

# **REVIEW OF WEANING AGE EFFECTS ON WEANED PIG PERFORMANCE**

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## **INTRODUCTION**

The trend towards later age weaning carries with it some management, nutritional and performance considerations. There are pros and cons to switching to a later weaning age, however overall it can be done successfully and there are many benefits to making the change. This presentation reviews some of the data available on this topic, tries to draw some conclusions based on data, and compares the research data with results obtained with the Humane Certified Pork Production system Jones Feed Mills works with.

## **WEANING AGE EFFECTS ON WEANED PIG PERFORMANCE**

### **Effects on Nursery Pig Performance**

Trials comparing the nursery pig performance of piglets weaned at 12, 15, 18 and 21/21.5 days show an increase in average daily gain (ADG) from 0 to 42 days. The response is linear and significant.

### **Effects on Finisher Pig Performance**

Trials also examined the performance of the finishing pigs from day 42 post weaning until day 154 post weaning. Although not as significant, there would appear to be a continued growth response in later weaned finisher pigs. When the nursery and finisher data are pooled, the result is an overall significant response to later weaning age as it pertains to ADG in nursery/finisher pigs.

The limitation of this data is that it only spans 12 to 21/21.5 day weaning ages. I was not able to find much data that evaluated pigs weaned at later dates. The response to even later weaning is likely linear as well, but would likely drop off at some point, the question is when and how much.

### **Effects on Nursery Mortality**

The same trials mentioned above also measured mortality in the nursery and the finisher phases. Again, there was a significant decrease in nursery mortality when pigs were weaned later. The results at all ages were acceptable, and the linear trend would not likely continue with even later weaning ages, due to the fact that the mortality is very low already for pigs weaned at 21/21.5

days in these trials.

### **Effects on Finisher Mortality**

While not as pronounced as in the nursery, there was a general trend toward lower mortality in the finisher phase with later weaned pigs.

Similar to the data for performance, the mortality data suggests an improvement in later weaned pigs when comparing 12, 15, 18 and 21/21.5 day old pigs. However, it is hard to speculate whether the linear response would continue if the weaning age was further extended.

**Table 1. Biologic and economic responses: change/day increase in weaning age.**

<b>Response Criterion</b>	<b>Rate/d increase in wean age</b>	<b>SE</b>
Weaning wt, lb	0.6	0.01
d 42 post-weaning wt, lb	2.0	0.04
d 154 post-weaning wt, lb	3.0	0.18
Weight sold/pig weaned, lb	4.0	0.26
Days to a common slaughter wt	-4.1	0.2
Wean-to-finish cost/cwt, \$	-\$0.20	0.02
Margin/pig weaned, \$	\$0.59	0.05

### **Nursery and Finisher Response Summary**

Increasing weaning age from 12 to 21/21.5 days predictably improved wean-to-finish performance. Not only was the growth improved and mortality decreased, but overall there was more weight sold per pig weaned and a total lower cost per pig wean-to-finish. These trials suggest there is not an economic cost to later weaning, but in fact there is an economic benefit per pig sold. Once again, this data compares 12 to 21.5 day weaning, and we are left to assume that there is some linear effects as weaning ages are increased, the question is at what point do we begin to add cost and lose performance?

### **LATER WEANING AGE: EFFECTS ON SUBSEQUENT SOW PERFORMANCE**

The other part of the performance equation for looking at later weaning is the effects on sow performance. The two studies used in this presentation represent the combined data of over 27,000 farrowing records with weaning records from 8 to 31 days in length, taken from 55 farms.

#### **Wean-to-Estrus**

Wean to estrus interval decreased as lactation length increased. At around 4 weeks weaning, the

wean to estrus interval plateaued and increased slightly by 6 weeks weaning age. Sows returning to estrus within 6 days after weaning were also documented. The highest frequency of sows returning to estrus in 6 days post weaning was the 4 week weaning group. The 1, 2 and 3 week weaning groups were significantly lower than the 4 week group, and there was a slight decreasing trend in the 5 and 6 week weaned group.

