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Study on the behaviour of Cinta Senese and Large White x Cinta Senese pigs reared at pasture

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INTRODUCTION

PIF 16.2: Valorisation of traditional and innovative products of Pistoiese mountain (ValMontTI)

The valorisation of Mountain territories and pasture is achieved by:

- characterization and qualification of animal products;
- study of interaction among territories- animal and human;
- study of animals natural resources use.

AIM

Study of the feeding, dinamic, social behaviour of pig

Evaluate

Feeding behaviour and feeding strategies

⇨

An efficient and sustainable use of natural resources

MATERIAL AND METHODS

Animals and rearing system:

- **79 growing-fattening pigs;**
- **extensive system;**
- **natural pasture;**
- **feed daily integration 500g/head**

MATERIAL AND METHODS

2 Breeds

CS

CS x LW

In situ **direct observation by "scan sampling"**

- **3-5 consecutive day in every season**
- **20 minute intervals**

4 SEASON

3 DIURNAL TIME

MORNING
MIDDLE
AFTERNOON

MATERIAL AND METHODS: Data

Main activty	Specify activity	%
Total feeding	On grass	Feeding-dinamic behaviour
	Rooting	
Moving	Moving	100
Resting	Standing	
	Sitting	
	Sleeping	
In group		Social behaviour
Solitary		100

Observation were gropued (1h) → **Frequencies of the main acctivity** → **ANOVA proc. GLM of SAS**

$$Y_{ijkl} = \mu + B_i + S_j + DT_k + (B * S)_{ij} + (B * DT)_{ik} + E_{ijkl}$$

Results: BREEDS

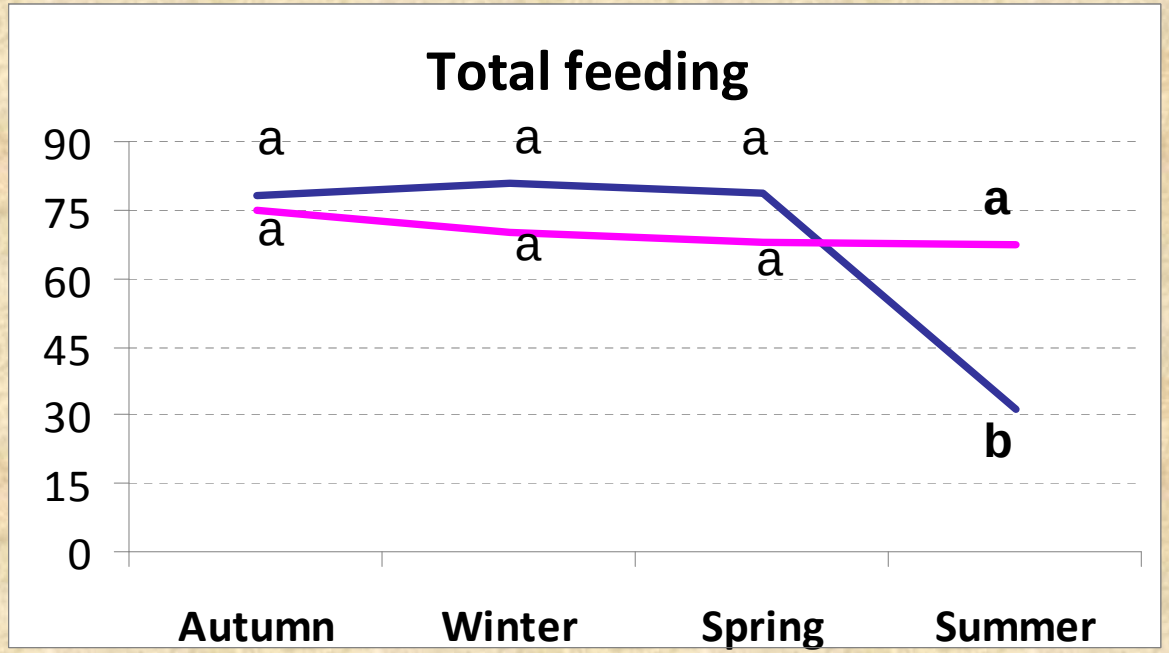
Activity % \ Breeds	CS	LW x CS	Interaction significance
Total feeding	67.3 ± 3.3	70.0 ± 3.6	B x S **
- On grass	57.2 ± 3.9	61.5 ± 4.0	B x S **
- Rooting	10.0 ± 2.8	8.5 ± 2.9	B x S * B x DT**
Moving	13.5 ± 2.2	10.6 ± 2.3	-
Resting	19.2 ± 2.8	19.3 ± 2.9	B x S * B x DT*
Into group	**a** 61.7 ± 2.7	**b** 74.5 ± 2.8	B x S *

