

Evaluating the impact of enrichment material in farrowing crates on sow and piglet performance



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INTRODUCTION



Something we know about sows: Nest Building

- 12-24 hrs prior to farrow
- Restless
- Gathers materials
- Arrange nest

We also know

- The sow is strongly motivated to build a nest before farrowing regardless of the facilities provided¹
- Pigs are highly motivated to perform exploratory behaviour such as rooting which provides them with information about their surroundings and its resources²

INTRODUCTION



- Restricted natural behaviour
- ↓ welfare

Council directive 2008/120/EC mandates that ‘pigs must have permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities’

‘material which stimulates exploratory behaviour for an extended length of time, preferably comparable to the level of occupation provided by **straw** (the gold standard)

(EFSA, 2011)

- Straw availability is poor in Ireland
- There is very little research on environmental enrichment for lactating sows and piglets in farrowing crates³

OBJECTIVE

To evaluate the effectiveness of different substrates at improving aspects of sow and piglet performance and welfare in farrowing crates.

Experimental design

Total = 54 sows in farrowing crates

Balanced by weight, backfat and parity

Piglets undocked and uncastrated

Litters balanced by teats and numbers within
first three days of birth

Hay (=14)

Haylage (=14)

Straw (=12)

Rope (=14)
(Control)



Beyond welfare, how will the addition of edible loose material impact sow feed intake and in turn other performance indicators?

Measurements

Sow performance

Feed intake

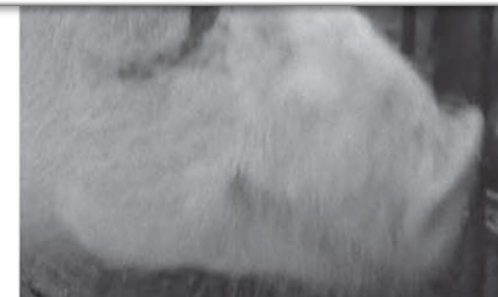
Locomotion

Backfat

Tear Stain

Table 1 Locomotion scoring system adapted from Main et al. (2002)

Score	0	1	2	3	4	5
Standing posture	Stands squarely on four legs	Stands squarely on four legs	Uneven posture	Uneven posture. Does not bear weight on affected limb	Affected limb elevated off the floor	Does not stand without help
Gait	Even steps. Ability to accelerate and change direction	Abnormal step length. Movements no longer fluent. Still able to accelerate and change direction	Shortened steps. No hindrance in agility.	Shortened steps, minimum weight bearing on the affected limb.	May not place affected limb on the floor while moving	Does not move

