Eight immediate ways to improve the handling of pigs:

- ✓ Reduce group size
- ✓ Move pigs forward only when there is space ahead
- ✓ Remove the appearance of a 'dead-end' on tight bends
- ✓ Ensure all floor surfaces are non-slip
- ✓ Remove all obstacles from the path of pigs
- ✓ Use increasingly diffuse light levels towards the stunning end of the handling system
- ✓ Reduce mechanical noise
- ✓ Use calm considerate handling techniques at all times

If you are thinking of altering your handling system or introducing a new system, then you should consider the following:

1. Conformity

- Is it legal? ☐
- Has it been tested? ☐

2. Flexibility

Will it adapt to future:

- building changes? ☐
- operational changes? ☐
- pig breeds/sizes? ☐

At stun, does it present:

- suitable group sizes? ☐
- a steady flow of pigs? ☐

3. Useability/reliability

Can it be easily:

- installed? ☐
- operated? ☐
- inspected? ☐
- maintained? ☐
- cleaned? ☐

4. Environmental factors

Have you considered:

- heating? ☐
- lighting? ☐
- ventilation? ☐
- noise? (for operator and animal) ☐

5. Human factors

- Is it safe for humans? ☐
- It is easy to operate? ☐
- Is handling made easier? ☐
- Can all parts be reached? ☐
- Have staff approved it? ☐
- Do staff understand the reasons behind it? ☐
- Does it cater for worst case operators? ☐

6. Animal Factors

- Is it suitable for pig use? ☐
- Is there no risk of injury at all? ☐
- Does it prevent goading? ☐
- Can pigs walk at a natural pace? ☐
- Does it prevent confusion? ☐

7. Cost

Is it affordable in terms of:

- installation? ☐
- running? ☐
- maintenance? ☐

Is investment justified? ☐

8. Future implications

Have all future implications been considered? ☐

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Consortium Members

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LINK COLLABORATIVE RESEARCH

Technologies for sustainable farming systems

Improved Handling-Systems For Pigs At Slaughter

A brief project summary

The pre-slaughter handling requirements of pigs vary depending on the stunning systems in use. The following guide examines current practice, requirements and problems. It shows possible solutions to improve the speed and efficency of handling, to eliminate the use of goads and to reduce stress levels in the lairage.

Cambac JMA Research

in collaboration with

Design Research Centre - University of Brunel

drc

Division of Food Animal Science - University of Bristol

VIM PROMOVET INSITAM

Gas Systems

Current Practice

- Pigs are moved from a crowd pen to an enclosed race system
- They are encouraged into the cradle of a gas unit through a single entrance
- Usually the cradle holds one or two pigs

Requirements

Present pigs at the cradle entrance every 16 secs. Due to 12 sec cradle re-position time:

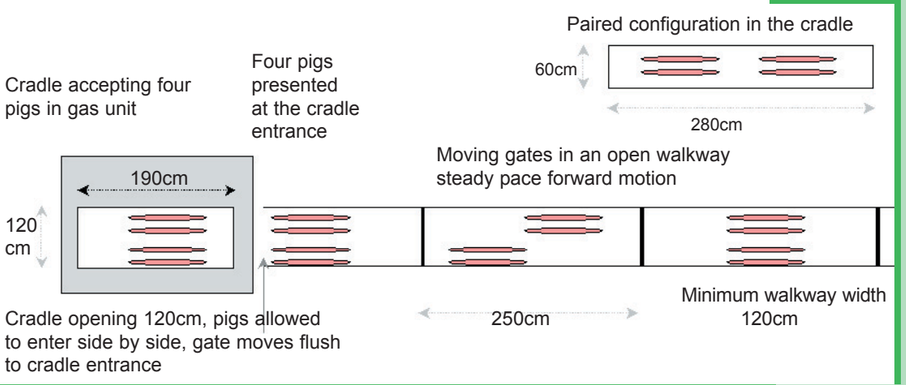
- single pigs enter the cradle every 4 secs for stun-speeds of 220 pigs/hr
- pairs of pigs enter the cradle every 4 secs for stun-speeds of 440 pigs/hr

