

Seasonal variation in carcass quality of pigs: does pattern of nutrition play a role?

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Carcass quality in pigs, and hence price per kg, is currently determined by the P2 measurement, the depth of subcutaneous fat 65 mm down from the midline at the last rib. Records from producers and processors over a number of years indicate that P2 varies during the year without any apparent change in the management or feeding of pigs. Data collected over 12 years from a major Western Australian piggery indicate (Figure 1) that there is a consistent seasonal fluctuation in P2 and hence carcass quality. Similar patterns have been identified for other herds in Australia, the UK and the USA.

Corresponding fluctuations in liveweight could be one explanation for the fluctuations in P2 because as pigs get heavier they become fatter. However, regression analysis indicated that weight accounted for less than 20% of the variation in P2.

The voluntary food intake of pigs is sensitive to changes in ambient temperature, but it is nutrient intake *per se* which we believe is having the major effect on

carcass composition at slaughter. One explanation for fatter pigs in spring involves a depression of growth early in life followed by a compensatory increase at heavier weights. As pigs grow they deposit proportionately more fat and less lean. It follows that the leanest carcasses at slaughter are from those pigs that have relatively high growth rates early in life, when the gain of fat:lean is low, and then experience a depression in growth during the finishing phase when the gain of fat:lean is highest. Pigs sold in spring spend most of their early life in summer, a period when high temperatures may reduce food intake. With the onset of cooler weather, these pigs have the opportunity to compensate by increasing their food intake and consequently their growth. Growth at this later stage of life is associated with a higher fat:lean gain and hence an increase in P2.

If this hypothesis is correct, then producers must minimise variation in voluntary food intake to reduce variation in carcass fat.

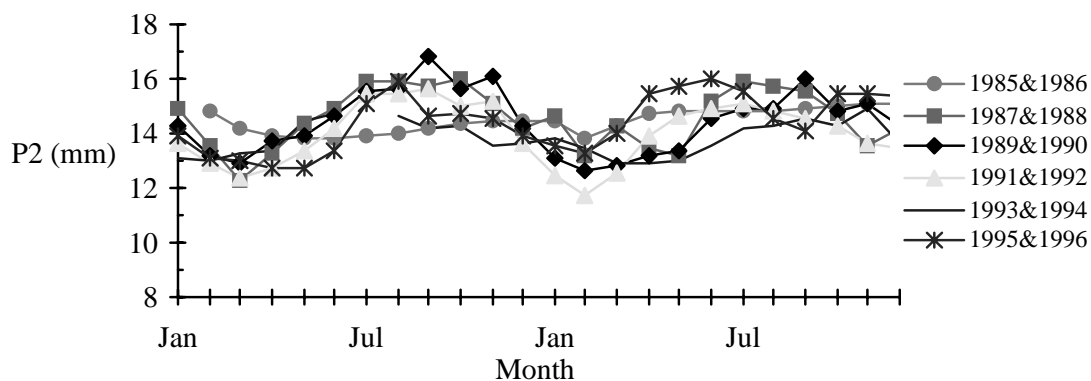


Figure 1 Average monthly P2 depths of bacon weight pigs at slaughter (81 to 101 kg liveweight).