Retrospective by sex of the new EU lean meat content of pig carcasses

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A new EU regulation on carcass classification applies from July 2018. This regulation changes the definition of the reference lean meat percentage (LMP) which becomes the LMP in the carcass (from total dissection). Nevertheless, each Member State can choose when he will update its grading methods. The aim of this work is to simulate this change on the last 5 years in France for each sex.

Conversely to most of European countries sex is registered online in France during pig classification. Statistics per sex are regularly published by the regional classification organisations.

The production of entire males started in France in 2013 (13% of the males), increased quickly and is now stable (27% of the males in 2017), around 2.5 million a year. More than 95% of entire males are classified with the classification method CSB Image-Meater® (IM) approved by the EU in 2013. The present LMP prediction equation contains two fat depths (G3 and G4) and two muscle depths (M3 and M4).

A sample of 180 pigs was uniformly stratified on sex: 60 entire males, 60 females and 60 castrated males. All cuts were CT scanned allowing to calculate the LMP. Prediction equation was calculated by a general linear model including the 4 depths as well as the interactions with sex. The stepwise procedure by using BIC selected a model with 1 fat depth (G3) and 2 muscle depths (M3 and M4), G3 and M3 coefficients depending on sex. The RMSE was 2.15. Removal of M4 only decreased the RMSE of 0.01. The fat coefficient of entire males was more than twice that of females, while that of castrates was in the middle. Differences on M3 coefficient had lower impact on LMP.

The equation was applied on the annual classification averages from 2013 to 2017. In 4 years LMP increased, but differently according to sex: +0.11 for entire males, +0.25 for females and +0.34 for castrated males. In the same period the difference between entire and castrated males decreased from 4.02 to 3.79, while the difference between entire males and females decreased from 1.37 to 1.24. When the Image-Meater method will be updated, it seems worthwhile to consider separate slopes for entire males, females and castrated males.