Housing Update: Based on Science of Animal Well-being

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Regulations imposed based on perceived animal cruelty and misconceptions—WILL NOT improve animal well-being

“Experts”— those qualified, should
• Define and Address “issues” based on well-being
• Develop solutions [these aren’t factories—one size does not fit all]
• Implement only those that are BETTER

Why? They care! IT’s their MORAL and ETHICAL obligation – it’s the right thing! If it’s about well-being—it’s the only thing to do!
UNETHICAL to use ethical convictions and purchasing power to encourage certain production systems

- Saving your brand
- Don’t know all the facts
- Change ≠ Improved animal well-being

UNETHICAL to demand producers to compromise their ethical and moral obligation

Poor management = poor welfare (unethical)

UNETHICAL to deceive the public and putting others out of business—transparency?

- ‘Product’ doesn’t exist
- Consumer will have to pay more—many stakeholders are affected
Timeline: Successful Referendums [Sow Stalls]

- **FL**: Ballot, 2008
- **AZ**: Ballot, 2013
- **CO**: Legislation, 2018
- **MI**: Legislation, 10 yr
- **OH**: Livestock Care Standards Board 15 yr 2025
- **ME**: Legislation, 2011
- **RI**: Legislation Immediate
- **OR**: Legislation, 2013
- **CA**: Ballot, 2013

**Percentage of Sows Impacted by Legislation:** 7.8% [453,200 sows]
## 2013 and 2014 Unsuccessful Legislation

<table>
<thead>
<tr>
<th>State</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Hampshire</td>
<td>Legislation reported unfavorably out of committee</td>
</tr>
<tr>
<td>Vermont</td>
<td>Legislation died in committee</td>
</tr>
<tr>
<td>Connecticut</td>
<td>Amendment separated from legislation; died in committee; Legislation failed in committee</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Legislation passed both chambers, but Gov. Christie vetoed; Legislation passed Senate but failed to move out of House Ag. Committee</td>
</tr>
<tr>
<td>New York</td>
<td>Legislation died in committee</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Legislation failed to move out of committee; Formal session ended without passage</td>
</tr>
</tbody>
</table>

Percentage of Sows Impacted by Legislation: **0.0017% [9,800 sows]**
Science does not support

“Crated sows suffer a number of significant welfare problems, including elevated risk of urinary tract infections, weakened bones, overgrown hooves, lameness, behavioral restriction and stereotypies. Due to concerns for the welfare of intensively confined sows, legislative, industry, and corporate policies are increasingly phasing out the use of gestation crates.” HSUS, 2013

- No science supports cause and effect AND no system shown to “improve” well-being
- All can occur in any environment,
  - Yet to find some of these problems
  - Seen in groups as well…
- Poor management [inadequate care]
“IF the issue is really about sow well-being, then this would NOT be acceptable”

Too much aggression

Vulva bites

Too fat

Do trade-offs lead to improved well-being?

It would not be **Stalls are BAD and ABUSIVE** and **Pens are GOOD**, so eliminate the stall and move to pens and all bad things go away
Sow housing: Why, it isn’t simply about stall vs. pens

**Individual Stalls**
- **Adv.:** minimize aggression and injury, reduces competition, individual feeding/care, and assist in BCS
- **Disadv:** restrict movement and behaviors [exercise, foraging] and social interaction (perceived to some extent); **stereotypies**

**Group pens**
- **Adv.:** freedom of movement and social interaction
- **Disadv:** increased aggression and injuries, variability in BCS, lower ranking sows at risk, increased management, **feeding systems violate some of freedoms**

**Refinements?** provide enrichment, manage aggression [grp size, floor space, dynamic vs. static, feed fiber.....]
Simply put...

To date, no alternatives improve well-being [McGlone et al., 2004, Rhodes et al., 2005 [AVMA task force report]; Curtis et al., 2007; McGlone, 2013]

- Majority—similar in performance and productivity
- Few differences ≠ improved well-being
- Welfare challenges change over time [Karlen et al., 2006; Salak-Johnson et al., 2007; 2012; 2014 (accepted)] and sows use adaptive mechanisms [Salak-Johnson et al., 2012]

== “No one system is clearly better than another.....

**1/31/2014—AVMA states: “sows can be kept in different housing systems”
NO SIMPLE SOLUTION—COMPLEX ISSUE
[1-size DOES NOT FIT ALL! Too many variables]

ANIMAL WELFARE—DOES CHANGING HOUSING IMPROVE WELFARE?

