

What is the optimum slaughter weight for pigs ?

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There are reports that carcass weights in factories are averaging ~81.5kg for the first 4 months of 2010. Producers are asking what is the optimum live weight at which to slaughter their pigs. This is not an easy question to answer. The processor and individual deals done with processors will be very important factors..

Slaughter weight of Irish pigs has increased greatly in recent years. The average carcass weight of pigs slaughtered in Ireland in 2009 was ~80kg (Table 1) up from ~64 kg in 1970. Most other EU countries routinely castrate male pigs destined for the meat counter thus allowing much heavier weights without running the risk of boar taint. However this practice is becoming less acceptable and alternatives are being considered in some of these countries. Ireland and the UK produce entire male pigs and as our slaughter weights were traditionally low (consequentially young pigs) this safeguarded us from boar taint problems.

Table 1. Trends in pig carcass weight at (kg) slaughter in Ireland.

Year	1970	1980	1990	2000	2009*
Avg. wt. (kg)	64	66	66	72	80

Source FAOstat Database results and *PigSys 2009 (provisional)

What is the current situation ?

The slaughter weight of pigs in Ireland is dictated largely by the minimum and maximum weight limits set by the main processors. Each processor has its own distinct range. Table 2 shows the minimum and maximum carcass weight limits for pigs at one processor (note that each processor will have different weight thresholds. It also shows the corresponding maximum and minimum live-weight bands that should be used by producers to avoid price penalties.

Table 2. Upper sale weights to achieve maximum base price

	Min	Max
Upper dead weight limit (kg)	55	85.5
Kill out (%) limits	71	78
Live weight limit (kg)	77.5	110*

*If selling once per week, sell all pigs over 103 kg live

Failure by a producer to supply pigs within the maximum and minimum weight range can be very costly. Each processor has its own system for making deductions on over and under weight carcasses but generally the further carcass weight is outside the optimum range the greater is the penalty.

Meeting an upper carcass weight limit of 85.5 kg

The following example uses data from a trial conducted at Moorepark where pigs were slaughtered at five target live weights between 80kg and 120kg. The weight limits from the factory in Table 1, their penalty structure for over and under weight pigs as well as the normal bonuses for lean meat % were used to calculate Net pig price / kg carcass using a base price of €1.24/kg carcass. Feed costs were calculated using the Teagasc recorded feed prices for April.

Table 3. Economics of increasing slaughter weight

	Slaughter Weight (kg)				
	82.3	92.9	104.9	110.1	115.3
Carcass					
Carcass weight (kg)	61.4	70.7	79.5	84.2	88.3
Kill Out %	74.7	76.1	75.8	76.5	76.5
Lean meat (%)	57.6	58.7	58.5	58.5	55.5
Margin over feed (€/pig) ¹	33.43	38.62	41.13	44.21	28.28
Margin over feed (€/kg DW) ¹	0.54	0.54	0.52	0.52	0.32

¹Sow feed component included

In this example we found that targeting live weight at slaughter of 110kg was the most economical strategy. Above this live-weight the penalties incurred for overweight pigs were sufficient to severely reduce margin over feed per pig. To maximise the number of pigs approaching this weight and also to avoid pigs exceeding the upper carcass weight of 85.5kg it would be advisable to target all pigs above ~103kg live for slaughter on a given week.

Situations where the upper weight limit is more “relaxed”

Processors tend to accept pigs heavier than their maximum declared weight limit from specific customers and in times of short supply. Allowing this increase in slaughter weight (without penalty) is very profitable for the producer, since the costs of sow feed and most non-feed costs associated with producing the pig have already been incurred. The main costs associated with the extra weight is the additional finisher feed used and non feed costs associated with the additional weight such as interest on increased borrowings for additional accommodation, depreciation on additional accommodation required, cost of disposing the additional manure

produced and increased repairs and maintenance associated with increasing slaughter weight. This currently works out at ~ €0.64/kg LW for feed and ~ €0.13/kgLW for the additional non-feed costs giving cost total of ~ €0.77 per marginal kg of pig live-weight or ~€0.59/additional day.

Is the incidence of boar taint likely to increase ?

Boar taint is an unpleasant odour that is released during the cooking of pig meat from entire male pigs. Only a proportion of boars produce this odour and not all consumers are sensitive to it. Nevertheless it is a potential problem for the industry, since one bad experience by a consumer could put a person/family off pork for life. Although we have previously found that the incidence of taint causing compounds in the carcass increases as slaughter weight exceeds 100kg live weight the incidence of boar taint is more a feature of age rather than weight. However, we have no way of knowing the age of a pig at slaughter and so maximum carcass weight limits though not entirely accurate are the only practical safeguard against boar taint. An upper carcass weight of ~85kg would seem prudent in this regard.

Summary

It is impossible to give one recommendation for an optimum target live-weight at slaughter for the industry. Each processor has different upper carcass weight limits, different penalty structures and even within processor different suppliers may have negotiated different upper carcass weight limits. Without an upper weight limit each additional kg produced is very profitable. Where a carcass weight limit of 85.5kg is set then producers should target all pigs exceeding 103kg for slaughter each week to maximise profitability. However the industry as a whole must always be mindful that increasing slaughter weight also increases the risk of boar taint raising its ugly head.