



Trialling new slot reduction and closure techniques for British Pig Production

On-farm studies of concrete floors in pig buildings have found cases where beam (slat) is narrow and does not meet the permitted minimum width; these are often in older buildings. UK farm assurance standards ensure that participating farms conform to the relevant legislation¹. Farmers are, therefore, seeking remedial solutions and need to be confident of their efficacy.

A series of evaluation trials was commissioned by BPEX to look at slot reduction and closure techniques which have recently been made available commercially. These include slot reducer inserts, steel bar inserts, slot closure inserts and compounds applied to surfaces.

This publication refers to the trial where 240 slot closure inserts were installed in six pens on one farm for the purpose of increasing beam width. The assessments measured the interaction of the pigs with the floor with respect to welfare and durability of the device over time. Real Welfare based assessments were used.

Method

An open invitation was extended to potential suppliers of these devices to participate in this long-term evaluation. To date one farm producing growers and finishers was used for the trial; alternate pens had the slot closers installed in alternate slots.

After installation the farm had three visits by a veterinary surgeon over a period of several months, to assess the welfare of the pigs using the Real Welfare outcomes measures as well as scoring for bursae on the legs. Producer was also asked for their feedback with regard to:

- Ease of installation
- Durability of the reducers
- Methods for fixing the reducers
- General satisfaction
- Suggestions for improvements.

Results

It should be noted that the comparison is being made between pigs kept in pens with slot closures installed versus the equivalent number and age of pigs in adjacent pens.

To date, there appear to be no significant differences in the key parameters, eg body marks, lameness, bursae and tail biting between pigs housed with, and without, the closers. Additional measures considered, such as pigs requiring moving to a hospital pen and the use of enrichment, were also not significantly different.

Real Welfare is an industry-led project funded by BPEX to help pig producers demonstrate pig welfare and boost productivity, using 'welfare outcomes' or 'animal-based' measures. These measures are:

- Tail lesions
- Body marks
- Lameness
- Enrichment use
- In need of a hospital pen.



Slot closure inserts in a pen

Conclusions/comments from producers

This work has confirmed that, when correctly installed:

- By closing alternate slots, the floor beam width could be increased to meet legislative requirements without any negative impacts on the pigs
- The closers provided an effective means for correcting floors
- When the correct combination of closure device length and fixing mechanism were selected, they proved to be a durable solution
- Installation time was approximately 45 minutes for 60 devices
- In the future it would make sense to use a team of people to improve productivity when installing the slot closures
- The slot closures had similar limitations to the slot reducers trialled, see *Research into Action 17*.

- The closure devices used in the trial were not suitable for fitting to extremely wide gaps, eg greater than 25mm
- It is critical to ensure that pigs cannot get their snouts under the edges of the closure devices, for example, if the short ends of the reducers are exposed
- Where the slab is badly corroded, creating a difference in level, this could result in the closure devices becoming loose
- The profile of some slot sides meant that the fixing device initially used had limited success
- The manufacturer has now addressed these issues with an expanded range of products to match customers' needs.

"The slot closure mechanisms generally stay in where slats are in good order, however pigs are dirtier."

Gloucestershire producer



Slot closure insert

The slot closure devices were generally perceived to be a good start but the following limitations with the trial batch were highlighted:

- The pigs' ability to remove the closure devices if they are not correctly installed
- Strong, commercial multipurpose adhesive has been found to be more successful than rubberised flexible sealants to keep them in place

Next steps

BPEX will continue its monitoring longer term.

Further information

For results of similar evaluations for slot reducers and steel bar inserts see *Research into Action 17 and 18* respectively.

See 'Key figures for pig accommodation in England – legislative requirements'.



Slot closure insert after four months use

¹ Regulations for concrete slats used for pig housing stipulate maximum and minimum dimensions for slot and beam width. The *Welfare of Farmed Animals (England) Regulations 2007 (S.I. 2007 No. 2078)*, implementing European Council Directive 2001/88/EC.

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