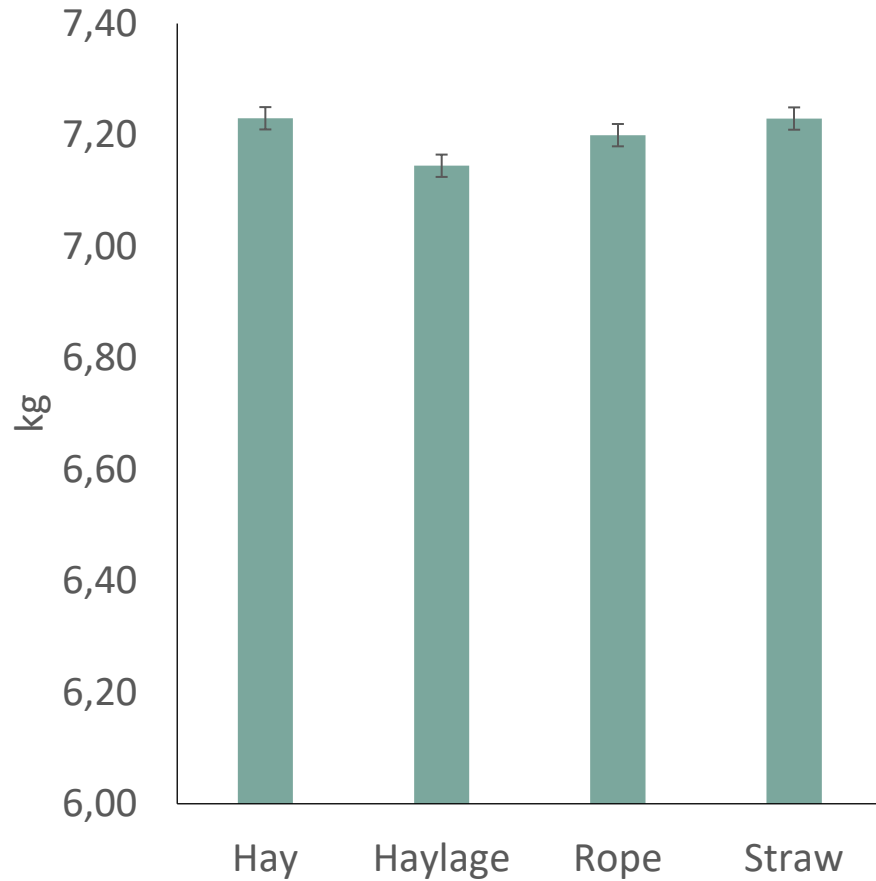


No differences were
found between
treatments for any of
the measurements

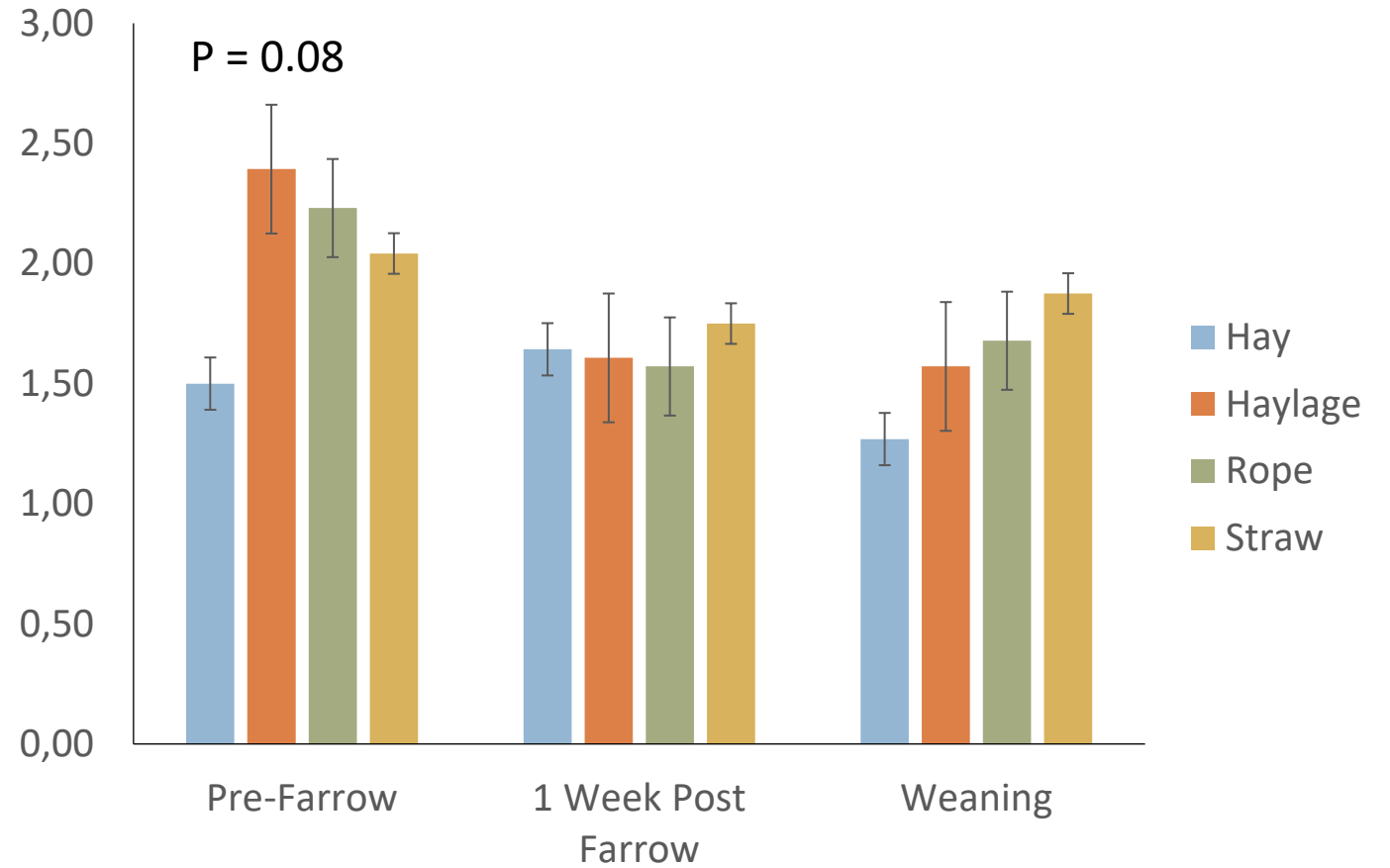
SOW PERFORMANCE

