

Light Pig Syndrome: What causes it and how can it be overcome?

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Introduction

- ❖ Light pigs grow markedly slower at some point during the production cycle, this can be from birth through to finishing
- ❖ There are several reasons that may lead to this such as piglets born with low birth weights (LBW), post weaning growth check and disease
- ❖ Currently the industry attempts to deal with this problem by remixing pigs based on live weight or removing them from the system



Industry focus

- ❖ Underweight pigs have financial, environmental and welfare implications
- ❖ Those born with LBW often require extra care and in some extreme cases can be removed by the farmer
- ❖ Increased within pen variability leads to problems with optimal diet matching
- ❖ Lightweight pigs often require longer on farms [shown by data analysis in year 1], giving poor pen utilisation
- ❖ Current methods to rectify the problem have limited success



Aim and hypothesis

Aim: To determine if LBW pigs will respond to enhanced nutrition post weaning (9-13 weeks of age)

Hypothesis: LBW pigs will respond to a high nutrient (lysine) specification food, in a manner similar to normal birth weight (NBW) pigs which are subsequently of similar weight due to experiencing a period of limitation between 7-9 weeks of age.



Materials and Method

- ❖ 3 X 2 factorial arrangement of treatments (6 replicates)
 - Treatment 1  weight for age at 9 weeks (LBW, NBW and NBW feed restricted (NBW-FR))
 - Treatment 2  high (1.6 %) or normal (1.25%) lysine food ad lib from 9-13 weeks of age
- ❖ Pigs were selected at birth based on their weight
 - LBW \leq 1.2 kg and
 - NBW \geq 1.6 kg
- ❖ After 24 hours pigs were cross-fostered into litters of 11-12 based on BiW. At 7 weeks of age these were halved to form 6 treatment groups of 5 pigs each

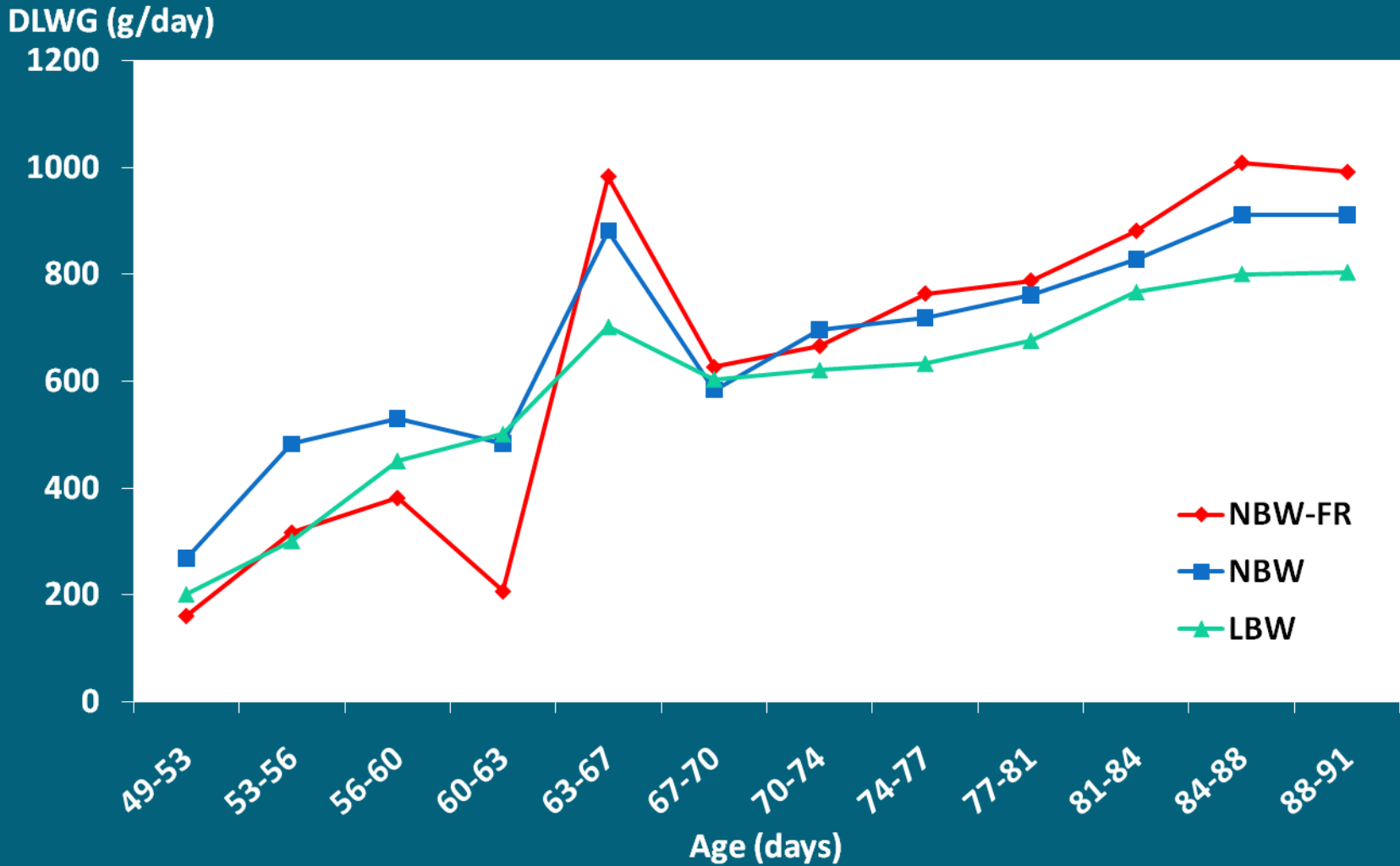
Materials and Method

- ❖ At 7 weeks of age 2 groups of NBW pigs underwent two weeks of feed restriction (600g/day/pig) to bring them to the same weight for age as the LBW pigs
- ❖ After two weeks all groups were fed either a high or a normal lysine diet ad lib for a four week period
- ❖ Twice weekly weights and feed intake were recorded per pen from 7 weeks to 13 weeks of age

