



# *Is It possible to overcome the post weaning growth check?*

**Elizabeth Magowan**  
**AFBI, Hillsborough, Northern Ireland**

## *Introduction*

- ◆ Weaning = stress = low feed intake

  - poorer gut structure

  - reduced performance

- ◆ Stressors:

  - ◆ Removal from mother

  - ◆ New feeding system

  - ◆ Mixing

  - ◆ Unfamiliar environment



## *Aim of study*

*To investigate the separate effects of the main stressors imposed at weaning*

*and*

*Identify strategies to reduce the post weaning growth check*



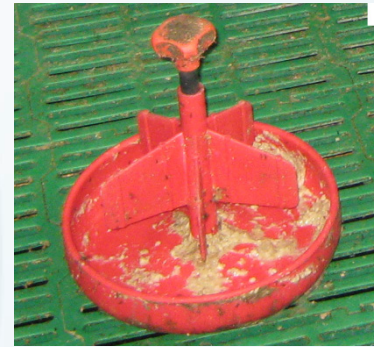
## *Materials and Methods:*

In a  $2 \times 2 \times 2 + 2$  factorial design the 10 treatments were:

## *Materials and Methods:*

First 2:

**Pre weaning  
Creep feed offered:  
In a Hopper  
OR  
On the Floor**



## *Materials and Methods:*

2 x 2 :

**Pre weaning  
Creep feed:  
Hopper  
OR  
Floor**



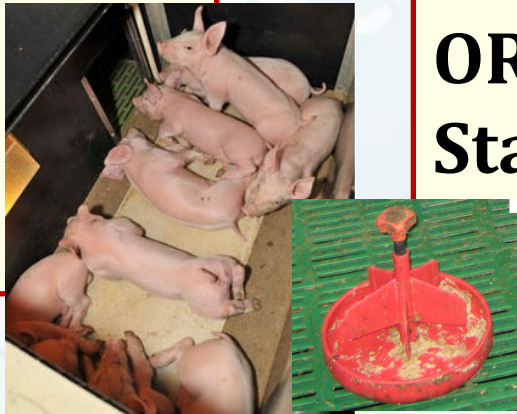
**At weaning pigs:  
Moved  
OR  
Stayed**



# Materials and Methods:

2 x 2 x 2:

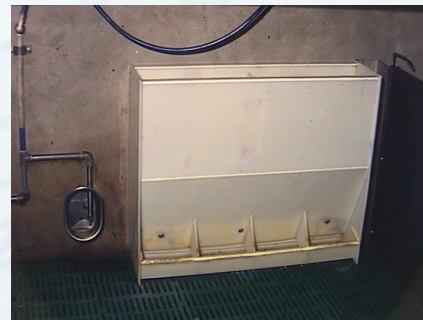
**Pre weaning  
Creep feed:  
Hopper  
OR  
Floor**



**At weaning pigs:  
Moved  
OR  
Stayed**



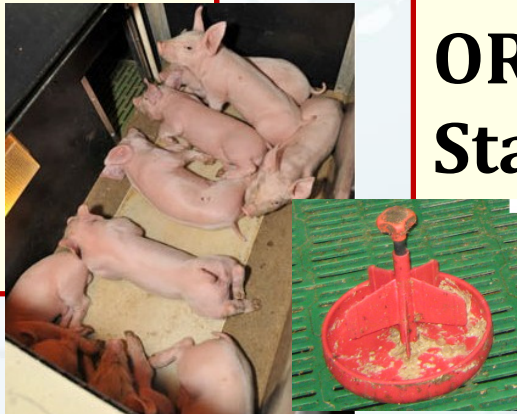
**Post weaning:  
DMS  
OR  
DMS + Hopper**



## Materials and Methods:

2 x 2 x 2 : **ALL PIGS WERE MIXED**

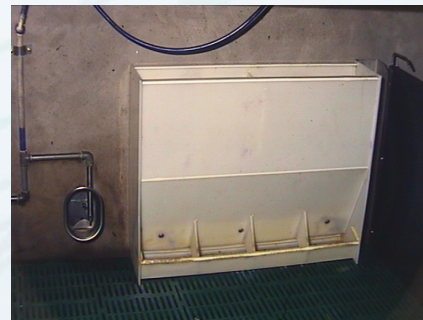
**Pre weaning  
Creep feed:  
Hopper  
OR  
Floor**



**At weaning pigs:  
Moved  
OR  
Stayed**



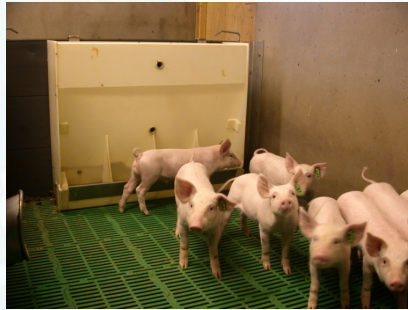
**Post weaning:  
DMS  
OR  
DMS + Hopper**