$P > 0.05$

AVE DAILY FEED INTAKE



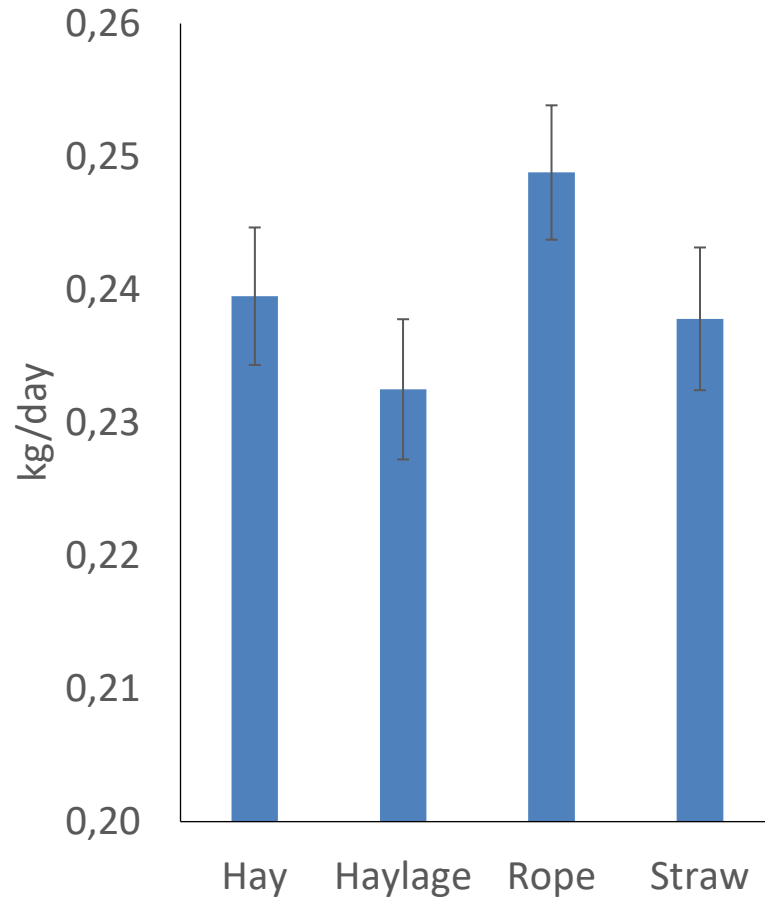
TEAR STAIN SCORES



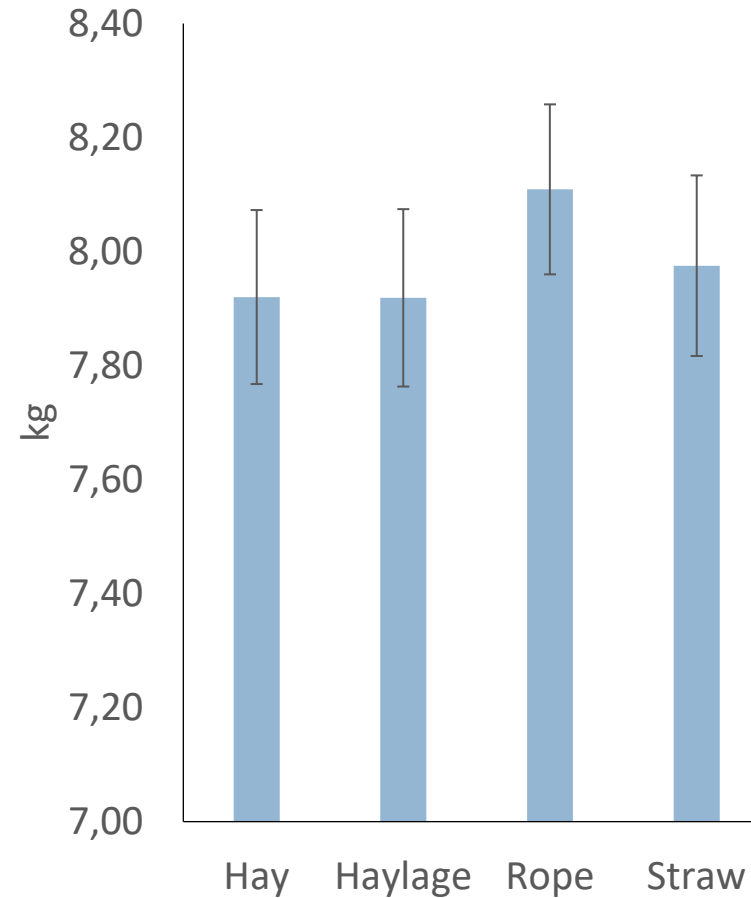
PIGLET PERFORMANCE

$P > 0.05$