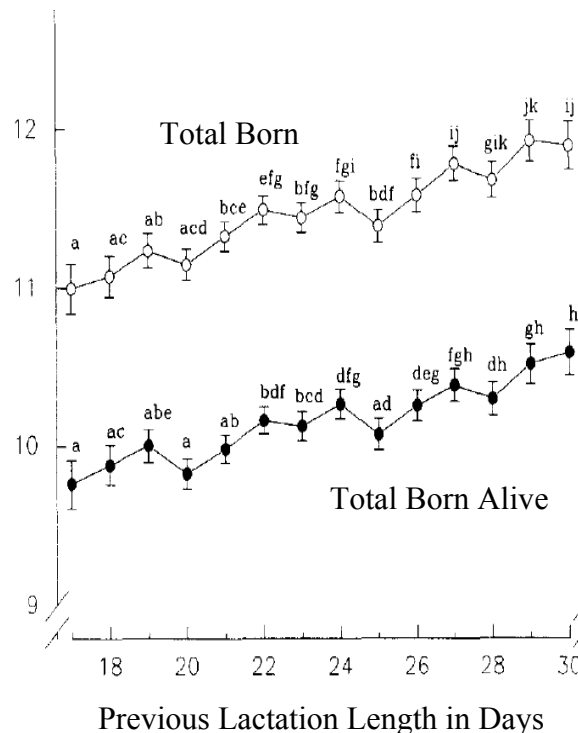
### Farrowing Rate by Lactation Length

Farrowing rates of sows based on previous lactation lengths seemed to show a linear response which trended upwards as previous lactation length was lengthened. Data includes lactation lengths from 8 to 28 days, with the highest farrowing percentage occurring in the last group, the 23 to 28 day group.

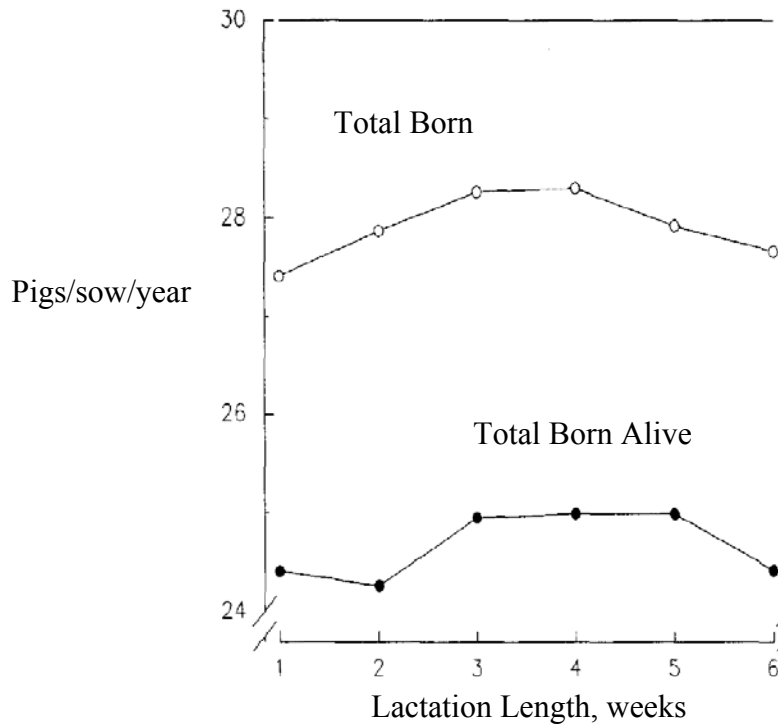
### Pigs per Litter and Weaning Weight

The data indicates a definite increase in total pigs born and total pigs born alive per farrowing based on increased previous lactation length (Figure 1). However, there appears to be a drop in productivity when the previous lactation is extended to 5 and 6 weeks (Figure 2).

**Figure 1. Total born and born alive by previous lactation length. (Xue et al., 1993)**



**Figure 2. Sow productivity. (Xue et al., 1993)**



### **Options to Increase Weaning Age**

There are several options available to producers wanting to increase their weaning age. These include:

1. Reduce the number of litters farrowed per week.
2. Increase the lactation space utilization through decreased loading and cleaning times between farrowings.
3. Increase number of farrowing crates.

### **CONCLUSIONS**

Increasing sow lactation length / weaning age of piglets can have many positive effects for not only the sows, but the weaned pigs as well. Benefits for the sow include decreased wean to estrus interval, increased farrowing rate, increased pigs per litter and increased litter weaning weights. Benefits for the piglets include increased ADG in the nursery and grower-finisher stage and decreased mortality.

When comparing the research results with the results obtained with the Humane Certified Pork Production system, the result in the Humane system fall in line with what is expected. Breeding in the Humane system is excellent with very few problems. Also, litter size has been greater than expected with piglet viability on the sow satisfactory as well. Larger piglets at weaning have

allowed for simpler/less expensive diets during the early phase in the nursery, lowering the cost per pig in the nursery. Grow-finish pigs are growing well, going to market about 10 days ahead of their “cousins” in a conventional system in Quebec.

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