Problem Areas

- Group size in a crowd-pen
- Entry to the race
- Stop-start nature of system
- Lack of time to enter cradle
- Level of coercion and goading

Solutions

- Remove the enclosed race and explore group stunning and handling
- To stun in groups at 440 pigs/hr allow 3 pigs 12.5 secs to enter the cradle, or 4 pigs 21 secs to enter the cradle
- Provide an open walkway, 900mm wide for 3 pigs and 1200mm wide for 4 pigs
- Ensure that the walkway width equals that of the cradle entrance and the cradle
- Move pigs forward in the required group size with a moving gate, flush to the cradle entrance
- The ideal cradle loading for pigs is side by side; cradle length is 1900mm. For pigs loaded in pairs behind each other, a cradle length of 2800mm is required



On Floor Electrical Systems

Current Practice

- Small groups of pigs are moved into a stun-pen
- Electric tongs are applied by hand
- The pig is then shackled by a second operator

Requirements

Present successive pigs for stun:

- every 16 secs, for stun-speeds of 220 pigs/hr
- every 20 secs, for stun-speeds of 180 pigs/hr

Problem Areas

- Sharp corners into stun-pen
- Group size
- Slippery floor surfaces
- Stun pen dimensions

Solutions

- The stun-pen should lead straight-on from the holding pens or walkway
- Provide a space allowance of 1.2m^2/pig in the stun pen
- Minimum stun-pen length should be: 1800 mm for 2 pigs
  2500 mm for 8 pigs
- Provide a non-slip floor
- Ensure there are two operators in the stun pen, one to stun and one to shackle the pig, so as to reduce the stun-to-stick interval

Restrainer-Conveyor Systems

Current Practice

- Pigs are moved from a crowd pen or step race to a single file enclosed race
- They are encouraged into a “V” or chest-belt restrainer
- Electric tongs are applied automatically or manually

Requirements

Present successive pigs in single file to the point of stun:

- every 10 secs for stun-speeds of 360 pigs/hr
- every 13 secs for stun-speeds of 280 pigs/hr

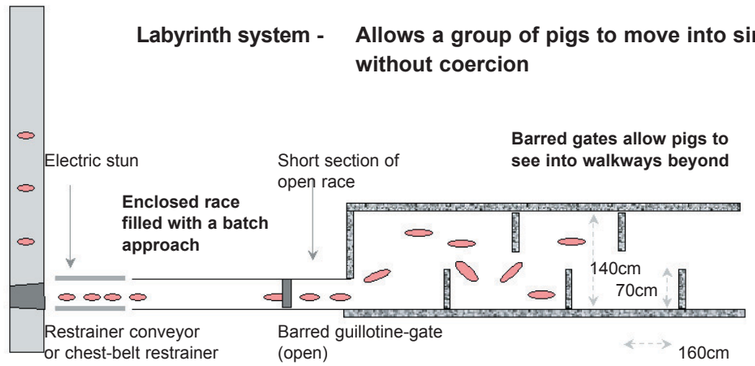
Problem Areas

- Group size in crowd-pen
- Entering the race
- Pigs waiting in the race
- Entrance to the conveyor - the ‘*visual cliff effect*’
- Levels of coercion and goading

Solutions

- Replace the crowd-pen with a labyrinth system, for reducing groups of pigs into single file
- Ensure there are no pinch points in the race
- Provide a race length for 6-10 pigs maximum
- Use a batch-approach to filling the race
- Close the race when full with a barred guillotine-gate
- Ensure the level of the floor ‘drop off’ at the restrainer entrance is no less than 1100mm

Labyrinth system - Allows a group of pigs to move into single file without coercion



Further Information

More detailed information relating to these systems can be found in the following two factsheets

- *Generic problem areas of handling systems for pigs at slaughter*
- *Design specification for handling systems for pigs at slaughter*

For further information then please contact:

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For more copies of this leaflet, please send a stamped addressed envelope to the Humane Slaughter Association, The Old School, Brewhouse Hill, Wheathampstead, Herts AL4 8AN