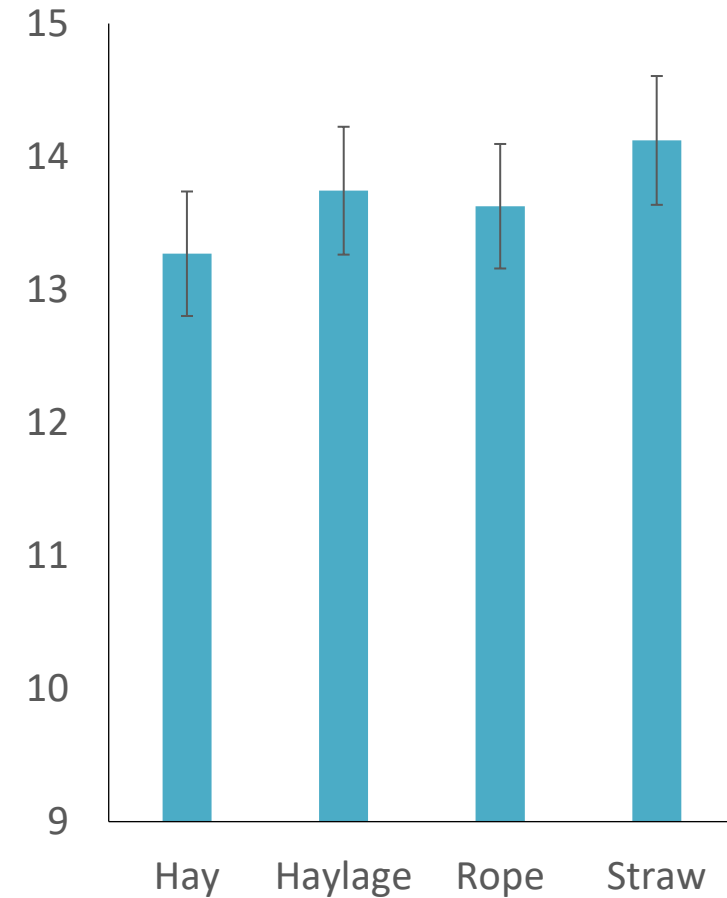
ADG OF PIGLETS



WEANING WEIGHTS

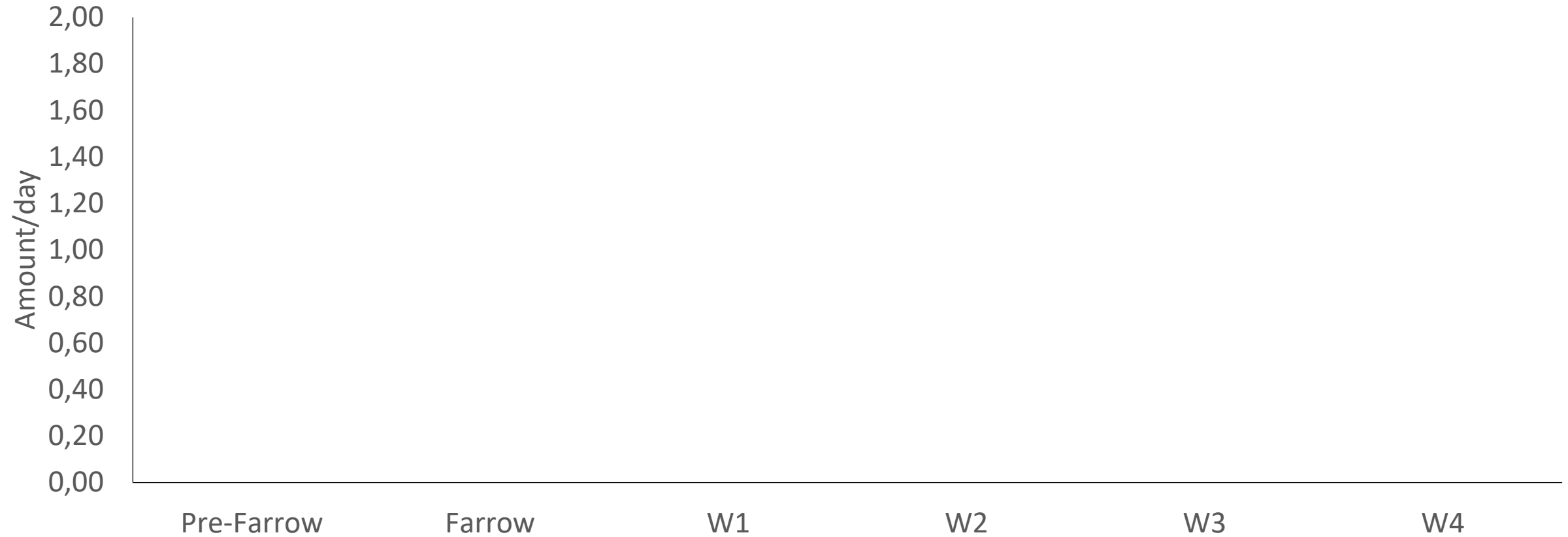


NUMBER WEANED

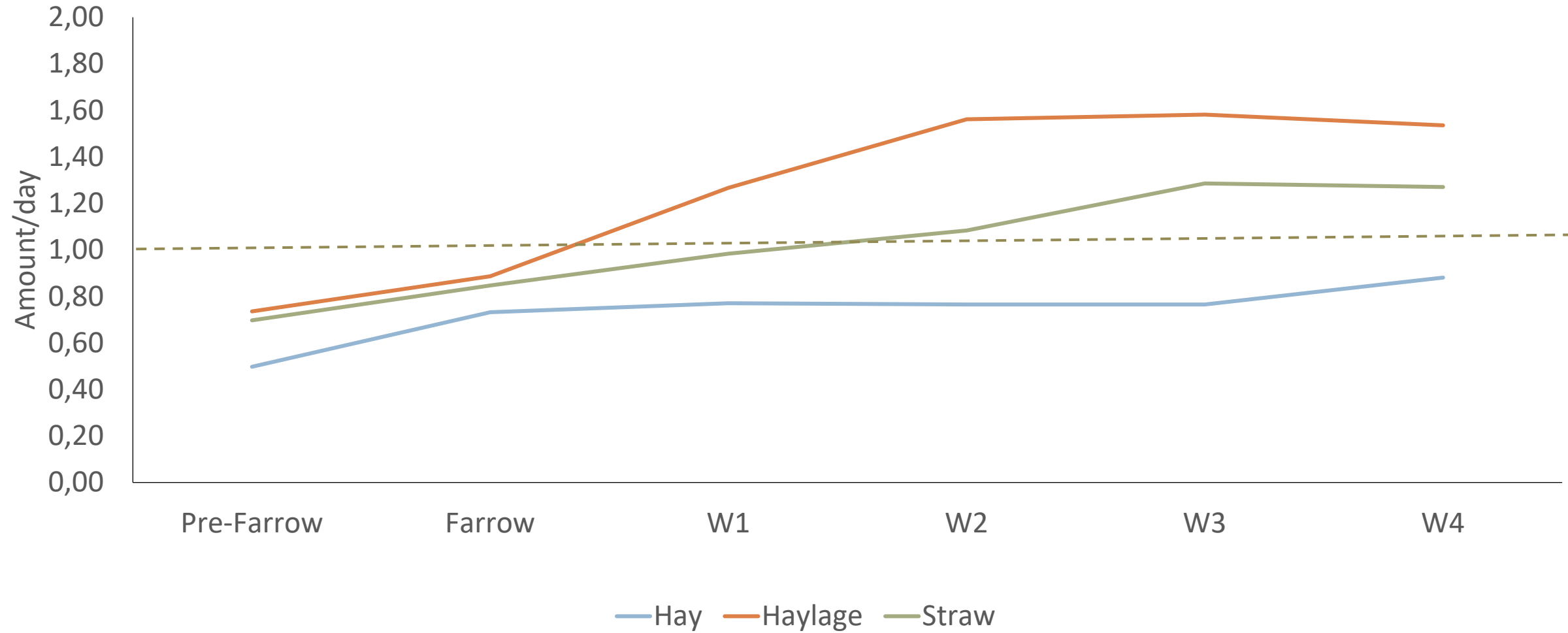


Did the sows make use of the