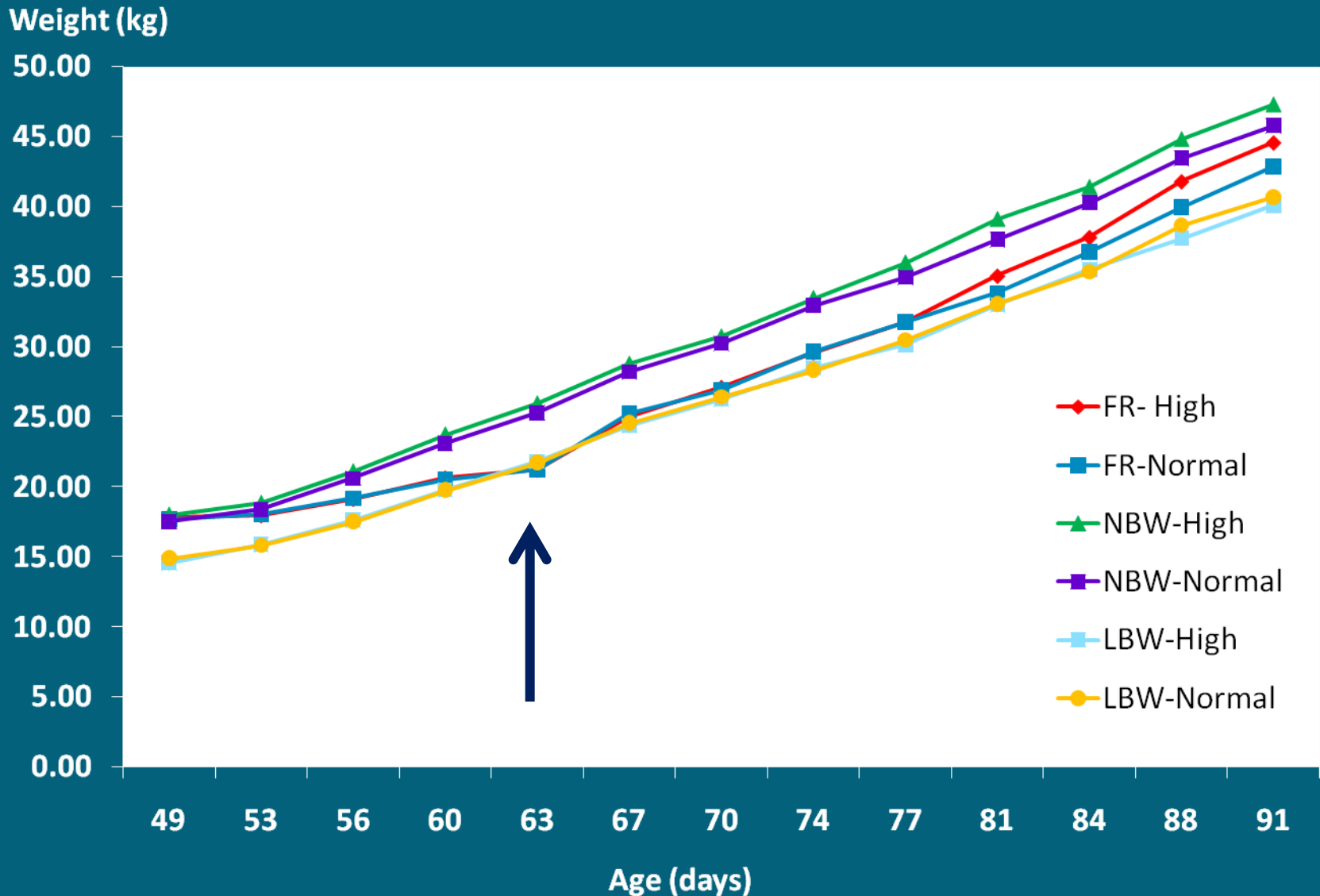


Results

Average daily live weight gain (DLWG) for treatment 1, d 49-91



Average weight of treatment groups from d 49-91



Results

- ❖ LBW pigs grew significantly slower ($P < 0.05$) than NBW and NBW-FR pigs from d 63-91
- ❖ NBW-FR pigs exhibited significantly higher growth rates ($P < 0.05$) than all other pigs from d 63-91
- ❖ For both NBW-FR and NBW pigs, those given the food higher in lysine had increased growth rates although this effect was not significant ($P > 0.05$)
- ❖ There was no significant difference ($P > 0.05$) in the feed intake between treatment groups

Conclusions

- **LBW pigs** did not undergo catch up growth, even with an improved diet, and consistently exhibited the lowest growth rates. However they had a similar FI to other treatment groups (poor FCR)
- **NBW-FR pigs** exhibited higher growth rates post restriction than both NBW and LBW pigs (result of an improved FCR rather than increased FI)

These results suggest it might not be possible to enhance the growth of LBW pigs post weaning

Next steps

❖ Focus on the pre weaning period

Effect of littermate weight and milk supplementation on weaning weight and growth to slaughter of LBW pigs (≤ 1.25 kg)

- Recording milk intake of litters and the frequency with which individual pigs drink supplementary milk

❖ Large scale experiment in a commercial facility (April 2013 onwards)



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