Using ultrasound technology to predict intramuscular fat of loin in live pigs and potential use in swine genetic improvement.

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The use of ultrasound technology to predict meat quality on live animals would be a quick, non-invasive and affordable method including numerous advantages for swine selection. To test newly available equipment, a group of 1,000 Duroc pigs were scanned using ultrasound technology and image analysis to estimate the intramuscular fat percentage in the *Longissimus dorsi* muscle using Biosoft Swine Toolbox software developed by Biotronics. Among these animals, 150 were slaughtered for a visual examination of marbling and a chemical analysis of intramuscular fat percentage in the *Longissimus dorsi* muscle. The correlations between in vivo measures with visual scores and chemical analysis were 0.55 and 0.69, respectively, in this sample. The standard error of prediction of chemical analysis from in vivo measures was 0.71%. The estimated heritability of intramuscular fat predicted in vivo was 0.69 and a moderately positive correlation was observed between this trait and backfat thickness as well as a significant negative correlation with loin depth. These results are very encouraging with respect to the possibilities of using ultrasound on live pigs to efficiently predict the percentage of intramuscular fat and to select for this trait.