

## Supplementary File S1: Test text

### Section one: provision of enrichment.

For these nine scenarios, assume that pigs are kept in groups of twenty, in pens with partially-slatted floors, controlled ventilation and ad-libitum, commercial feed. Pigs are observed for approximately 10 minutes.

In order to ensure compliance with the EU Directive 2008/120/EC, how important is it to modify the enrichment provided on these farms?

For each scenario, choose a point on the scale ranging from 'not important to very important'

- 1) There is **no** substrate on the floor.  
There is **no other** enrichment material or object.  
**Some** pigs are manipulating dung.  
Not important Very important
  
- 2) There is **no** substrate on the floor.  
There is a clean block of wood.  
**No** pigs are manipulating the wood.  
Not important Very important
  
- 3) There is a small amount of straw on the floor.  
The straw is wet and dirty.  
There is **no other** enrichment material or object.  
**Some** pigs are manipulating the straw.  
Not important Very important
  
- 4) There is plenty of clean and dry straw on the floor.  
There is **no other** enrichment material or object.  
**Some** pigs are manipulating the straw.  
Not important Very important
  
- 5) There is **no** substrate on the floor.  
A chain is attached to the wall.  
**Some** pigs are manipulating the chain.  
Not important Very important
  
- 6) There is plenty of clean and dry straw on the floor.  
There is **no other** enrichment material or object.  
**No** pigs are manipulating the straw.

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Not important Very important

7) There is **no** substrate on the floor.  
A chain is attached to the wall.  
**No** pigs are manipulating the chain.

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Not important Very important

8) There is **no** substrate on the floor.  
There is a clean block of wood.  
**Some** pigs are manipulating the wood.

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Not important Very important

9) There is a small amount of straw on the floor.  
The straw is wet and dirty.  
There is **no other** enrichment material or object.  
**No** pigs are manipulating the straw.

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Not important Very important

**Section two: risk factors for tail biting.**

The following nine scenarios describe potential risk factors for tail biting.

Please rate the level of risk for each factor by choosing a point on the scale ranging from 'no risk to high risk'

10) Presence of tail-bitten animals

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No risk High risk

11) Heat stress

□ □ □ □ □ □ □ □ □ □

No risk High risk

12) Mixing of animals (not including mixing at weaning)

□ □ □ □ □ □ □ □ □ □

No risk High risk

13) Absence of natural light

□ □ □ □ □ □ □ □ □ □

No risk High risk

14) Poor herd health

□ □ □ □ □ □ □ □ □ □

No risk High risk

15) Sudden changes in diet

No risk High risk

16) A barren environment ( no substrate and no enrichment)

No risk High risk

17) Pigs of different breeds within a group

No risk High risk

18) High stocking density

No risk High risk

**Section three: tail docking and suitable management changes.**

For the following four scenarios, assume that all finisher pens are indoors and partially-slatted.

Note: where scenarios say that there are pigs with tail lesions, these are severe tail lesions.

In order to ensure compliance with the EU Directive 2008/120/EC, how important is it for these farms to change their practice?

Tick any options you consider appropriate.

Does your scheme or local legislation prohibit tail docking?    Yes           No      

19) All pigs are tail docked.

There has been a recent outbreak of tail biting.

In response, the farmer has changed management factors which you have assessed as suitable.

There are pigs with healed tail lesions.

There are no pigs with fresh tail lesions.

- a) No need for change (fully compliant)
- b) A need for change – identify and make suitable management changes
- c) A need for change – stop tail docking
- d) A need for change – permit tail docking

20) All pigs are tail docked.

You have assessed the current management practices on this farm to be suitable.

There are no pigs with healed lesions.

There are no pigs with fresh tail lesions.

- a) No need for change (fully compliant)
- b) A need for change – identify and make suitable management changes
- c) A need for change – stop tail docking
- d) A need for change – permit tail docking

**21) Pigs are not tail docked.**

There has been a recent outbreak of tail biting.

Tail-bitten pigs are being treated appropriately.

The farmer is not making any suitable management changes.

There are pigs with fresh tail lesions.

