1993 containing 10% intramuscular fat; 1994 to 1996 containing 5% intramuscular fat.

\* P<.05 significant difference between barrows and gilts.

\*\* P<.01 significant difference between barrows and gilts.

**Table 3. Carcass traits for Hampshires vs crossbreds.**

	Hampshires	Crossbreds
Number	265	411
Average adjusted backfat thickness, in	1.19	1.20
Average 10 <sup>th</sup> rib fat depth, in*	.83	.87
Average adjusted loin eye area, sq in**	5.76	5.55
Average adjusted carcass length, in*	31.65	31.78
Percent carcass lean <sup>a</sup> , %**	55.88	55.31

<sup>a</sup> Carcass lean: 1985 to 1993 containing 10% intramuscular fat; 1994 to 1996 containing 5% intramuscular fat.

\* P<.05 significant difference between Hampshires and crossbreds.

\*\* P<.01 significant difference between Hampshires and crossbreds.

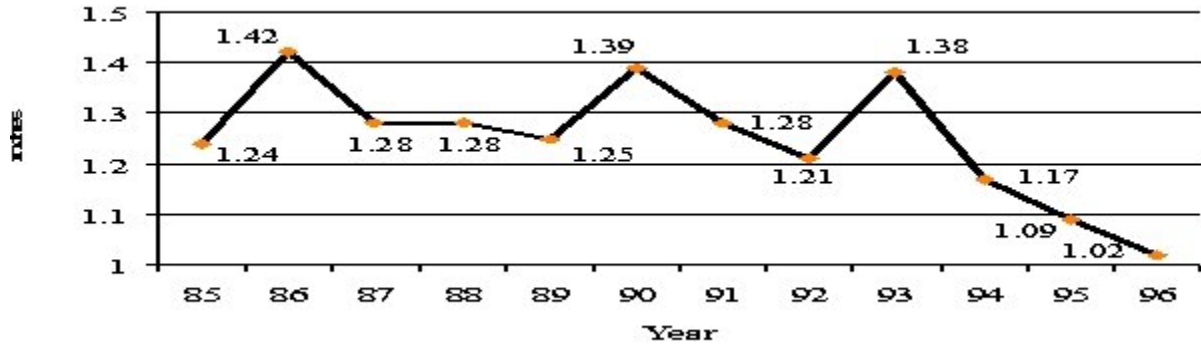


Figure 1. Average adjusted backfat thickness for 1985 to 1996.

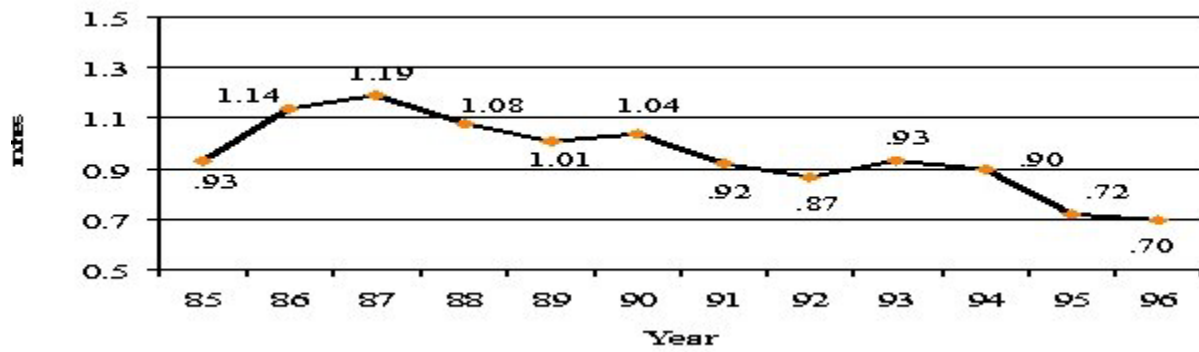


Figure 2. Average 10<sup>th</sup> rib fat depth for 1985 to 1996.

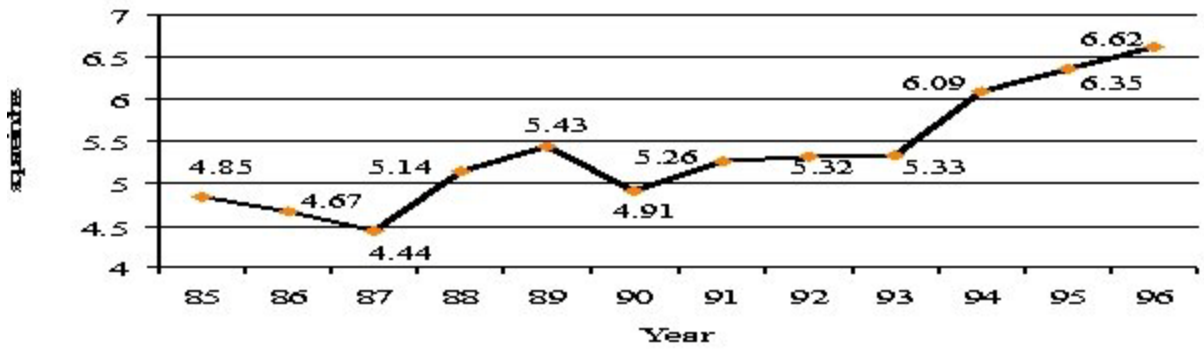


Figure 3. Average adjusted loin eye area for 1985 to 1996.

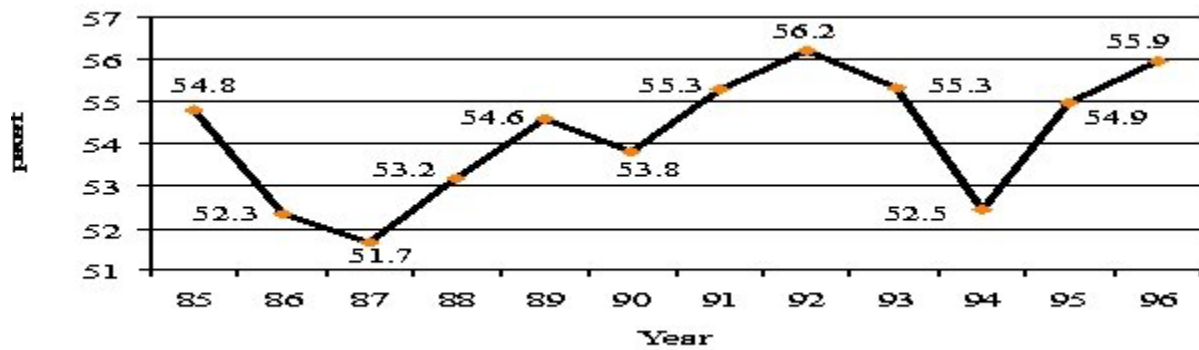


Figure 4. Average percent lean of carcass for 1985 to 1996.