



## Carcass traits and meat quality

### PhD project at PPGCV-UFPR/EMBRAPA-CNPSA

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## 1 Federal University of Paraná

- Oldest Brazilian university, founded in 1912.
- 10th best university in Latin America and 5th in Brazil at number of registered patents.
- 88 options of graduation, 52 master degrees and 35 doctoral programs.
- 22,460 undergraduates and 8,311 postgraduates.
- Main campus located in Curitiba, the ecological capital and the main cities of Brazil.
- Cultural and political center of the state.



Protest against political corruption in Brazil, in front of the main campus of UFPR, 2013.

## 2 Laboratório de Sistematização, Análise e Modelagem em Produção e Nutrição Animal

- Linked to the Department of Animal Science.
- Multidisciplinary teaching laboratory, research and extension
- Activities of scientific writing, systematic and statistical analysis, principles of meta-analysis and modeling applied to research on production and animal nutrition.
- 2 post-doctoral student, 2 PhD student, 4 master students, 8-14 undergraduate student by year (Med-Vet, Agronomy, Zootechny)



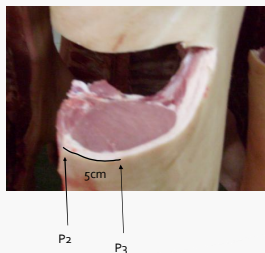
Veterinary medicine students in technical visit.

## 3 Carcass Traits and Meat Quality - Parameters evaluated

- Backfat thickness
- Loin eye area
- Fat area
- Depth loin
- Temperature and pH
- Color
- Marbling
- Drip loss
- Cooking loss and shear force
- Dry matter and ether extract

## 4 Backfat thickness

- First rib: P1
- Last rib: P2 e P3
- Last lumbar: P4



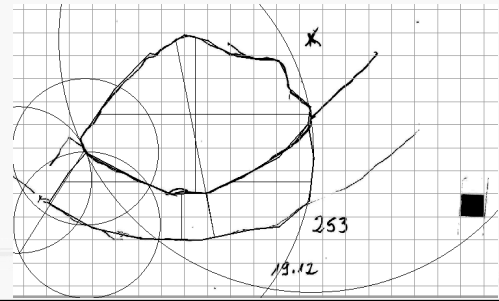
## 4 Backfat thickness – P2



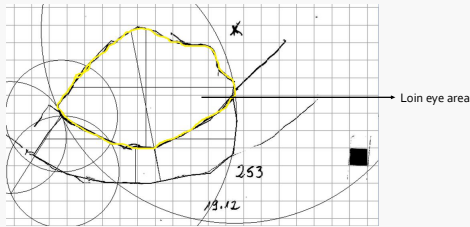
5 Loin eye area, fat area, backfat thickness and depth loin



5 Loin eye area, fat area, backfat thickness and depth loin

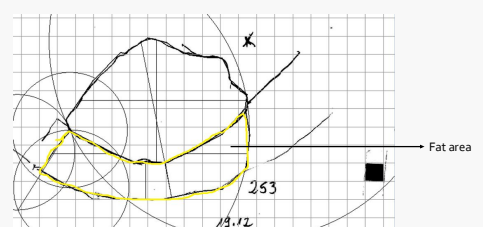


5 Loin eye area, fat area, backfat thickness and depth loin



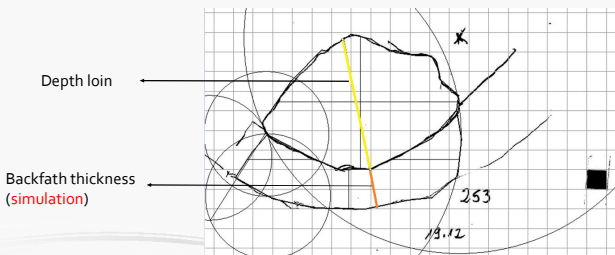
253 - Rhinoceros (Educational Lab License) - [Top]  
File Edit View Curve Surface Solid Mesh Dimension  
Area = 45.3720754 (+/- 1e-08) square centimeters

5 Loin eye area, fat area, backfat thickness and depth loin



253 - Rhinoceros (Educational Lab License) - [Top]  
File Edit View Curve Surface Solid Mesh Dimension  
Area = 27.6642367 (+/- 1e-08) square centimeters

5 Loin eye area, fat area, backfat thickness and depth loin



6 Temperature and pH

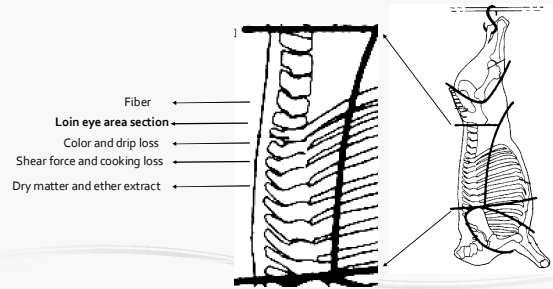


- 45 minutes and 24 hours
- *Longissimus dorsi* (last rib) and *Semimembranosus*

## 7 Samples

- Ham:
  - 0.3 kilograms
  - Visual color + minolta (L, a, b) + drip loss (**two sites**)
- Loin
  - 0.9 kilograms
  - Visual color + minolta (L, a, b) + drip loss (two sites) + ether extract + shear force + cooking loss + fiber

## 7 Samples

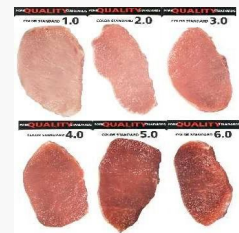


## 7 Samples



## 8 Color

- Visual and Minolta
- Loin and ham
- It is performed after waiting 20 minutes for **stabilization** of the pigment
- Minolta is performed at two sites in each **sample**

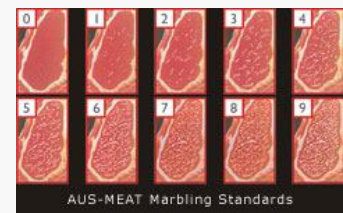


## 8 Color



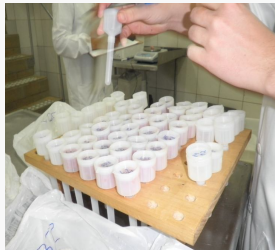
## 9 Marbling

- Loin
- Visual score



## 1 0 Drip loss

- Weight **between 8 and 12 grams**
- Two samples collected from loin (L1 and L2) and two samples collected from ham (P1 and P2). Samples are collected from all animals.
- Colling between 2°C and 4°C for 48 hours.
- Weighed on **scales** of high accuracy.



## 1 0 Drip loss



## 1 1 Cooking loss and shear force

- **Defrosting** at 5°C for 24 hours.
- Cooking at 75°C for 60 minutes, **wrapped in foil**.
- Difference between the weight before and after cooking: cooking loss.
- After cooking → cooling → shear force (TAXT *Plus Texture Analyser*)

## 1 2 Dry matter and ether extract

- Freezing at -20 °C
- Analyses carried out according to AOAC.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTRY - AOAC. *Official Methods Of Analysis*, 16. ed. Arlington: AOAC International, 1995. 1025p.

Thanks for attention

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