EWES' FUNCTIONAL LONGEVITY : ANALYSIS AND MODELLING IN FRENCH SUCKLING SHEEP BREEDS

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CONTEXT

Selected traits in French sheep suckling breeds :

- Prolificity
- Mothering qualities

} **Numeric production** = breeder's direct income

AND

Growing demand for

- Disease resistance
- Lasting fertility
- Ewe longevity

} **Functional traits**

Functional longevity = Ewe longevity corrected for production characteristics

- Is a general indicator for robustness
- Reflects adaptation to breeding conditions
- Allows dilution of breeding costs

OBJECTIVES

Characterizing genetic and non-genetic effects on functional longevity for French suckling ewes

MATERIAL & METHODS

Carreers* of ewes born after 1990 from 2 French suckling breeds :
✓ a meat specialized breed : **Ile-de-France**
✓ a hardy breed : **BMC** [Blanche du Massif Central]

**Data from the national performance and indexation data base*

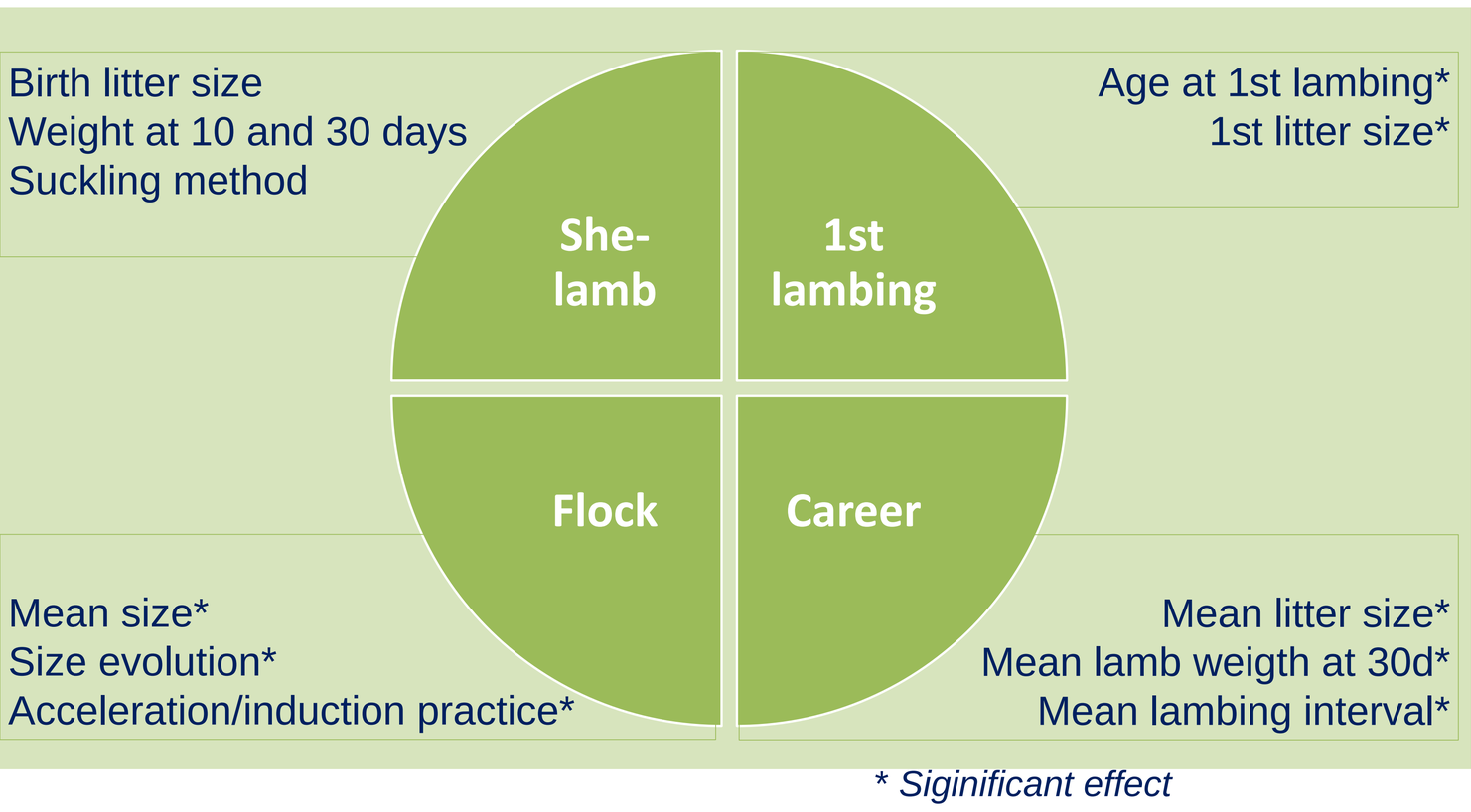
= **Length of productive life**

Linear models
Last lambing before 2014 (uncensored careers)
→ animal model

Survival analysis
Ewes born from a known ram
→ sire model

RESULTS

Non genetic effects *[Linear models]*



** Siginificant effect*

Genetic effects

Trait heritability (h^2)	Ile-de-France	BMC
Linear models	0.0456 (+/- 0.0066)	0.0449 (+/- 0.0051)
Survival analysis	0.0111	0.1028

CONCLUSIONS

- Significant impact of **first lambing characteristics** and **overall career production** on length of productive life
- **Low heritabilities** regardless of the breed or the statistical approach
  → trait greatly influenced by environment (flock management in particular)

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