

Relations entre la Dynamique des Réserves Corporelles et les performances d'élevage des brebis allaitantes sur le parcours du domaine de la Fage

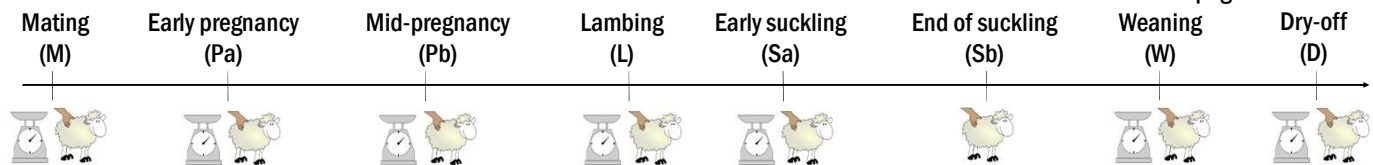
Introduction

- Breeding for **robustness** requires a better understanding of the components and related mechanisms responsible for this composite trait.
- Ability to mobilize and to restore **body reserves (BR) = BR dynamic**
 - Key mechanism in ruminants to cope with physiological stages and nutrition challenges
 - Periods of BR mobilization and accretion are heritable and correlated (Macé et al., 2019)
 - Several BR previously characterized based on body condition score and body weight (Macé et al., 2018)

Objectives

To evaluate the link between **BR trajectories** and ewes rearing performances (ERP) and to estimate the genetic correlations between BR dynamic and ERP

Measurements at key physiological stages

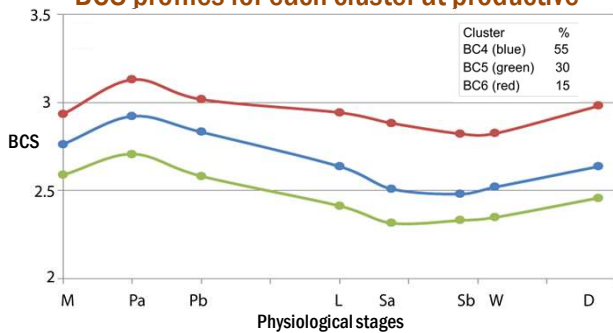


- Élevage en plein air intégral sur parcours (ferme expérimentale de La Fage)
- Animals: brebis Romane (n~1,146)
- Données 13 campagnes



Results

BCS profiles for each cluster at productive



Associated ERP for productive cycle 2

Cycle	Cluster	Litter weight at birth (kg)	Lamb weight at birth (kg)	Prolificacy	Litter Survival	Weaning weight (kg)	ADG (g/d)
2	BC4	9.16 (0.15)	3.81 (0.07)	2.79 (0.10)	0.79 (0.02)		
	BC5	9.43 (0.16)	3.93 (0.07)	2.52 (0.11)	0.88 (0.02)		
	BC6	8.80 (0.18)	3.65 (0.08)	2.71 (0.10)	0.82 (0.01)		
	Sign.	***	***	***	*	NS	NS

Genetic correlations between ERP and BR dynamic

ERP	BR Mobilization ^Δ	BR Accretion ^Δ
Birth weight	-0.28 to -0.36	0.28 to 0.42
Weaning weight	~ 0.42	0.31
ADG	-0.46 to 0.45	~ 0.35
Litter Survival	-0.72 to 0.61	NS
Prolificacy	-0.62	NS

^ΔBR changes over time were computed by differences in BW between pairs of physiological stages

- At cycles 1 and 3, very few to no differences between clusters for ERP
- Few and low correlations between BCS and ERP
- According to the physiological stage, some results can be contradictory
- Ewes with higher mobilization capacity appeared to have higher ERP at lambing and lower ERP at weaning
- Ewes with higher accretion capacity appeared to have higher ERP at lambing and at weaning

Conclusion

- Il existe des Corrélations génétiques significatives entre la Dynamique des Réserves Corporelles et les traits d'élevage des brebis
- Il est intéressant de considérer la Dynamique des Réserves Corporelles dans les futurs schémas de sélection ovins pour améliorer à la fois la production et la robustesse