## *Materials and Methods:*

The + 2 treatments were :



**Pigs were moved, mixed and placed on a DMS but no creep pre weaning: ABRUPT**

**Pigs stayed, were floor fed, not mixed and then moved to a DMS (no creep pre weaning): GRADUAL**



## *Materials and Methods*

- ◆ Pigs weaned at 28 +/-2 days of age
- ◆ 10 pigs per pen
- ◆ Daily intake measured for 8 days post weaning and at 7 and 10 weeks of age
- ◆ Pigs weighed at 5, 6, 7 and 10 weeks of age

## *Effect of feed system pre weaning on feed intake (kg/pen) after weaning:*

	Floor	Hopper	Sem	P Value
<b>Day 1</b>	0.13	0.08	0.018	<0.05
<b>Day 2</b>	0.74	0.71	0.063	NS
<b>Day 3</b>	1.36	1.43	0.074	NS
<b>Day 4</b>	1.77	1.75	0.078	NS

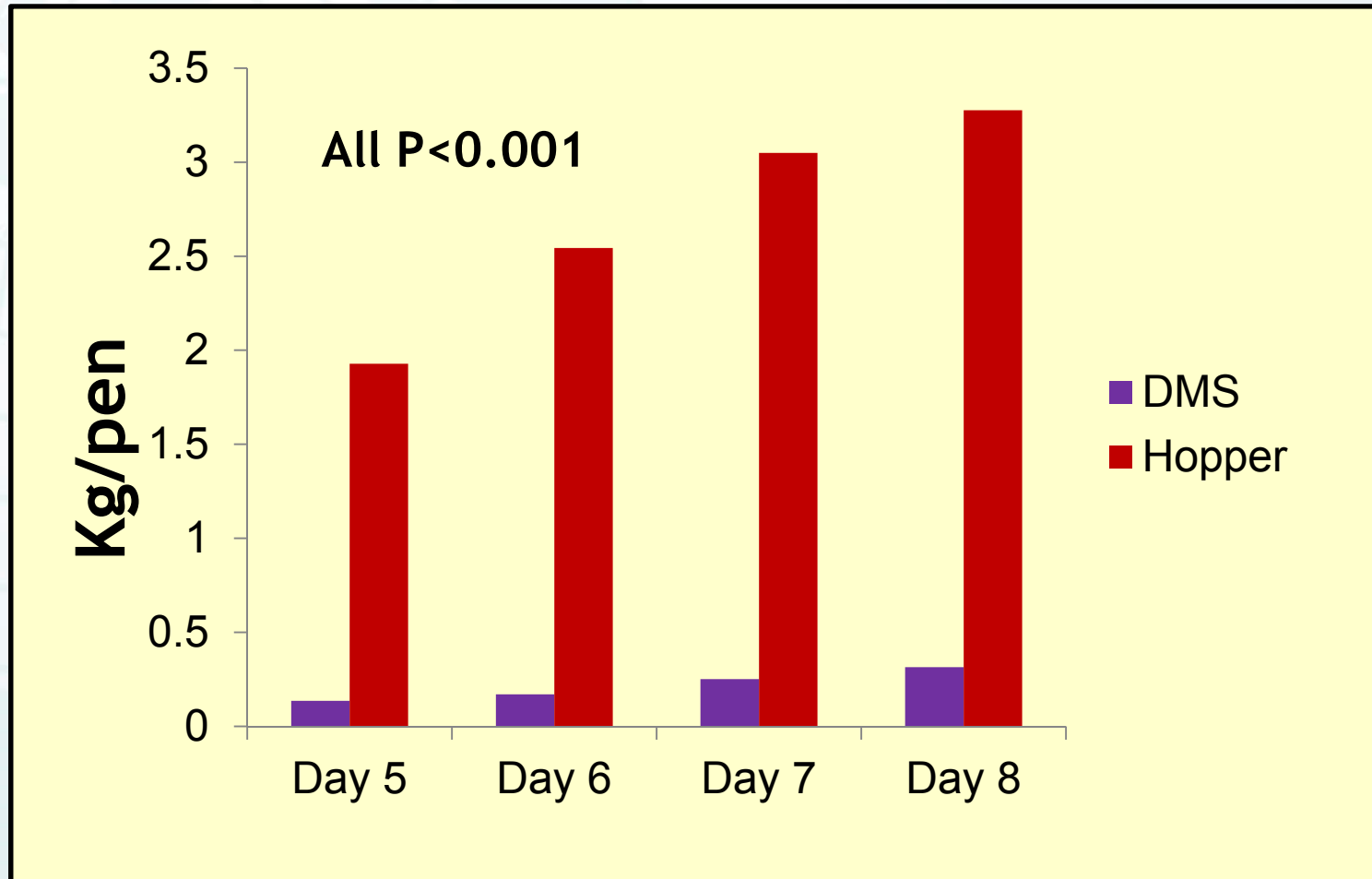
## *Effect of staying in the farrowing pen on feed intake (kg/pen) after weaning*

