Fat deposition pattern in pork primal cuts from finisher gilts

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Pork bellies are a highly-valued cut in Singapore but consumers will not pay premium prices for pork belly cuts that have high intermuscular and subcutaneous fat depots. The issue of excess belly fat has been the most evident and widespread problem since Australia started exporting chilled pork carcasses to Singapore. Carcasses for export to Singapore are selected based on having a backfat thickness at the P2 site (6.5 cm from the midline over the last rib) less than 12 mm. Anecdotal feedback from Singapore indicates that excess belly fat remains a major problem even in the 'lean' carcasses. However, before any strategies to decrease belly fat are undertaken, it is essential to gain a better understanding of fat deposition patterns in the different pork cuts in relation to total body fat. The aim of this study was to determine the deposition of fat in the different primal cuts relative to the total fat in the carcass of female finisher pigs.

A total of 80 Large White x Landrace x Duroc crossbred gilts of similar age were used in this experiment. The pigs were stratified on a weight basis and randomly allocated to one of 10 pens (8 pigs/pen). The pigs in each pen were allocated a slaughter age over a 10-week period starting from 16 to 25 weeks of age. At their pre-designated slaughter age all pigs within the pen were slaughtered at a commercial abattoir. Twenty-four hours post-slaughter the right side of each carcass was divided into primal cuts (shoulder, loin, belly and ham), and weighed. The subcutaneous and intermuscular fat content for the shoulder, loin, belly and ham primal cuts was determined by dissection (1). The ratio of % fat in each primal cut to the % fat of the half carcass was then determined.

	Age (weeks)											
	16	17	18	19	20	21	22	23	24	25	l.s.d.	P-value
Slaughter weight (kg)	68.7	72.3	72.5	79.1	87.7	94.9	104.6	107.2	112.0	119.7	9.60	<0.001
Carcass weight (kg)	44.4	44.0	45.4	50.4	55.0	60.2	67.2	69.4	72.8	77.2	6.42	<0.001
% Carcass Fat	15.5	14.1	15.3	14.9	17.6	17.2	18.0	17.4	21.3	19.2	3.76	0.010
% Primal fat / % carcass fat												
Shoulder/Carcass	0.88	0.84	0.91	0.84	0.89	0.91	0.93	0.86	0.80	0.77	0.127	0.267
Loin/Carcass	1.3	1.4	1.3	1.6	1.2	1.3	1.4	1.2	1.2	1.3	0.258	0.104
Belly/Carcass	1.2	1.2	1.3	1.4	1.8	1.7	1.8	2.5	2.9	2.9	0.478	<0.001
Ham/Carcass	0.84	0.86	0.81	0.82	0.80	0.83	0.83	0.81	0.76	0.80	0.109	0.895

The % carcass fat increased by 5–6% while the % fat in the shoulder, loin and ham primal cuts in relation to % carcass fat did not significantly change from 16 to 25 weeks of age. However, the proportion of belly:carcass fat significantly increased from 16 to 25 weeks of age. The increase in subcutaneous and intermuscular fat in the belly primal cut occurred from 20 weeks of age or a slaughter weight of 88 kg. This 'late' deposition of fat in the belly compared to the other primal cuts in finisher gilts is of major concern to the Australian pork industry as there is a trend in Australia to slaughter pigs at heavier weights. Increasing slaughter weights could further exacerbate the issue of excess belly fat in carcasses. These data also indicate that the late finisher phase from 20 weeks of age is the most appropriate period to initiate any management strategies to control belly fat deposition in gilts.

Reference

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