Conventional = BAD [Stalls]; Alternative = Good [Pens]

* Science doesn’t support
* Assessments of farms
* Most recent review, McGlone, 2013
* Current research @ U of I

Better alternatives must—improve well-being, not create more alternatives w/ pros and cons in respect to welfare—some lead to new welfare issues [untended negative consequences] and don’t know long-term consequences [housing, castration, etc., ]
### Measures of well-being

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Turn-around</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCS</td>
<td>3.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Lesion severity</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Body wt. gain</td>
<td>117</td>
<td>106</td>
</tr>
<tr>
<td>Body wt. loss</td>
<td>-59.6</td>
<td>-64.5</td>
</tr>
<tr>
<td>No. born alive</td>
<td>11.5</td>
<td>10</td>
</tr>
<tr>
<td>Cortisol, ng/mL</td>
<td>29.7</td>
<td>38.3</td>
</tr>
<tr>
<td>ONF, %</td>
<td>24.6</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Ask to let them turn-around?
Ask to put them in groups?

Floor-space affects aggressive encounters, Salak-Johnson et al., 2007

Group pens don’t eliminate stereotypies, Salak-Johnson et al., 2012
We did both……

### Gestation Treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>S:S</th>
<th>T:T</th>
<th>S:GR</th>
<th>T:GR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain 6-110</td>
<td>117 ± 4.3</td>
<td>106 ± 4.5</td>
<td>131 ± 4.5</td>
<td>136 ± 4.8</td>
</tr>
<tr>
<td>Gain 30-110</td>
<td>99 ± 3.9</td>
<td>97 ± 4.0</td>
<td>122 ± 4.0</td>
<td>121 ± 4.0</td>
</tr>
<tr>
<td>Loss 131-110</td>
<td>-59.6 ± 4.7</td>
<td>-63.5 ± 5.1</td>
<td>-76.7 ± 5.5</td>
<td>-61.1 ± 5.5</td>
</tr>
<tr>
<td>No Born alive</td>
<td>11.5 ± 0.4</td>
<td>10.1 ± 0.5</td>
<td>9.6 ± 0.4</td>
<td>12.1 ± 0.5</td>
</tr>
<tr>
<td>Stillborn</td>
<td>0.54 ± 0.2</td>
<td>0.93 ± 0.3</td>
<td>1.3 ± 0.3*</td>
<td>2.0 ± 0.3*</td>
</tr>
</tbody>
</table>

- Sow BW differed btwn stall vs. pen [sows heavier]
- Other measures affected by pen or stall environment
- NBA-[S:GR] treatment had less piglets, but weaned the same
- Based on productivity measures best **S:S and T:G > S:GR > T:T**

**Total Aggression**

**Around feeding**
Reasons to change current stall but NOT eliminate

Today’s “larger” sows…
- Can not turn around?
- Lie down in full recumbence [large sows]
- Limited social interaction

Provide
- Space to turn around
  - Sow specific
- Move more freely
- Socialize
Q: Does a giving a sow more space in crate improve well-being?
A: Based on some welfare measures, yes!

Individual pen—increase in width impacts well being 24-h later as indicative by reduced cortisol response (acute stress response)
**Q:** Does a giving a sow more space in crate or more freedom to move improve well-being?

**A:** Based on some welfare measures, No!

<table>
<thead>
<tr>
<th>Item</th>
<th>FLEX</th>
<th>FREE</th>
<th>STALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean BW, kg</td>
<td>212 ± 1.7&lt;sup&gt;a&lt;/sup&gt;&lt;sup&gt;,b&lt;/sup&gt;</td>
<td>215 ± 1.7&lt;sup&gt;a&lt;/sup&gt;</td>
<td>209 ± 1.7&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mean BW change, kg</td>
<td>9.4 ± 0.94</td>
<td>10 ± 0.94</td>
<td>10 ± 0.94</td>
</tr>
<tr>
<td>Mean BF, cm</td>
<td>1.7 ± 0.03&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.0 ± 0.03&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.7 ± 0.03&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>BCS, 1-5</td>
<td>3.14 ± 0.05&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.3 ± 0.05&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.10 ± 0.05&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Stillborn, No.</td>
<td>0.48 ± 0.2</td>
<td>0.90 ± 0.2</td>
<td>0.53 ± 0.2</td>
</tr>
<tr>
<td>Euthanized, no piglets</td>
<td>0.23 ± 0.1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.72 ± 0.1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.46 ± 0.1&lt;sup&gt;a&lt;/sup&gt;&lt;sup&gt;,b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Sows in free-access are heavier and tend to have greater BF—doesn’t equate to better well being—greater still and euthanized pigs—all other performance measures equal
No Simple Solution

Animal Welfare  Carbon Footprint  Supply Chain Management  Brand Reputation

IF IT REALLY IS ABOUT IMPROVING ANIMAL WELL-BEING, THEN WE SHOULD ADDRESS THE PROBLEMS WITH RESPECT TO ANIMAL WELL-BEING AND THEN PRODUCERS WILL [SHOULD] HAVE CHOICES THAT DON’T COMPROMISE ETHICAL PRINCIPALS