Behavior and Lesion Scores of Fattening Pigs Raised on Slatted Floors with Different Objects

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Why Use Enrichment Materials?

- Behavioral needs: exploring the environment
- Focuses investigation on objects/substrates instead of conspecifics
- Reduces tail/ear biting

EU Directive 2008/120/CE

Investigation and Manipulation Activities
A Large Range of Materials

**Inorganic / single object**
- Cloth
- Tyre
- Pipes (metal / plastic)
- Balls / Toys
- Salt lick
- Chains

**Organic / bulk**
- Forages (hay / silage / beets...)
- Sand / peat / soil
- Mushroom compost
- Straw

**Organic / single object**
- Rope
- Wood / twig
- Pipe (rubber)

Adapted from Bracke, 2006
**A Large Range of Materials**

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**Slatted Floor:**
91% Finishers in the EU

**EFSA 2007**

*Adapted from Bracke, 2006*
Set of Experiments on Slatted Floor

1. Straw in a Rack
2. Chain
3. Wooden blocks / toy

Chains + Pipes
Straw in a Rack
Chains + Pipes
Chains (Various Positions)
Wooden blocks
Toy
Chain
Mixed Pens: 7m², 10 pigs: 5 Castrated Males, 5 Females
Feed, Water: Ad Libitum
Materiel & methods

**Behaviour**

- **Scan sampling, 1 obs/ 10 minutes, 2h30**
  - Investigation (object / other)
  - Positive social behaviour
  - Negative social behaviour
  - Inactivity
  - Vacuum chewing
  - Other

**Lesion scoring**

- Scratches / wounds
- Tail – Ear lesions
Exp 1: Straw / Chain + Pipe

1. Straw in a Rack

Chains + Pipes

Straw in a Rack

6 pens

EAAP 2013 - Nantes
Exp 1: Straw / Chain+pipe: Behaviour

Sitting: Straw: 8.2% > Object: 5%
Simultaneous Manipulation: Straw > Object
Exp 1: Straw / Chain + Pipe: Activity related to Materials

- **Long Term Interest**
- **Main activity:** Chewing (70%)
## Exp 1: Straw / Chain+pipe Lesions score

<table>
<thead>
<tr>
<th></th>
<th>Pipe + chain</th>
<th>Straw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesion score</td>
<td>7.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Tail lesion, nb</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Lameness (mild), nb</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>
Exp 1: Conclusion

- **Pipe + chain**
  - Less frequently used
  - Maintained interest
  - Same level of social behaviour

- **Straw**
  - More manipulation
  - Ad lib = 35 g/pig/day
  - Not compatible with slatted floors

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Exp 2: Does the Position of the Chain Affect its Attractiveness?

CS: Snout level

3C: 3 Chains fixed to the floor

CF: 5 cm above the Floor

P3: 3 chains + pipes

6 pens / treatment

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Exp 2: Activity related to objects

% Observations

CS  CF  3C  P3

EAAP 2013 - Nantes
Exp 2: Activity related to Objects

Differences between treatments persist
### Exp 2: Body and Tail Lesions

<table>
<thead>
<tr>
<th></th>
<th>CS</th>
<th>CF</th>
<th>3C</th>
<th>P3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lesion score</strong></td>
<td>21.6</td>
<td>20.8</td>
<td>20.5</td>
<td>21.5</td>
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<tr>
<td><strong>Tail lesion</strong> *</td>
<td>1.7 a</td>
<td>13.3 b</td>
<td>3.4 a</td>
<td>1.7 a</td>
</tr>
<tr>
<td><strong>Lameness</strong> *</td>
<td>3.4</td>
<td>3.4</td>
<td>1.7</td>
<td>0</td>
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</tbody>
</table>

* Batch 2
Exp 2 : Conclusion

- Significant differences in chain manipulation

- Position more important than the object itself
Exp 3: Chain with/without Object? Organic/inorganic Objects?

Chain

Chain + ball

Wooden block fixed

Wooden block loose

CF

CB

WF

WL

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Exp 3: Activity related to Objects

Support of the investigative activity

% Obs

object - Floor - wall pigs

CF  CB  WF  WL

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Exp 3 : Body and Tail Lesions

<table>
<thead>
<tr>
<th></th>
<th>CF</th>
<th>CB</th>
<th>WF</th>
<th>WL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesion score</td>
<td>16.7</td>
<td>15.7</td>
<td>15.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Tail lesion (mild (1)), %</td>
<td>30 a</td>
<td>28 a</td>
<td>13 b</td>
<td>20 ab</td>
</tr>
<tr>
<td>Lameness(2), %</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

1. Superficial biting
2. Mild or severe
Exp 3 : Conclusion

- Chain + Toy / Chain : no differences in manipulation
- Organic / inorganic : no impact
- Position more important than the object itself
General Conclusion

Appropriate Material: A compromise between attractiveness and feasibility.

Investigation

Manipulation

Lesions

Feasability

Long straw in a rack, ad lib. [x]

Chain + pipe

Wooden block (fixed)

Chains (on the floor)

Chain (5 cm ab. floor)

Chain + ball (5cm)

Chain (snout level)

Wooden block (loose)
Thank you for your attention