- a) No need for change (fully compliant)
- b) A need for change – identify and make suitable management changes
- c) A need for change – stop tail docking
- d) A need for change – permit tail docking

**22) Pigs are not tail docked.**

You have assessed the current management practices on this farm to be suitable.

There are no pigs with healed lesions.

There are no pigs with fresh tail lesions.

- a) No need for change (fully compliant)
- b) A need for change – identify and make suitable management changes
- c) A need for change – stop tail docking
- d) A need for change – permit tail docking

**Section four: response to tail biting and enrichment.**

**These three scenarios are concerned with the relationship between tail biting behaviour and the level of enrichment.**

**Note: where scenarios say that there are pigs with tail lesions, these are severe tail lesions.**

**In your current role, please describe what you would do on these farms.**

**23) The pens are barren, with no substrate on the floor and no other enrichment material or objects.**

There are pigs with tail lesions.

**a) In order to ensure compliance with EU Directive 2008/120/EC, how important is it to modify the enrichment provided?**

Not important

Very important

**b) When on a farm, in your current role, what would you do after observing this pen and why?**

**c) There are different interpretations of the EU directive between countries and organisations. If you were entirely free of any such interpretations, how would you respond and why?**

**24)** The straw in the pens is wet and dirty.

No pigs are manipulating the straw

There are pigs with tail lesions.

**a)** In order to ensure compliance with EU Directive 2008/120/EC, how important is it to modify the enrichment provided?

Not important

Very important

**b)** When on a farm, what would you do after observing this pen and why?

**c)** There are different interpretations of the EU directive between countries and organisations. If you were entirely free of any such interpretations, how would you respond and why?

**25)** There are two chains within reach of the pigs.

One chain is being manipulated and one chain is not being manipulated.

There are no pigs with tail lesions.

**a)** In order to ensure compliance with EU Directive 2008/120/EC, how important is it to modify the enrichment provided?

Not important

Very important

**b)** When on a farm, what would you do after observing this pen and why?

**c)** There are different interpretations of the EU directive between countries and organisations. If you were entirely free of any such interpretations, how would you respond and why?

**Section five: response to tail docking and management.**

**These two scenarios include details of enrichment and tail biting as well as environment and management conditions.**

**Please describe what you would do on these farms.**

**26)** The pen floor is partially slatted.

Space allowance exceeds minimum requirements.

Ventilation is automatically controlled, natural ventilation.

Dry food is offered ad libitum.

Water is offered through nipple drinkers.

There is some dry straw in the pen which is replenished daily.

All pigs are tail docked.

Some pigs have tail lesions.

**a)** What would you do next?

You now have further information. Please describe what you would do.

**Further information:** After observation and discussion with the farmer, it is clear that pigs are lying in the dunging area and that some lying pigs are being disturbed.

**b)** What would you do next?

**27)** The pen floor is fully slatted.

Space allowance exceeds minimum requirements.

Ventilation is fully automatic.

Wet food is offered twice daily.

Water is offered through nipple drinkers.

There are two chains with blocks of wood attached.

All pigs are tail docked.

Some pigs have tail lesions.

**a)** What would you do next?

**Further information:** After observation and discussion with the farmer, it is clear that pigs are aggressive at feeding time and that there are several pigs with considerable skin lesions. Additionally, the wooden blocks are too hard for the pigs to chew.

**b)** What would you do next?

4 **Supplementary file S2: Raw responses for Control and Training group. For clarity,**  
5 **results for Sections 1, 2 and 4 are shown for Iteration 2 only. For Section 3, results**  
6 **represent binary coding (correct/incorrect) of multiple choice response and both**  
7 **iterations are presented (N.B. the percentages shown are those used in calculating**  
8 **McNemar's test values; they are not directly comparable with Figure 2, which**  
9 **illustrates the percentage of participants who selected each (non-exclusive)**



