

Growth of black belly ewe lambs ingesting non-conventional feeds in the form of complete feed blocks

BARDE J.D.¹, TRAORE E.H.³, ARQUET R.², MULCIBA P.², MANDONNET N.¹, MINATHY N.², & ARCHIMEDE
¹UR ASSET, ²UE PTEA, ISRA ³ Dingamgoto.barde@inrae.fr



Context

In some regions, there is competition between crop and livestock production for the use of agricultural land due to its limited availability. Although criticised for their significant contribution to greenhouse gas emissions and global warming, livestock production remains essential because it provides a wide range of ecosystem services (proteins, organic manure, landscape, etc.). Integrating crop and livestock production at farm and regional level is a challenge to be met (Archimède et al., 2018; Barde et al. 2022).

Objectives

In order to meet this challenge, the objectives of this study were to:

- 1) Mobilising biomass from uncultivated biodiversity, crop by-products and the agro-industry for livestock feed;
- 2) Evaluate complete ration blocks as a technology for improving the practicability of the use of these co-products by farmers.

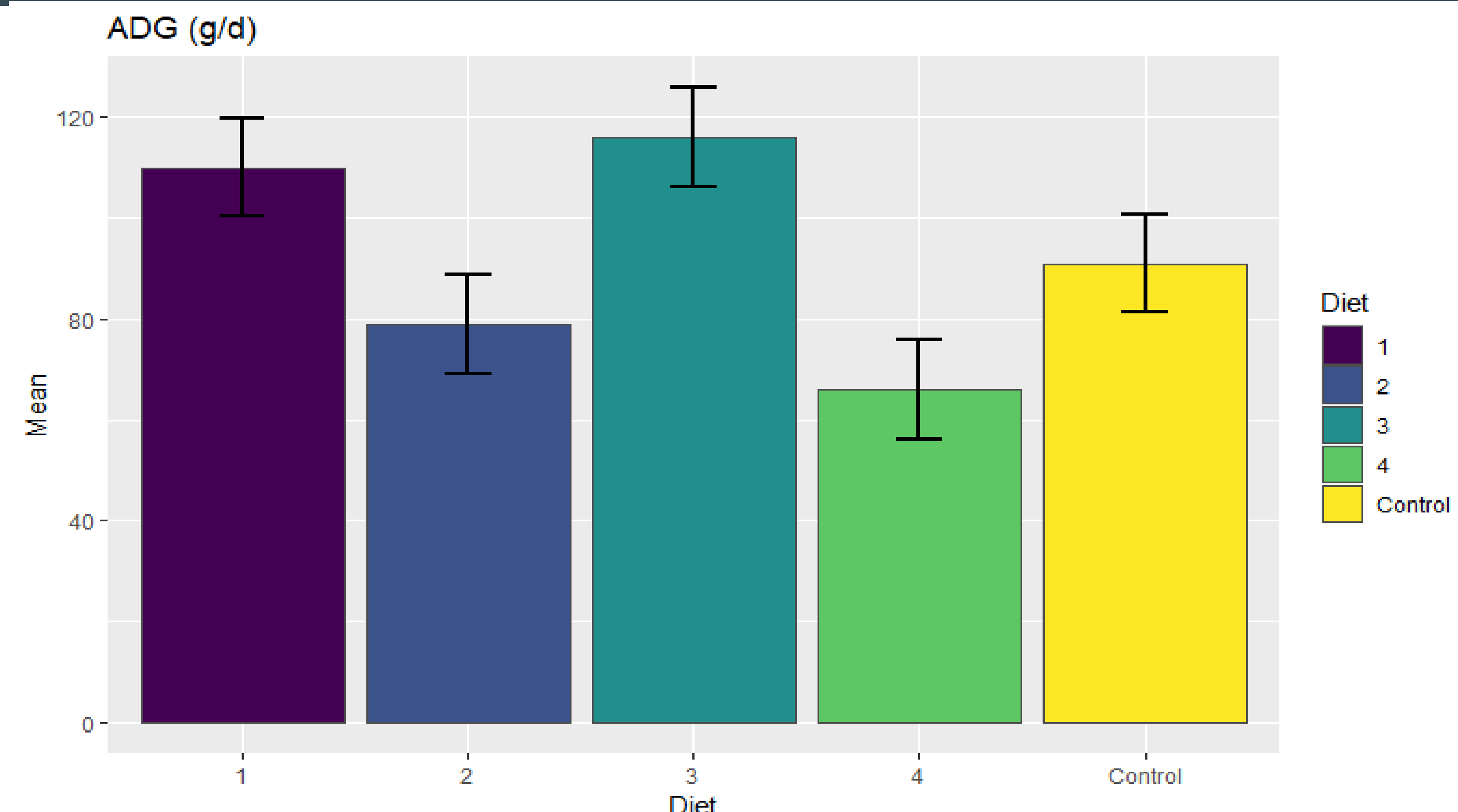
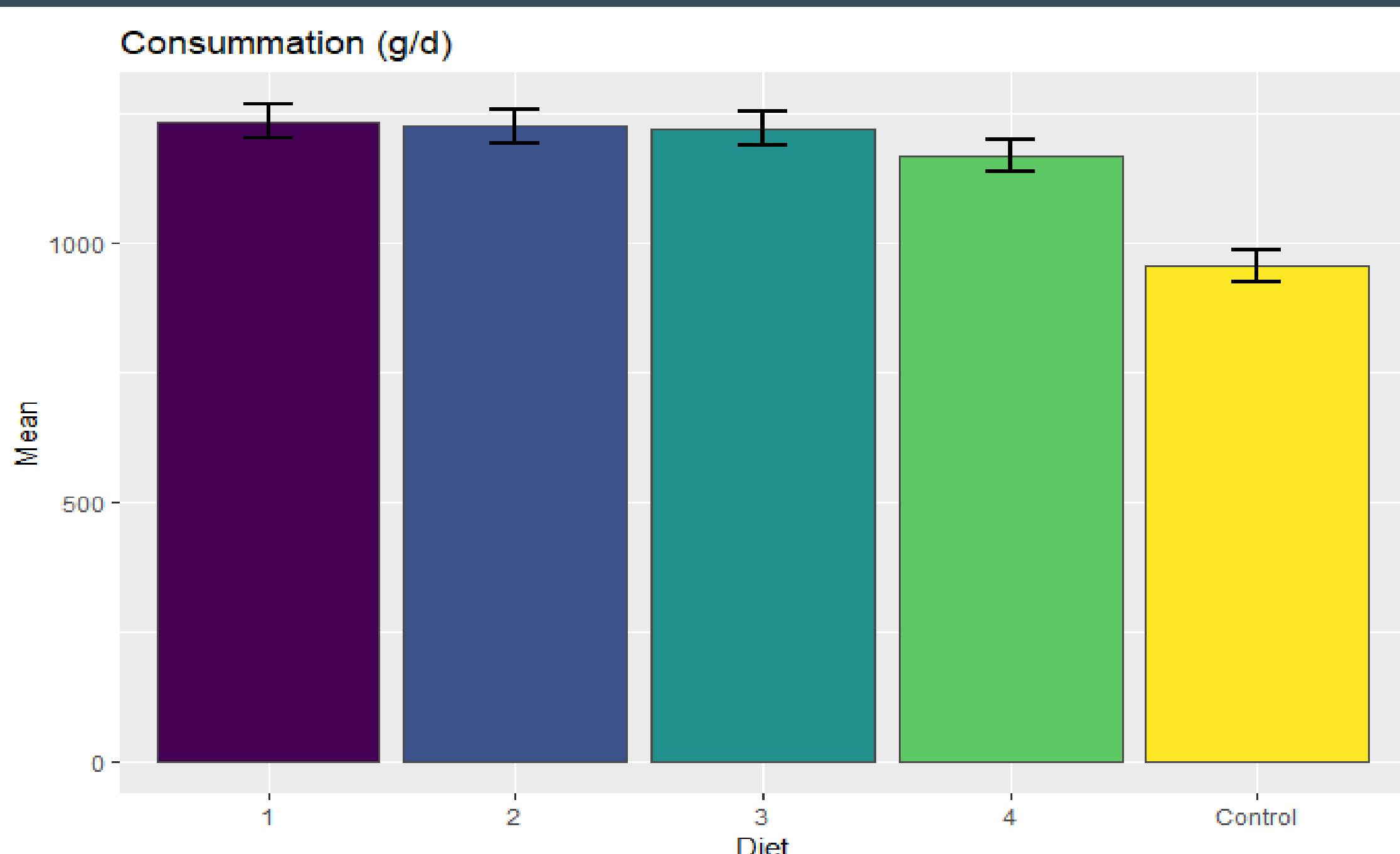
Experimental Design

