

# Influence of intramuscular fat (IMF) on pork quality

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Despite concerns of meat scientists, up until the past few years, selection pressures have resulted in very lean hogs. These very lean hogs had, and in many cases still have, very low levels of intramuscular fat, and thus exhibited very low levels of marbling in their muscles. This trend has been reversed as the IMF content in the loin-eye is finally acknowledged in Western Canada as a major contributor to the palatability of pork for both domestic and export markets. This study was conducted to determine the influence of IMF on meat quality traits within a number of different pig genotypes.

IMF was measured on the longissimus (loin-eye) muscles of 300 pigs representing several different genotypes. Marbling, firmness, thaw drip, cooking loss, sensory traits (juiciness, flavor, tenderness, overall acceptability) and protein content were measured on the same muscle.

IMF averaged from 1.2 to 2.7% for the various genotypes and it was highly correlated with marbling levels ( $r = 0.83$ ), with marbling ranging from devoid to moderate. Genotypes with higher levels of IMF yielded firmer backfat and firmer muscle with slightly less thaw drip and cooking loss. High IMF was associated with greater juiciness, more desirable flavor, greater tenderness and better overall palatability.

On the other hand, genotypes with higher IMF had a slightly lower muscle protein yield.

## **Implications:**

There is good justification for slightly increasing the level of intramuscular fat in pork, since IMF has a positive effect on thaw drip and cooking losses, as well as on palatability (juiciness, flavor, tenderness, overall acceptability), and its increase would cause only a slight decrease in protein yield. Additionally, a return to higher IMF levels may help to alleviate current packer concerns regarding fat and muscle softness.