

# Pig belly quality

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Among the traits currently of importance to Canadian processors and exporters of pork bellies are the physical dimensions (width, thickness), the content and distribution of lean and the softness. Soft bellies are not desirable because they do not slice easily. Considerable attention has been given to methods for predicting the chemical composition of bellies from carcass or belly measurements. Factors affecting belly softness have received less attention. This research study was designed to investigate potential sources of variation in pork belly softness.

The softness of 230 skin-on bellies was determined very simplistically by draping them, skin-down, over a rod, 5 cm in diameter, for a 2 min period and then measuring the angle (degrees) to which they bent, as well as the distance between their two hanging ends 15 cm below the top of the rod. Belly dimensions and percent fat area were obtained from digital images of a cross-section of each belly perpendicular to its longitudinal axis and midway between its ends.

Belly bend angle and width, the measures of belly softness, were highly correlated with each other and were affected by both breed and sex. The percentage of fat area in the cross-section of the belly was highly correlated with chemical fat and protein content of the whole belly. Belly iodine value, a measure of the degree of unsaturation of fatty acids, was also affected by both breed and sex and was inversely related to belly fatness. Within the pigs evaluated, breed and sex appeared to be major sources of variation in belly traits, but these effects can be explained, for the most part, by differences in fat content. Belly softness was much more highly correlated with the amount of belly fat or backfat depth than with belly dimensions such as thickness. The degree of saturation of the fat had very little effect on the belly softness measures after adjustment for fat differences.

**Implications:** Belly softness can be estimated using the belly bend method. Belly total chemical fat can be predicted from the percent lean area of fat in the belly cross section. Fatter bellies are firmer and, of course, have less lean. The challenge now is to produce lean bellies, which have adequate firmness.