

# Do increasing amounts of straw increase growing pigs' oral manipulation of straw?



Margit Bak Jensen<sup>1</sup>, Mette S. Herskin<sup>1</sup>, Björn Forkman<sup>2</sup>, Lene J. Pedersen<sup>1</sup>

<sup>1</sup> Department of Animal Science, Aarhus University, Denmark

<sup>2</sup> Department of Large Animal Science, University of Copenhagen, Denmark

## Background

According to EU legislation, pigs must have permanent access to a sufficient quantity of material to satisfy their need for investigation and manipulation activities.

To quantify the amount of straw sufficient to meet the pigs' need, we identified the amount where additional provision did not further increase pigs' exploratory behaviour.

## Materials & methods

Pigs were housed in 90 groups of 18 pigs in pens with partly slatted concrete floor (0.7 m<sup>2</sup>/pig) and provided with uncut straw daily on the solid floor. Straw amounts were 10, 80, 150, 220, 290, 360, 430 or 500 g straw per pig per day.

At 40 and 80 kg live weight we recorded exploratory behaviour directed towards straw during 1 h before straw allocation, 1 h after straw allocation and from 17 to 18 h, by continuous recording of the exploratory behaviour directed towards straw for 3 focal pigs per pen as well as instantaneous recording at 15 min intervals of the number of pigs per pen performing exploratory behaviour directed towards straw.



Fig 1. Pen with 10 g (top) and 500 g (bottom) straw per pig and day. Photo taken before daily straw provision.

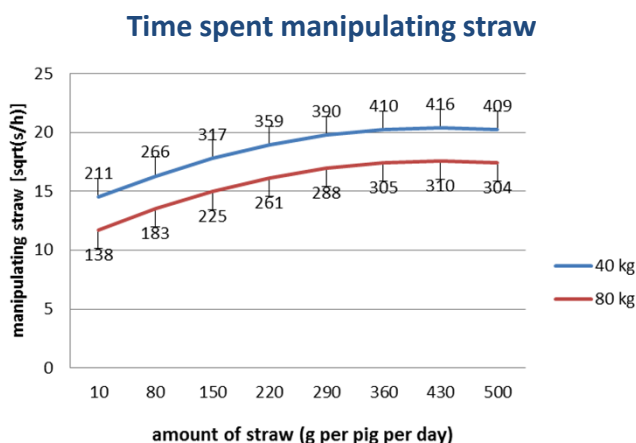


Fig 2. Estimates of time spent manipulating straw (lmeans (SEM)) for each straw allocation. Back transformed values are shown above (40 kg) and below (80 kg) each point estimate.

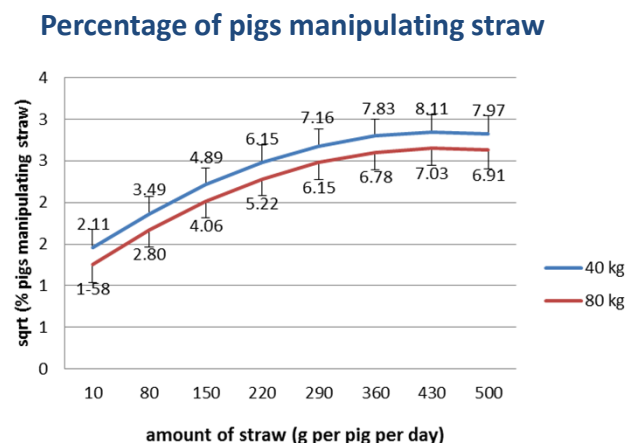


Fig 3. Estimates of the percentage of pigs manipulating straw simultaneously (lmeans (SEM)) for each straw allocation. Back transformed values are shown above (40 kg) and below (80 kg) each point estimate.

## Conclusion

Increasing the straw amount from 10 to 360 g straw per pig per day increased the time pigs spent in oral manipulation of straw markedly, while increasing the straw amount above 430 g straw per pig per day had no additional effect. Similar effects were found regarding the percentage of pigs simultaneously manipulating straw. Approximately 400 g straw per pig per day maximizes straw-directed behaviour in this type of housing.