	<b>Stayed</b>	<b>Moved</b>	<b>SEM</b>	<b>P Value</b>
<b>Day 1</b>	0.12	0.08	0.018	NS
<b>Day 2</b>	0.80	0.65	0.063	NS
<b>Day 3</b>	1.49	1.30	0.074	<0.1
<b>Day 4</b>	1.75	1.77	0.078	NS

## *Effect of feed delivery post weaning on feed intake (kg/pen)*

	<b>DMS</b>	<b>DMS+Hopper</b>	<b>SEM</b>	<b>P Value</b>
<b>Day 1</b>	0.07	0.13	0.017	<0.01
<b>Day 2</b>	0.69	0.75	0.062	NS
<b>Day 3</b>	1.42	1.37	0.076	NS
<b>Day 4</b>	1.72	1.80	0.081	NS
<b>Day 5</b>	1.86	2.06	0.074	<0.1
<b>Day 6</b>	2.57	2.71	0.075	NS
<b>Day 7</b>	3.14	3.30	0.080	NS
<b>Day 8</b>	3.47	3.59	0.083	NS

## *Feed used in the DMS vs the Hopper*



## Effect of few stressors

		2x2x2	Gradual	Abrupt	Sem	P Value
<b>Feed Intake (kg/pen)</b>	<b>Day 1</b>	0.10	0.40	0.14	0.069	<0.05
	<b>Day 2</b>	0.72	1.29	0.72	0.152	<0.1
	<b>Day 3</b>	1.39	1.79	1.26	0.162	NS
	<b>Day 4</b>	1.76	2.40	1.71	0.191	NS
	<b>Day 5</b>	1.96	2.64	1.88	0.192	<0.1
	<b>Day 6</b>	2.64	3.03	2.65	0.179	NS
	<b>Day 7</b>	3.22	3.65	3.50	0.215	NS
	<b>Day 8</b>	3.53	4.31	3.94	0.229	NS
<b>Live weight (kg)</b>	<b>10 wks</b>	29.1	32.0	29.7	0.51	<0.001
<b>Average Daily Gain (g/day)</b>	<b>Wn-7</b>	349	433	373	13.5	<0.001
	<b>Wn-10</b>	479	550	495	12.4	<0.01

## Summary

When pigs were mixed:

- ◆ Floor feeding increased FI immediately after weaning but had no prolonged effect
- ◆ Keeping pigs in the farrowing accommodation had no strong effect on FI
- ◆ But offering feed via a DMS feeder AND a Hopper improved feed intake after weaning with the majority of feed being used from the hopper



## *Summary*

When pigs were NOT mixed AND NOT moved:

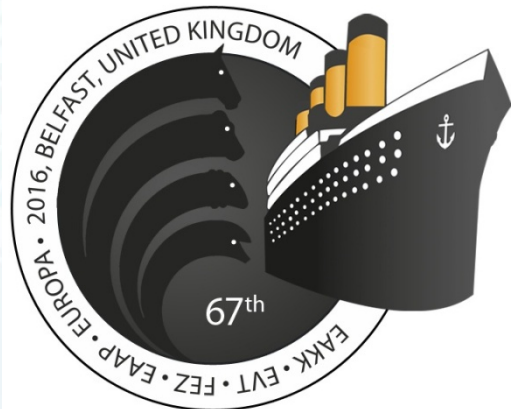
- ◆ Intake 48 hrs after weaning was significantly higher and remained numerically high
- ◆ 10 week weight was 2kg heavier

## *Conclusion*

- ◆ The growth check can be overcome – but commercially impractical
- ◆ It is suggested that mixing is the most stressful factor followed by access to feed/feeder.
- ◆ Offering feed from two different feeder types increased feed intake after weaning but had no impact on growth rate.

# *Acknowledgements*

- ◆ Department of Agriculture and Rural Development for Northern Ireland
- ◆ Pig Regen Ltd
- ◆ Pig unit staff at AFBI Hillsborough



Belfast

# EAAP 2016

European Federation of  
Animal Science Annual  
Meeting – Livestock  
Systems and Science

Belfast

28 August–1 Sept 2016

[www.eaap2016.org](http://www.eaap2016.org)

