S. 25: The effect of dietary tryptophan supplementation during lactation on sow behaviour and performance

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Introduction

Feed intake and management play an important role on sow productivity during lactation. Therefore, dietary tryptophan supplementation may become a useful tool to improve both, feed intake and behaviour during this period

Objective

To evaluate the effect of dietary tryptophan supplementation during lactation on sows' behaviour evaluated as individual position changes and the time spent in each posture

Materials & Methods

28 hiperprolific LW x LD sows from a commercial farm with a breeding stock of 400 were distributed to **2 treatment groups** based on BW, parity and back fat thickness 4 days before farrowing.

Treatment groups:

Sows were fed the same maize-barley based lactation diet only differing in total tryptophan level:

T-1 (n = 14): Trp = 0.20%
T-2 (n = 14): Trp = 0.26%

The experimental diets were introduced on day 5 post-farrowing

Sows were video recorded on day 3, 6-7 and 12 of lactation in order to evaluate tryptophan effect on behaviour.

Body condition score (BCS), back fat thickness (BF) and piglet performance were measured.

Sows' feed consumption was daily registered.

Behavioural parameters recorded:

Individual position changes:
- Lying, sitting or standing

Time spent in each posture

Results

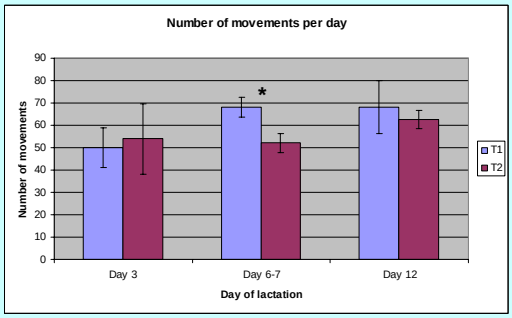
Multiparous sows performance:

	Treatment			
	T-1 (Trp=0.20)	*T-2 (Trp=0.26)*	*(T-2/T-1)*100*	*S.D.*
Sows				
n	8	12	-	-
Initial BW	307	292	95.09	21.332
Body Condition Scoring				
7d. before farrowing day	3.13	3.17	101.33	0.357
21d. after farrowing day	2.56	2.65	103.25	0.346
BCS loss	0.56	0.52	92.59	0.208
Back Fat (in mm)				
7d. before farrowing day	15.81	16.08	101.71	4.275
21d. after farrowing day	12.50	13.09	104.73	3.633
Back Fat loss	3.31	2.86	86.45	1.515
Feed intake				
TFI (0-21d; kg)	116.36	118.43	101.77	6.559
ADFI (0-21d; kg)	5.48	5.61	102.38	0.317

No differences between treatments were observed for body condition scoring, back fat thickness and for feed intake.

However, the multiparous sows fed the tryptophan enriched diets showed **numerically lower** BCS and BF loss (8 and 14% respectively) than those fed T-1.

Sows Behaviour:



* = P<0.05

On day 6-7 post-partum, T-2 sows showed **lower** number of position changes (*P=0.034*) than non supplemented sows.

No differences between treatments were observed for time spent on each posture (lying, sitting or standing).

Conclusions

Tryptophan supplementation reduced the number of posture changes on day 6 and 7 post-partum but without affecting the time spent on each posture. However, tryptophan supplementation did not improve sows' feed intake