

THE EFFECTS OF A WET FLOOR ON DUNGING PATTERNS

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Poor pen hygiene and incorrect dunging patterns have a negative effect on air quality and therefore on animal health, welfare and productivity (Donham *et al.* 1989, Banhazi *et al.* 2000). Dried dung is a major source of both gaseous and particulate airborne pollutants and hence controlling the generation of pollutants at its source will greatly improve environmental quality in piggery buildings. Reports suggest that the first 24 hours is critical in establishing correct dunging patterns in newly stocked pig pens (Roelofs 1999, pers.com.). The effects of wet solid floors on the establishment of dunging patterns at the time of stocking the sheds with a new batch of pigs was investigated.

Three pens were randomly selected in a freshly cleaned partially-slatted, naturally ventilated grower/finisher room housing approximately 92 pigs (mean live weight 55 kg) at a stocking rate of 0.62 m²/pig and the pen floors were thoroughly wetted using a hand held sprayer. The other three pens in the same room, stocked at the same rate, were used as control pens and the floor of these pens was kept dry. Dunging patterns were monitored for two weeks as described previously (Banhazi *et al.*, 2000) and the amount of dung cover on the concreted areas were recorded daily and analysed.

Pigs in the dry pens had better dunging patterns ($p < 0.001$), compared to pigs in wet pens (Figure 1). At the beginning of the experiment, pigs on wet floors showed poor dunging patterns compared to those in control pens. While dunging patterns in wet pens improved over time, the experimental pens still retained elements of incorrect dunging patterns, ie. dunging on the solid floor.

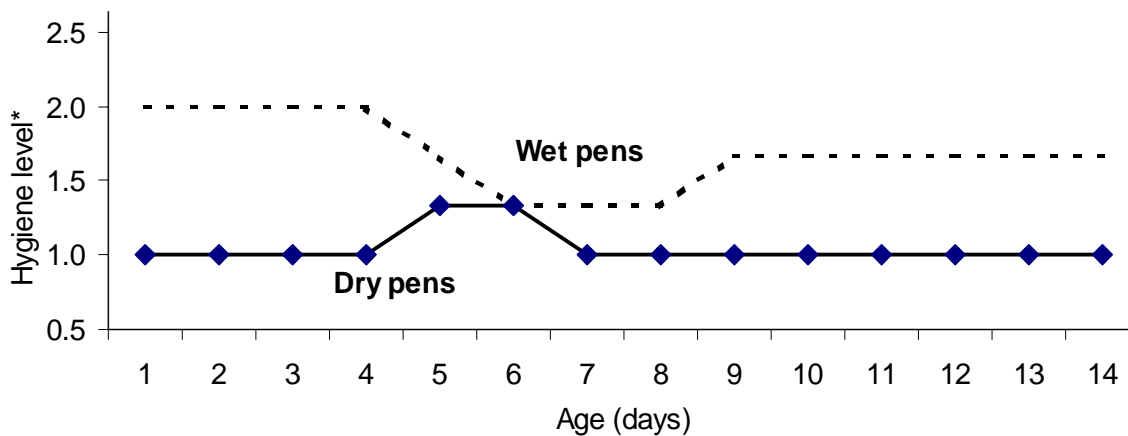


Figure 1. Change in dunging pattern over time in the wet and dry pens. (*Value 1 indicates <10%; value 2 indicates between 10 and 50% soiling of the solid floor.)

The results demonstrate the need to have dry floors after cleaning and before re-stocking to avoid the development of incorrect dunging patterns in newly stocked pig pens. Although, dunging patterns are believed to be influenced by many factors, wet pen flooring is clearly a risk factor.

Supported in part by the Australian Pork Limited.

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