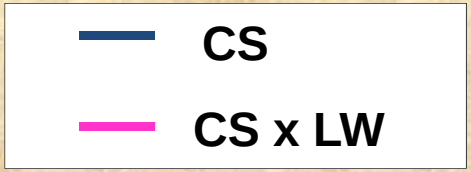
Results: SEASON

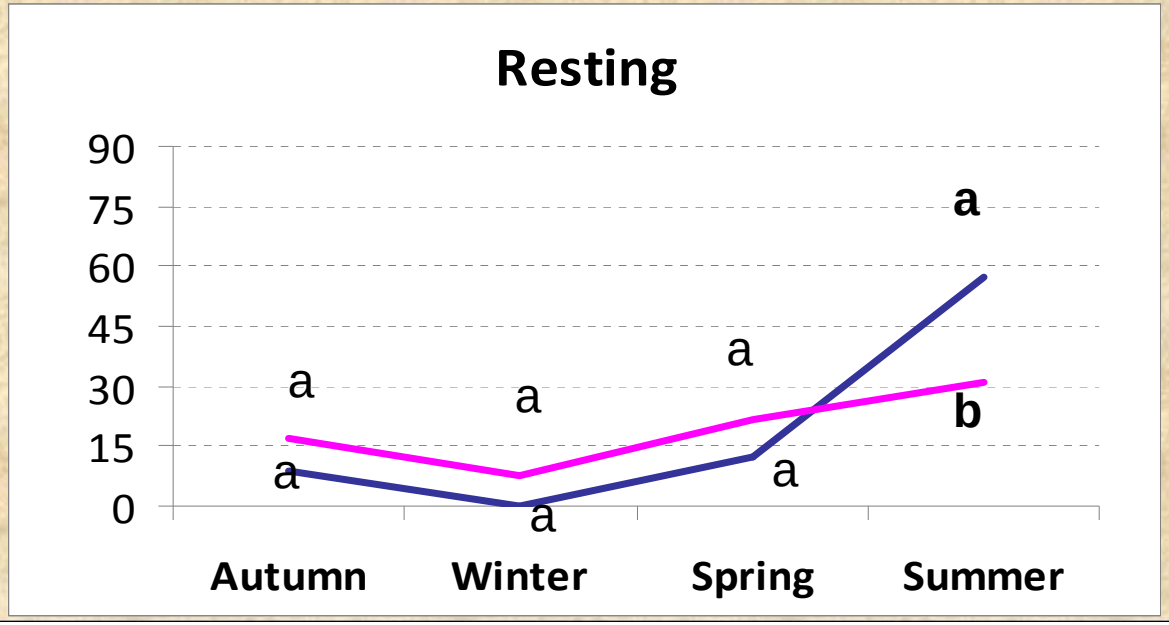
Season / Activity %	Autumn	Winter	Spring	Summer
Total feeding	a 76.6 ± 4.7	a 65.3 ± 7.5	a 73.2 ± 3.3	b 49.3 ± 5.0
- On grass	a 67.7 ± 6.7	a 65.3 ± 6.5	b 53.4 ± 5.3	b 49.3 ± 5.1
- Rooting	b 8.9 ± 4.0	b 10.2 ± 3.7	a 19.8 ± 2.9	c 0 ± 4.3
Resting	b 12.8 ± 4.0	c 3.2 ± 3.1	b 16.9 ± 2.8	a 44.2 ± 4.3
Moving	b 10.5 ± 3.1	a 21.3 ± 2.1	b 9.9 ± 3.4	b 6.5 ± 2.2
In group	b 76.3 ± 3.9	c 87.0± 3.6	a 60.4 ± 2.8	d 48.8 ± 4.2

