



## Effects of plane of nutrition and selenium supplementation of ewes in early and mid-pregnancy on meat quality of offspring

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# *Materials and methods*

## TREATMENTS

- ❖ Plane of nutrition - Early pregnancy (Day 0 to 39)
  - Low 60% of ME requirements
  - Medium 100%
  - High 200%
- ❖ Plane of nutrition – Mid-pregnancy (Day 40 to 90)
  - Medium 80%
  - High 140%
- ❖ Selenium supplementation early-mid pregnancy (Day -14 to 90)
  - Control: not supplemented
  - Treated: 1g of Selplex® (intake of 0.5 mg Se/ewe/day)

# *Materials and methods*

- ❖ Animals:
  - 73 male offspring
  - Reared on grass-based systems
- ❖ Meat quality parameters assessed on muscle *L. dorsi* of male offspring:
  - pH
  - Colour
  - Cooking loss
  - Warner-Bratzler shear force
  - Sarcomere length
- ❖ Statistical analyses:
  - Genstat REML
  - Model: 3 x 2 x 2 factorial design adjusted for dam and sire breed, siblings and fat classification

# Results

- Plane of nutrition in early and mid-pregnancy had no effect on any parameter of instrumental meat quality

Colour	Selenium supplementation			
	Control	Treated	s.e.d.	Significance
Lightness (L*)	42.2	39.6	2.155	
Redness (a*)	11.0	13.0	1.044	*
Yellowness (b*)	10.9	11.4	0.531	
Hue	45.5	41.9	2.579	
Chroma	15.7	17.5	0.983	P=0.07

# *Conclusions*

- ❖ Plane of nutrition in early and mid-pregnancy had no effects on offspring meat quality
- ❖ Selenium supplementation of ewes throughout pregnancy, compared with supplementation only in late pregnancy, improved meat appearance by maintaining the redness of the muscle
- ❖ Potential implications in prolonging meat shelf-life