Ingrédients	Compositions des rations (% de la matière sèche)				
	Témoin	Régime 1	Régime 2	Régime 3	Régime 4
Tropical hay grasses	70				
Concentrate	30				
Sorghum straw		40	35	40	18
Sorghum seed		10	30		
Cotton seed		50		50	
Leucene leaves			35		46
Molasses				10	36

The rations were formulated to be iso-nitrogenous and iso-energetic. Five batches of 10 Black-Belly ewe lambs, aged 4 months and weighing an average of 16 kg at the start of the experiment, were placed in individual boxes. Feed intake and growth were measured for 3 months.

Results and discussion

Zootechnical performances



→ The block rations were well accepted by the ewe lambs.

→ There were no significant differences in dry matter intake between the rations, except for block 1 where intake was lower.

→ Growth observed on the control ration, although high, was low compared to the ewe lambs' potential, estimated at 150 g/d, probably due to the poor quality of the ingested forage.

→ Growth observed with the cottonseed cake diet was higher than with the leucine diet, probably due to the lower protein digestibility of the latter.

Conclusions

→ Grass and commercial feeds can be replaced by non-conventional feed resources.

→ The chemical composition and digestibility of ingredients must be taken into account when formulating rations.

→ Complete ration block technology makes it possible to formulate rations that are nutritionally balanced and accepted by the animals.

→ We need to develop initiatives to help local farmers adopt this technology.

References

→ Achimède H., Bastianelli D., Fanchone A., Gourdine J-L., Fahasmane L, 2018. aliments protéiques dans les systèmes mixtes intégrés polyculture-élevage en région tropicale. Productions-animales 31.3.2338.

→ Bardé D.J., Minatchy N., Gourdine J-L., Mandonnet N., Alexandre G., Fanchone A., Archimède H., 2022. les ressources fourragères des systèmes polyculture-élevage intégré des régions tropicales. Fourrages 249, 1-7

Food & Feeds for the future
ISARA-Lyon – 1 septembre 2023