Results: BREED x SEASON

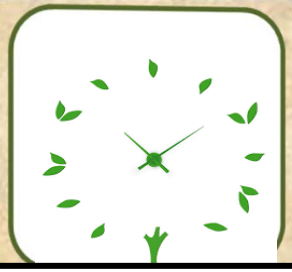
X







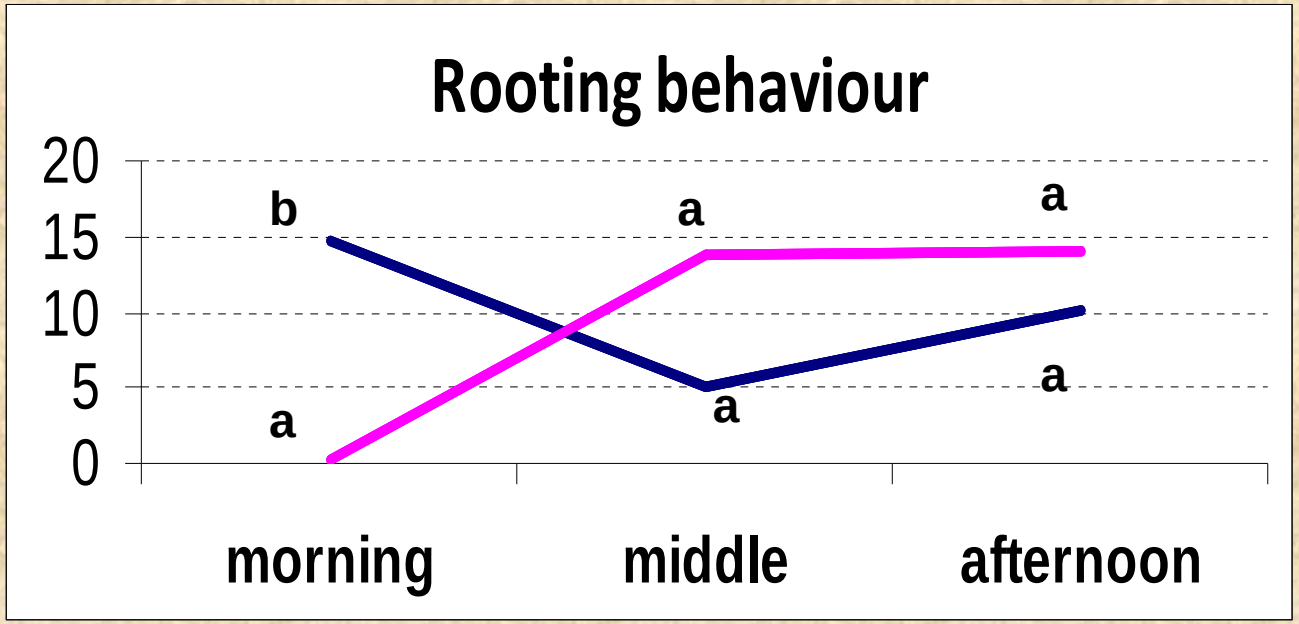
Results: DIURNAL TIME

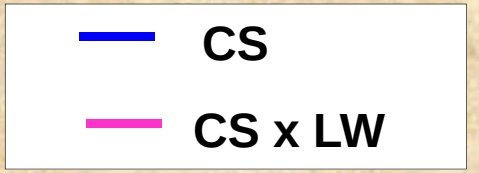


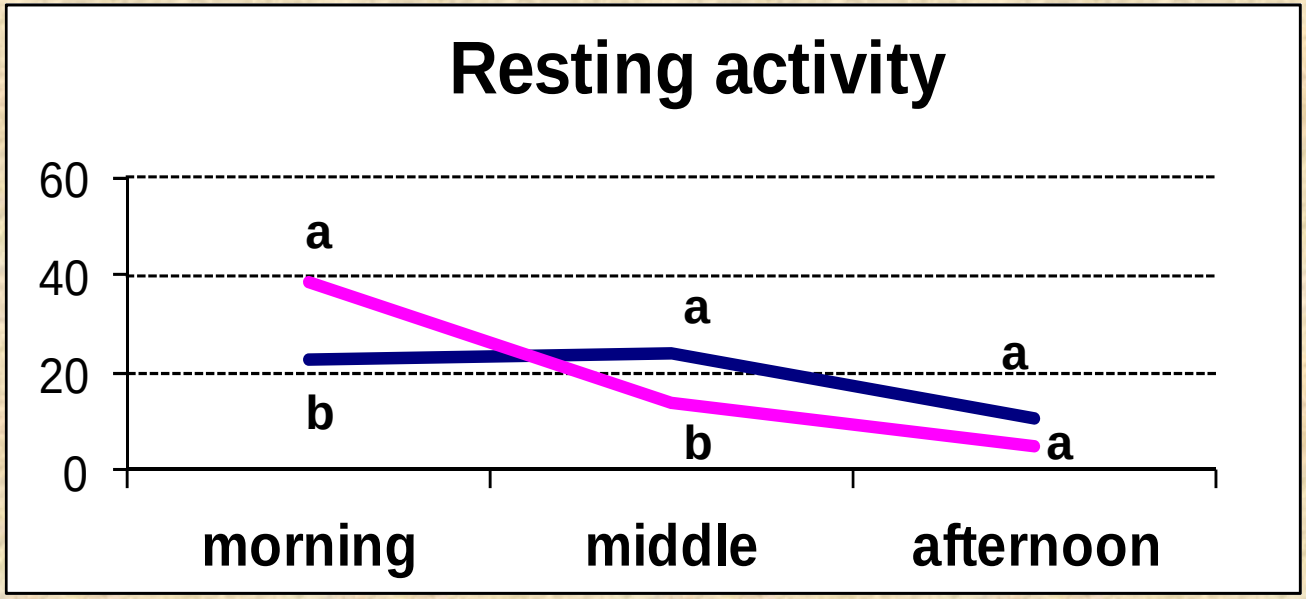
Diurnal time / Activity %	Morning	Middle	Afternoon
Total feeding	a 58.1 ± 4.9	b 71.2 ± 2.8	b 76.6 ± 4.7
- On grass	51.9 ± 5.8	61.7 ± 3.4	64.5 ± 4.8
- Rooting	6.1 ± 4.2	9.5 ± 2.5	12.1 ± 3.5
Resting	a 30.7 ± 4.1	b 19.0 ± 2.4	c 8.0 ± 3.4
Moving	11.1 ± 3.3	9.7 ± 1.9	4.0 ± 2.7
In group	a 79.1 ± 4.1	b 62.3 ± 2.4	b 62.9 ± 3.5

Results: Breeds x Diurnal time

X







Conclusion

- Pigs express feeding specific behaviour

- **Feeding behaviour:**
  - Difference between CS and CS x LW: SUMMER

  - CS seems more affected by environmental effects
- **Dinamic behaviour:**
  - All animals dedicated less time to moving during SUMMER
- **Social behaviour**
  - CSx LW are more into groups than CS

Thanks for your attention