Meat quality traits throughout ageing in Nellore and Red Norte cattle
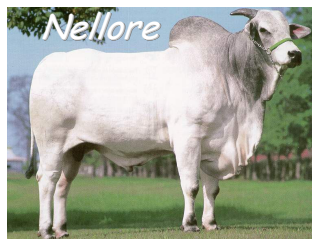
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Session 14
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Nellore

Red Norte

INTRODUCTION

➢ Brazil is the leading beef exporter in the world.
➢ Brazilian meat is predominantly from *Bos indicus*.
➢ *Bos indicus* meat tends to have higher shear force.
➢ Crossbreeding of *B. indicus* and *B. taurus* may improve meat attributes, and composite breeds, such as Red Norte, may be an interesting alternative to use breed complementarity.
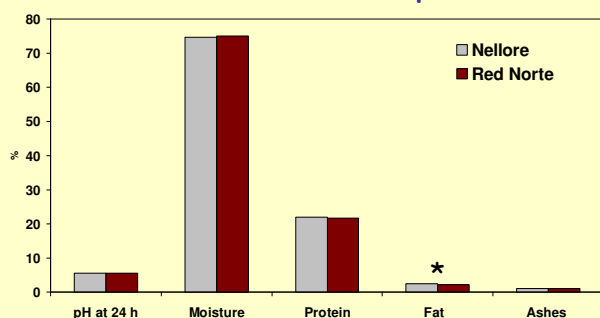
OBJECTIVES

• Assess evolution of meat quality traits in *l. thoracis* of Nellore and Red Norte cattle, throughout ageing for 21 d.
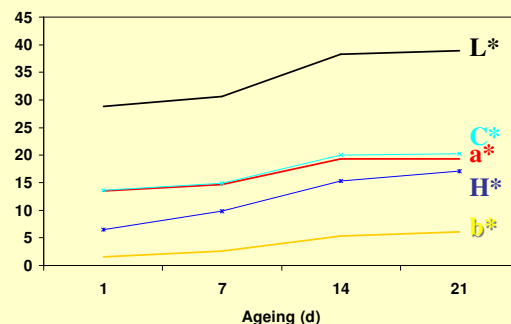
MATERIAL & METHODS

➢ Intact bulls of the Nellore (n=22) and Red Norte (n=22) breeds slaughtered at 24 months of age in Minas Gerais, Brazil.

➢ Animals feedlot-finished (120 d) with corn silage and concentrate *ad libitum*

➢ Slaughtered in commercial abattoir, with electrical stimulation

➢ Samples of the *longissimus thoracis* taken at 24 hours *post mortem* ⬇ determination of pH and chemical composition.

➢ Meat aged at 2°C:

▪ Physical characteristics measured at 1, 7, 14 and 21 days of ageing

▪ Cooking loss (CL), and shear force (SF)

▪ Colour parameters (L*, a*, b*), Chroma (C*) and angle of pitch (H*)

▪ Myofibril fragmentation index (MFI) assessed at 1 and 21 d.

➢ Data analyzed as a 2*4 factorial (PROC GLM, SAS)

RESULTS
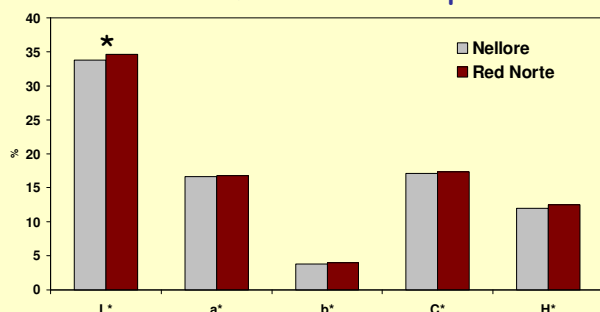
Breed means for chemical composition of meat

Breed means for meat colour parameters

Evolution of meat colour parameters with ageing

Evolution of shear force with ageing in Nellore (NE) and Red Norte (RN)

$y = 5.4394 - 0.6110 \, Ln(d)$

$y = 4.4116 - 0.5266 \, Ln(d)$
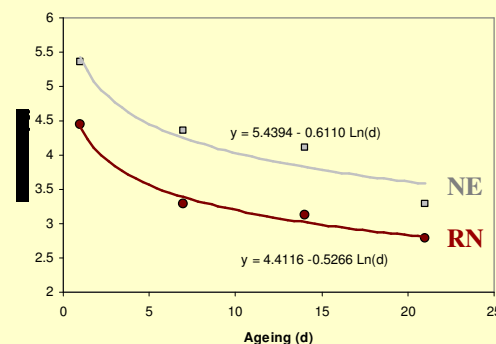
CONCLUSIONS

• **Shear force:**
 - Lower in Red Norte
 - Similar improvement with ageing for the two breeds

• **Meat fatness**
 - Lower in Red Norte

• **Meat colour**
 - Lighter in Red Norte
 - Meat lightness, redness and yellowness increased with ageing, especially between d 7 and 14.