



Factors affecting killing-out percent

Killing-out percent (KO%), also known as dressing percent, is important to pig producers since it determines how much saleable carcass weight is obtained from the live pig.

KO% is expressed as the weight of the carcass in relation to the weight of the live pig immediately before slaughter. The most valuable part of the pig is the meat contained in the carcass. Producers are therefore paid on the weight of the carcass and an assessment of its leanness, rather than the weight of the live animal. Normally, the **KO%** ranges from 72–80%. In the UK, the average reported killing-out value in the last decade was 75–76%.

$$\text{KO\%} = \frac{\text{Carcass weight (before cooling)}}{\text{Liveweight (before slaughter)}} \times 100$$



Ensure optimal fasting period: 8-12 hours

Minimise pre-slaughter stress

Minimise carcass weight loss between final feed and slaughter

Maximise saleable carcass weight in relation to liveweight

Factors to consider

- The EU definition of the carcass is “the body of a slaughtered pig, bled and eviscerated, whole or divided down the mid-line, without tongue, bristles, hooves and genital organs, but with flare fat, kidneys and diaphragm”.
- Muscle and fat are the most important components of a carcass. In the UK the flare fat, kidneys and diaphragm may be removed and the tongue may be left in, with the application of approved adjustments to the weight.
- The time of measuring liveweight greatly affects the KO%. If the pigs are weighed after feeding or before despatch from the farm, the liveweight will be around 5 kg greater than if the pigs are weighed after 24 hours without food or just before slaughter. So if you are comparing feeds or genotypes be sure to weigh at a consistent time.
- Additional trimming in the abattoir for health reasons, eg abscesses and pleurisy will reduce carcass weight and therefore KO%.
- In some cases the carcass weight is measured after cooling rather than before cooling. In these cases, the KO% will be also affected, as a hot carcass will weigh 1.5–2% more than a cool carcass because of the evaporative weight loss during chilling.
- A standard adjustment of 2% is applied to convert hot weight to cold weight under EU legislation.

Carcass weight reductions for flare fat, kidney and diaphragm

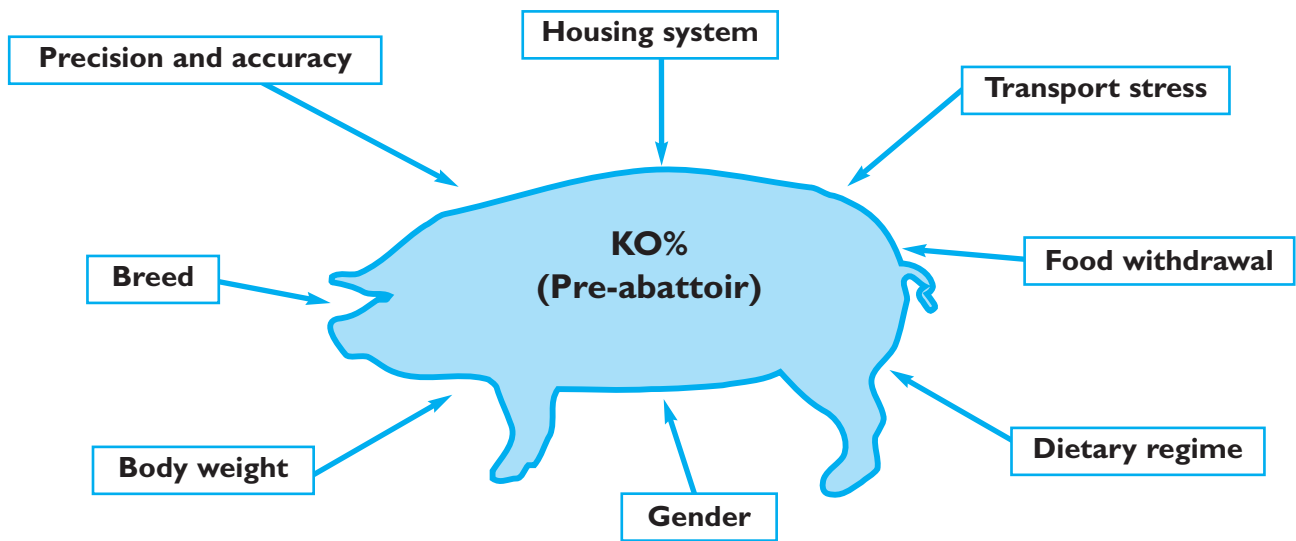
Hot carcass weight (kg)	Reduction (kg)
Up to 56	0.7
56.5–74.5	1.1
75 and over	1.6

In addition 0.3 kg reduction for tongue when left in.



Which pre-abattoir factors contribute to KO%?

The main pre-slaughter factors contributing to the KO% are those that affect the pigs' liveweight at the moment of slaughter.



How can these factors be optimised?

Precision and accuracy in weighing pigs

Get as accurate a weight as possible both for the live pig and for the carcass. Service and calibrate your weigh crate.

Breed

Well-muscled meat type breeds have proportionally heavier carcasses, so will have a better KO%. Pietrain and Belgian Landrace pigs tend to have a higher KO% than Large Whites, which in turn have a higher KO% than Tamworth or Gloucester Old Spot pigs.

Body weight

Normally, the heavier the pig the better the KO%. This is because the main components of the pig carcass, muscle and fat, are later developing than the parts of the pig that constitute the offal. As Large White pigs increase in weight from 70–120 kg, the KO% increases by 5% – a 1% increase in KO% per 10 kg liveweight.

Gender

Entire males have around a 1% lower KO% than castrates and around a 1.5% lower KO% than gilts; this is due to differences in the weights of the reproductive tracts.

Dietary regime

Both the level of feeding and the composition of the diet have an effect on KO%. Diets with high levels of fibre, which are relatively indigestible, reduce KO% while diets with a high nutrient density increase it.

Housing system

Pigs housed on straw have a lower KO% than those in fully slatted systems.

Food/water deprivation prior to slaughter

If a pig is deprived of food it will mobilize body tissues to provide energy for maintaining the vital functions of the body. Fasting pigs for 24 hours can result in a loss of 3.8% of their initial liveweight and 2.1% of carcass weight in comparison with a fasting period of only 4 hours. Optimal fasting period: 8–12 hours.

Transport stress

A major pre-slaughter stress is the transport of animals from the farm to the abattoir. It has been found that the carcass weight of pigs transported for 6 hours can be reduced by 1 kg, corresponding to a 2% reduction in KO%.

How much improvement can be expected?

There is no universal combination of factors at farm level that will enhance KO% on every farm. Each farm should work out where it stands and possible areas for improvement should be identified.

Focus on ways to maximise carcass weight in relation to liveweight. Breed, sex and liveweight are important but, if these are constants the major influence is the amount of feed in the gut and whether the pig loses carcass weight as a result of stress before slaughter. Ensuring a correct fasting period (8–12 hours) and minimising pre-slaughter stress are the most straightforward ways to enhance KO%.

A supporting document on this topic is available on the BPEX website.