enrichment provided?

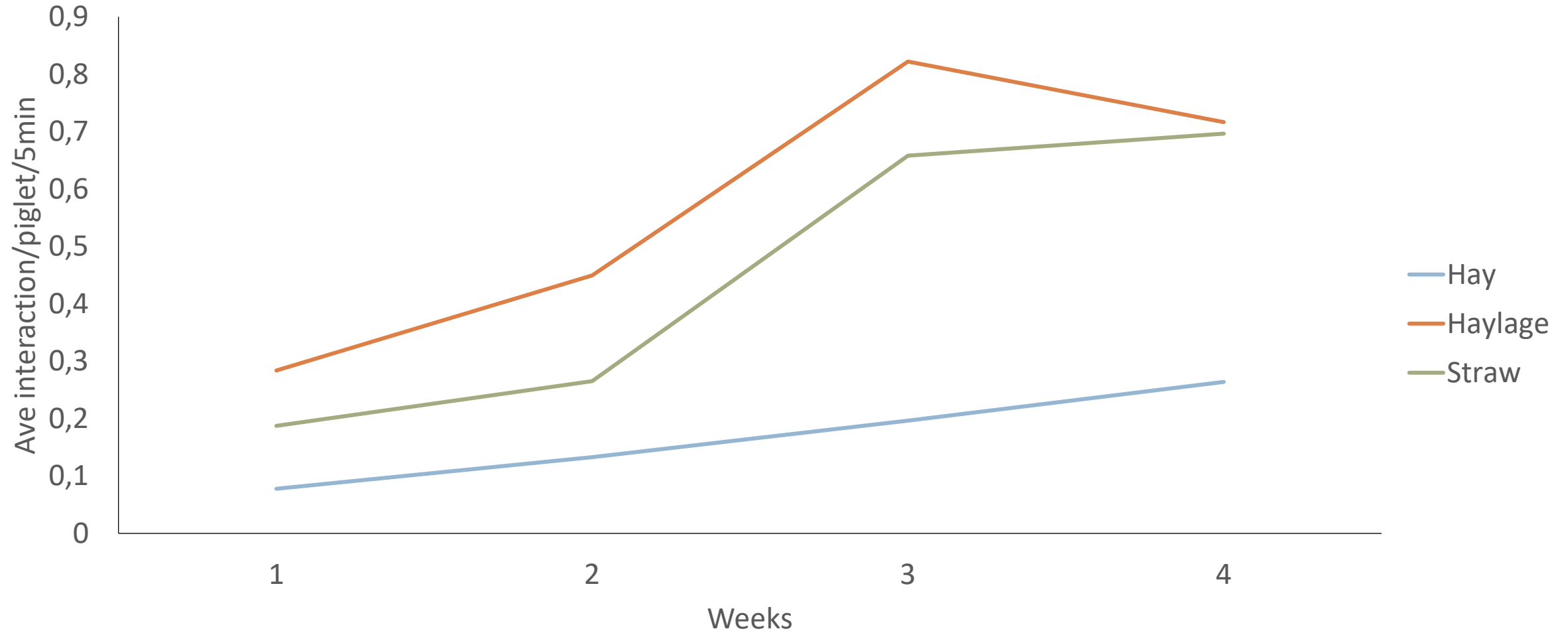
ENRICHMENT REPLENISHMENT



ENRICHMENT REPLENISHMENT



PIGLET INTERACTION WITH ENRICHMENT



An unfortunate side effect . . .



SUMMARY

OBJECTIVE

To evaluate the effectiveness of different substrates at improving aspects of sow and piglet performance and welfare in farrowing crates.