<i>Question</i>	<i>Number in test</i>	<i>Description</i>	<i>Control group</i>		<i>Training group</i>		
			<i>Mean</i>	<i>S.D.</i>	<i>Mean</i>	<i>S.D.</i>	
<p>Section 1: In order to ensure compliance with the EU Directive 2008/120/EC, how important is it to modify the enrichment provided on these farms? For each scenario, choose a point on the scale ranging from ‘not important to very important’.</p>							
		<i>Object</i>	<i>Manipulating object/straw?</i>	<i>Iteration 2 only</i>			
<i>SIQ1</i>	<i>1</i>	None	Yes (dung only)	9.49	0.87	9.49	1.43
<i>SIQ2</i>	<i>2</i>	Wood	No	7.53	2.43	8.48	2.05
<i>SIQ3</i>	<i>3</i>	Wet / dirty straw	Some	8.17	1.81	8.83	1.59
<i>SIQ4</i>	<i>4</i>	Clean / dry straw	Some	3.82	2.64	3.83	2.68
<i>SIQ5</i>	<i>5</i>	Chain	Some	6.30	2.68	8.15	1.79
<i>SIQ6</i>	<i>6</i>	Clean / dry straw	No	4.42	2.88	4.70	3.06
<i>SIQ7</i>	<i>7</i>	Chain	No	7.47	2.64	8.77	1.89
<i>SIQ8</i>	<i>8</i>	Wood	Some	6.01	2.74	7.26	2.27
<i>SIQ9</i>	<i>9</i>	Wet / dirty straw	No	8.58	1.82	8.87	1.71

Section 2: Please rate the level of risk for each factor by choosing a point on the scale ranging from 'no risk to high risk'.

		Description	Iteration 2 only			
<i>S2Q1</i>	<i>10</i>	Presence of tail-bitten animals	9.50	0.97	9.23	1.64
<i>S2Q2</i>	<i>11</i>	Heat stress	8.22	1.80	6.84	2.41
<i>S2Q3</i>	<i>12</i>	Mixing of animals (not including mixing at weaning)	8.45	1.48	7.65	2.05
<i>S2Q4</i>	<i>13</i>	Absence of natural light	6.16	2.33	5.85	2.64
<i>S2Q5</i>	<i>14</i>	Poor herd health	8.05	1.80	7.50	2.17
<i>S2Q6</i>	<i>15</i>	Sudden changes in diet	7.96	1.93	7.44	2.08
<i>S2Q7</i>	<i>16</i>	A barren environment (no substrate and no enrichment)	9.08	1.38	9.54	0.79
<i>S2Q8</i>	<i>17</i>	Pigs of different breeds within a group	6.07	3.03	5.45	2.79
<i>S2Q9</i>	<i>18</i>	High stocking density	8.91	1.30	8.18	1.87

Section 4: In order to ensure compliance with the EU Directive 2008/120/EC, how important is it to modify the enrichment provided on these farms? For each scenario, choose a point on the scale ranging from 'not important to very important'							
		Description	Iteration 2 only				
<i>S4Q1</i>	23	Barren , Tail lesions	9.70	0.83	9.83	0.54	
<i>S4Q2</i>	24	Wet / dirty straw, No manipulation, Tail lesions	9.01	1.79	9.52	0.88	
<i>S4Q3</i>	25	Chains, Some manipulation, No tail lesions	5.24	3.17	7.21	2.54	

Section 3: Tick the appropriate option/s to indicate what action is needed to achieve compliance (% of respondents)								
<i>Scenario</i>	Iteration 1				Iteration 2			
	Control		Training		Control		Training	
	Wrong	Right	Wrong	Right	Wrong	Right	Wrong	Right

<i>S3Q1</i>	<i>19</i>	Compliant (tail-biting outbreak addressed adequately)	67.1	32.9	69.5	30.5	56.6	43.4	82.9	17.1
<i>S3Q2</i>	<i>20</i>	Stop tail docking (tail-biting resolved)	50.0	50.0	47.6	52.4	55.3	44.7	19.5	80.5
<i>S3Q3</i>	<i>21</i>	Management changes needed (tail-biting ongoing)	23.7	76.3	26.8	73.2	28.9	71.1	22.0	78.0
<i>S3Q4</i>	<i>22</i>	Compliant (no tail-biting occurring)	9.2	90.8	6.1	93.9	6.6	93.4	6.1	93.9