

# Increasing amounts of straw increase growing pigs' production and health

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## Background

Housing in straw-based systems has been shown to improve animal welfare and production, while the provision of limited amounts straw to pigs in conventional pens with concrete flooring has shown variable effects on the welfare of the animals.

## Aim

To quantify the amount of straw needed to achieve health and production effects, we investigated the effect of straw amount on the prevalence of gastric ulcers and production parameters.

## Animals & housing

In both experiments pigs were housed in groups of 18 per pen, with partly slatted concrete floor (0.7 m<sup>2</sup>/pig) and fed a commercial dry feed for *ad libitum* intake.

## Gastric Ulcers

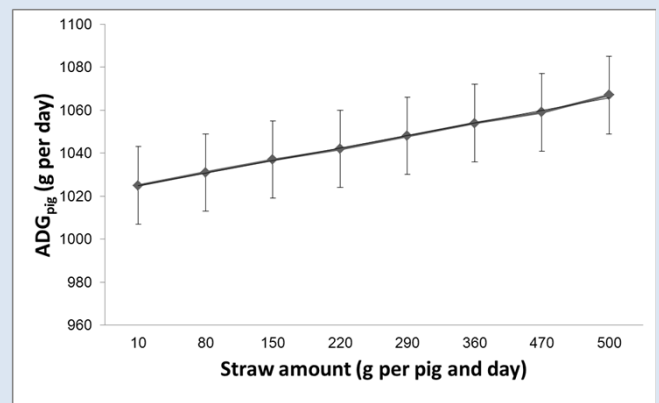
Fifteen groups of pigs were provided with either 10, 500 or 1000 g straw per pig per day. After euthanization at slaughter weight, lesions of the non-glandular part of the stomach were characterized and scored as normal, hyperkeratosis, erosion or ulceration.

Score for gastric health	10 g (N=18)	500/1000 g (N=27)	P-value
Normal	33%	33%	NS
Hyperkeratosis	17%	41%	NS
Erosions	17%	19%	NS
Ulcerations	33%	7%	P<0.05

Gastric pathological findings in the pigs after euthanization at slaughter weight.

## Production

One hundred and twenty-two groups of pigs were provided with either 10, 80, 150, 220, 290, 360, 430 or 500 g straw per pig per day. Left-over straw was removed from the pens twice per week. Pigs were weighed at introduction at 30 kg and again around 85 kg.



The average daily gain (lsmeans (SEM)) increased with increasing straw allocation (P< 0.001)

## Conclusion

The average daily gain (ADG) increased by  $8 \pm 17$  g/day for every extra 100 g straw added daily (P<0.001) resulting in 42 g higher ADG at 500 compared to 10 g straw provided. The feed conversion ratio was not affected by amounts of straw. The proportion of pigs with ulcerations was reduced by permanent access to straw (7 vs. 33%; P<0.05). Based on these results, production and health parameters were improved by increasing amounts of straw to pigs kept in conventional pens.