PERFORMANCE

No significant effect

No negative impact

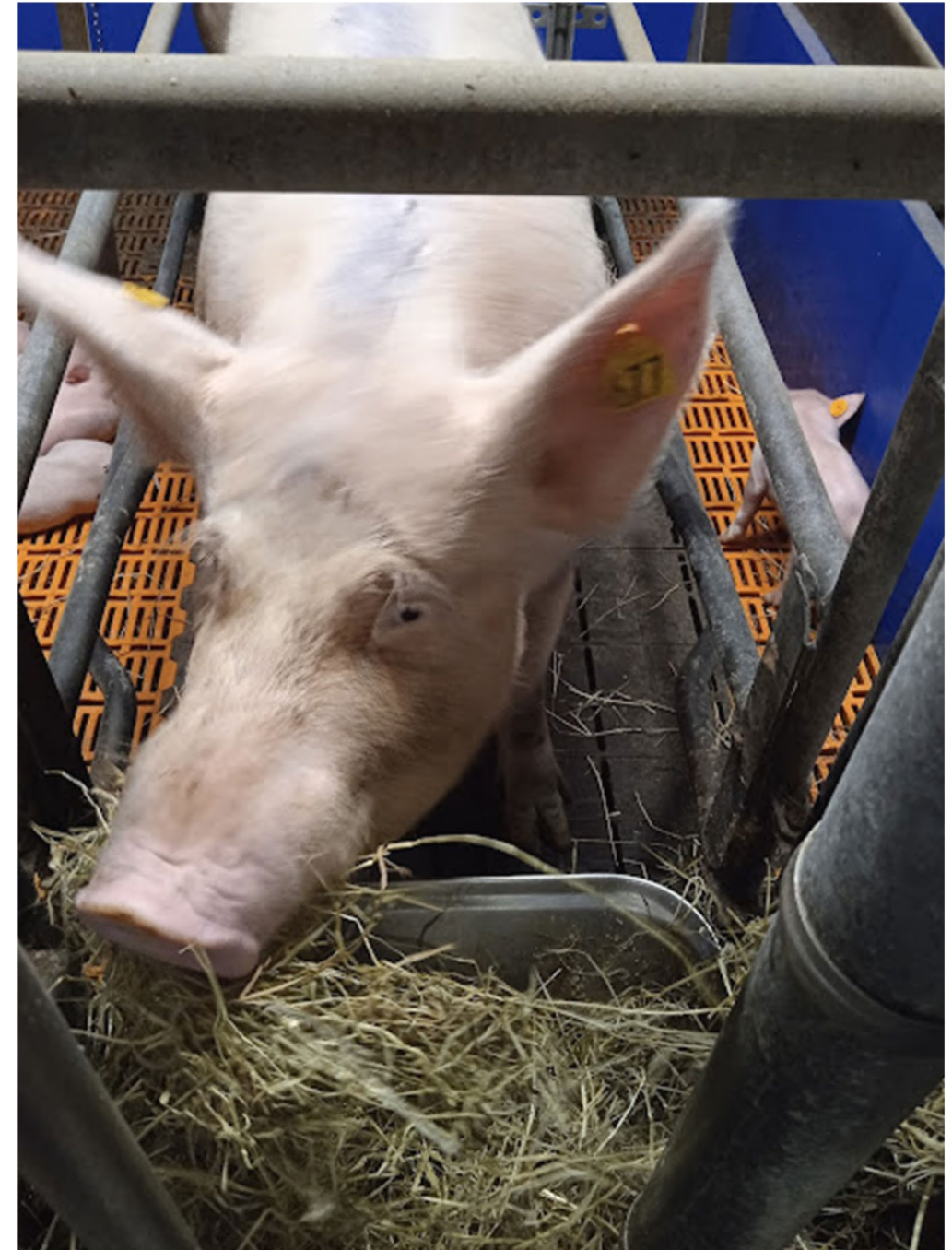
WELFARE

Meets some of their basic needs

Increased engagement

CONCLUSION

- Loose material provision in the farrowing crate does come with some issues
- But can be provided as enrichment into farrowing crates without compromising the production outputs of the sows or the piglets
- Potential for enhanced animal welfare without sacrificing production





Department of
**Agriculture,
Food and the Marine**
An Roinn
**Talmhaíochta,
Bia agus Mara**

THANK YOU

QUESTIONS?

