

How many nursery pigs can eat at one wet/dry feeder space

A recent Belgian study shows that piglets prefer pellets and can eat them faster. It also sheds light on the maximum number of piglets per feeding space, both for pellets and meal

by MARTINE LAITAIT and CATE DEWEY

How do you decide whether to use pellets or meal for your nursery pigs? Typically, one diet form is chosen over another because of feeder design, hygiene, cost or storage facilities.

Pellets allow you to reduce the food wastage and dust production. Pelleting the diet increases the bulk density of food, making for easier storage in silos and also a decrease in plugging risk. Also pellets decrease the separation of feed ingredients and reduce the free surface of the food exposed to chemical agents. However, additional energy and equipment costs required to produce pellets make them a higher priced feed.

Weaned piglets are able to eat pellets of very variable diameter. Feed consumption is only reduced when the pellets become too hard. To produce high quality pellets, you have to grind more finely than when producing meal. At times, such a fine grinding can impair animal health by inducing gastric ulcers.

Studies comparing the nutritional value of pellets and meal have shown variable results. Sometimes there is no difference between diets and sometimes the performance is better with pellets. To maximize nursery pig performance, water and food intake have to be optimized. But which do piglets actually prefer?

In a recent Belgian study¹, weaned piglets (from 7-27 kg body weight) were given both pellets (2.5 mm diameter) and meal of the same formulation (Carnipor, Belgium). The two diets were distributed in two identical feeders with integrated drinkers (Devos, type 2, Zvevezele, Belgium). To avoid preferences based on feeder location, pellets and meal were alternatively given in both the two feeders on three different occasions. The trial also compared two pig densities -- either 30 or 50 pigs per pen.

For all 80 piglets, performance was similar in the two groups: the average daily weight gain was 425 g/day and the feed conversion ratio was 1.72. The pigs preferred pellets, eating twice as much feed in pellet form as in meal form. This difference was most remarkable in pens with 30 pigs rather than 50 pigs. Even though the pig density did not alter the total daily food intakes (710 and 740 g/day), the group of 30 piglets ate 72 per cent of the diet in a pelleted form, compared to 64 per cent for the 50-pig group. Given a choice, perhaps pigs will eat pellets because they are faster to eat.

Pigs ate pellets two times faster than meal. However, the ingestion speed changes with the number of pigs per pen. When the number of pigs in a pen increases, eating speed decreases. The next question then is: how many pigs should we have for each wet/dry feeder space? ²

If we divide the total trough length by the average pig's shoulder width of 16 cm (estimated for the whole post-weaning period), we can determine the number of pigs that can eat simultaneously around the feeder. In the present study, the wet/dry feeders allowed four piglets to eat and two to four piglets to drink at the same time. Piglets spent one hour and 42 minutes per day eating pellets but two hours and 30 minutes eating the meal. These times include an average daily drinking time of about 10 minutes per piglet.

Pigs prefer to eat during the day rather than during the night. Taking this preference into account, we calculated the theoretical number of pigs per wet/dry feeder space. We recommended six pigs per feeding place with meal and 10 piglets per feeding place with pellets.

In our study, when pellets were fed, the growth performance of the pigs was the same whether we had one wet/dry feeding space for eight piglets or one wet/dry feeder space for 13 piglets (that is, 30 and 50 piglets total per feeder). However, there is a negative aspect to the more crowded situation. Pigs prefer to eat during the day but, with 13 pigs per feeder space, pigs had to eat during the night. Actually, for 99 per cent of the 24-hour day, there was at least one pig per feeder.

When there were 13 pigs per feeder space and the pigs were given meal, the average daily feed intake decreased by 100 g and the average daily gain was reduced by 15 per cent. Also the pigs had such difficulty obtaining their required amounts of feed that there was a feeder occupation rate of 140 per cent. This means that there were six pigs eating for only four places!

In conclusion, pigs prefer pellets and can eat them much faster than meal. If feeding meal, the maximum is six pigs per wet/dry feeder space; for pellets, it is 10 pigs per wet/dry feeder space. This will enable all pigs to eat during the day. **BP**

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¹Laitat M., Vandenheede M., Désiron A., Canart B., Nicks B., Journées Rech. Porcine en France, 2000, 32, 157-162.

²Laitat M., Vandenheede M., Désiron A., Canart B., Nicks B., article submitted.