Phase feeding groups of pigs representing high or low weight variation

Dr Elizabeth Magowan[1], Kennan, J[2]. And Beattie, V.E[2].
[1]Agri-Food and Bioscience Institute, Northern Ireland;
[2] Devenish Nutrition Ltd., Belfast;

Introduction

- As pigs grow their nutritional requirements change
- The diet should therefore also change on a regular basis.
- The practice of ‘phase’ feeding is increasingly being adopted throughout Europe to minimise nutrient over and/or undersupply
- Between 40 and 120kg, producers are known to change the diet at least twice and sometimes up to 5 times.

Introduction

- However, pigs are commonly transferred to the finishing pig accommodation at the same age
- The average weight of the group could be 40kg **BUT** the weight of individual pigs in the group can range from 25 to 55 kg
- Feed systems to feed individual pigs in the group different levels of nutrients are not yet affordable
- Grouping pigs into similar weight groups at the start of the finishing period could help to ensure the correct diet is offered
- **BUT** this is laborious

Aim

- To assess finishing pig performance and variation in pig weight and growth rate when
  - Pigs are in groups with a large or small weight variation AND
  - Pigs are offered a single diet or two phase dietary regime

Materials and Methods

- 640 pigs (PIC337 x (LRxLW)) were used over 8 time periods
- Pigs were penned in groups of 20 which were balanced for gender and weight from 12 weeks of age to finish (120kg).
- 2 x 2 factorial design:
  - 2 dietary regimes: 'Single' diet OR 'Phased' diet between 12 wks and finish
  - 2 levels of weight variation in the pen creating:

    'Uniform' (SD 1.7kg) or 'Mixed' (SD 3.5kg) weight groups

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Composition of diets (g/kg)

	Phase 1	Phase 2	Single
Age offered:	12-18 wks	18-24 wks	12-24 wks
Barley	323	391	357
Wheat	400	400	400
Soya	216	161	188
Soya Oil	33.8	21.3	27.5
Mins and Vits	25	25	25
Lysine	2.7	1.9	2.3

Formulated analysis

	Phase 1	Phase 2	Single
Age offered:	12-18 wks	18-24 wks	12-24 wks
Crude Protein (%)	18	16	17
Lysine (g/kg)	11.0	9.0	10.0
DE (MJ/kg)	14.2	13.8	14.0

Materials and Methods

- Individual pigs were weighed at 12, 15, 18, 21 and 24 weeks of age
- Pen feed intake and FCR was also recorded at these time periods
- The standard deviation and coefficient of variation for pig weight and average daily gain was calculated
- Data was analysed using Analysis of Variance in Genstat V10.

Results – Effect of group weight variation

	Mixed	Uniform	SED	P Value
12 wk (kg)	41.1	40.7	0.75	NS
18 wk (kg)	74.7	74.0	1.01	NS
Finish (kg)	114.5	115.1	1.64	NS
12wks – finish:				
ADG (g/kg)	903	907	17.7	NS
ADFI (g/kg)	2210	2166	43.7	NS
FCR	2.45	2.39	0.033	0.08

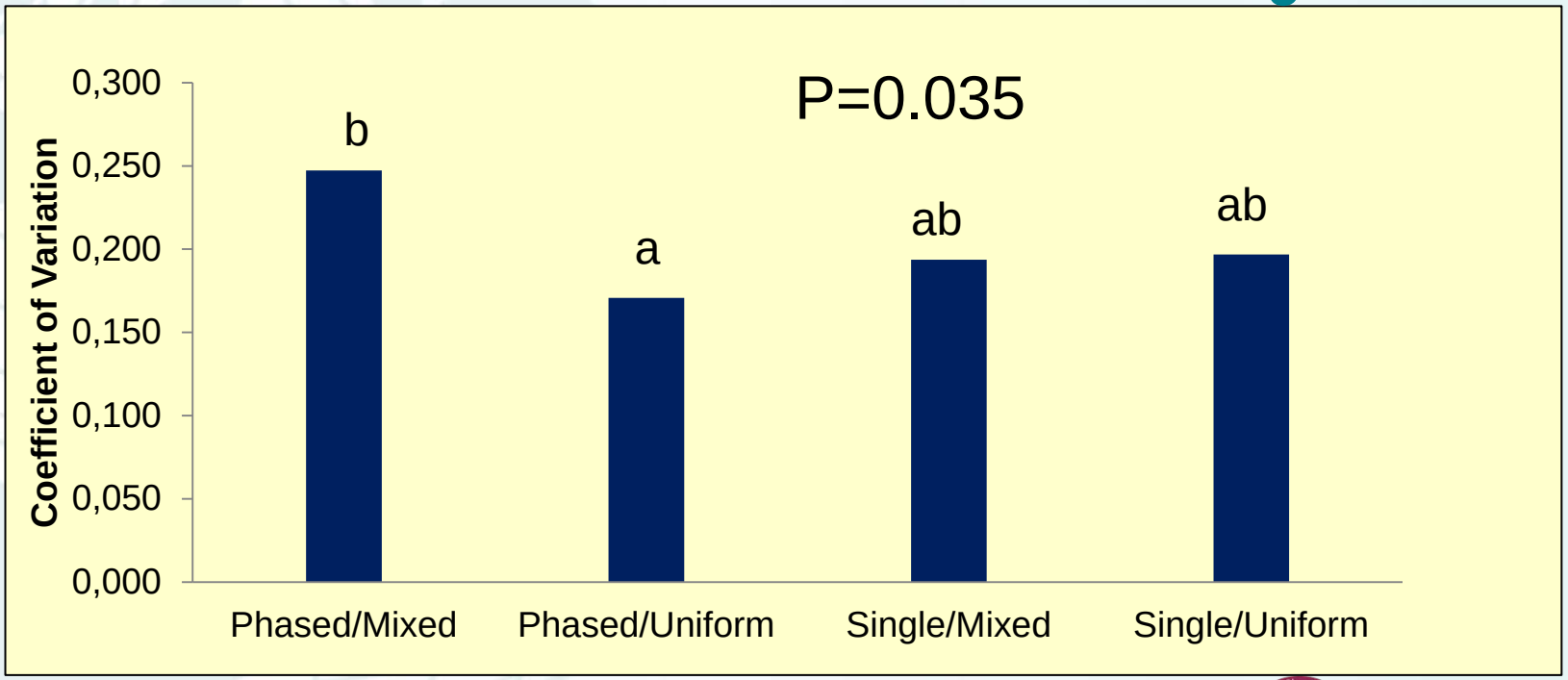
NS interaction for performance data

Results – Effect of Dietary regime

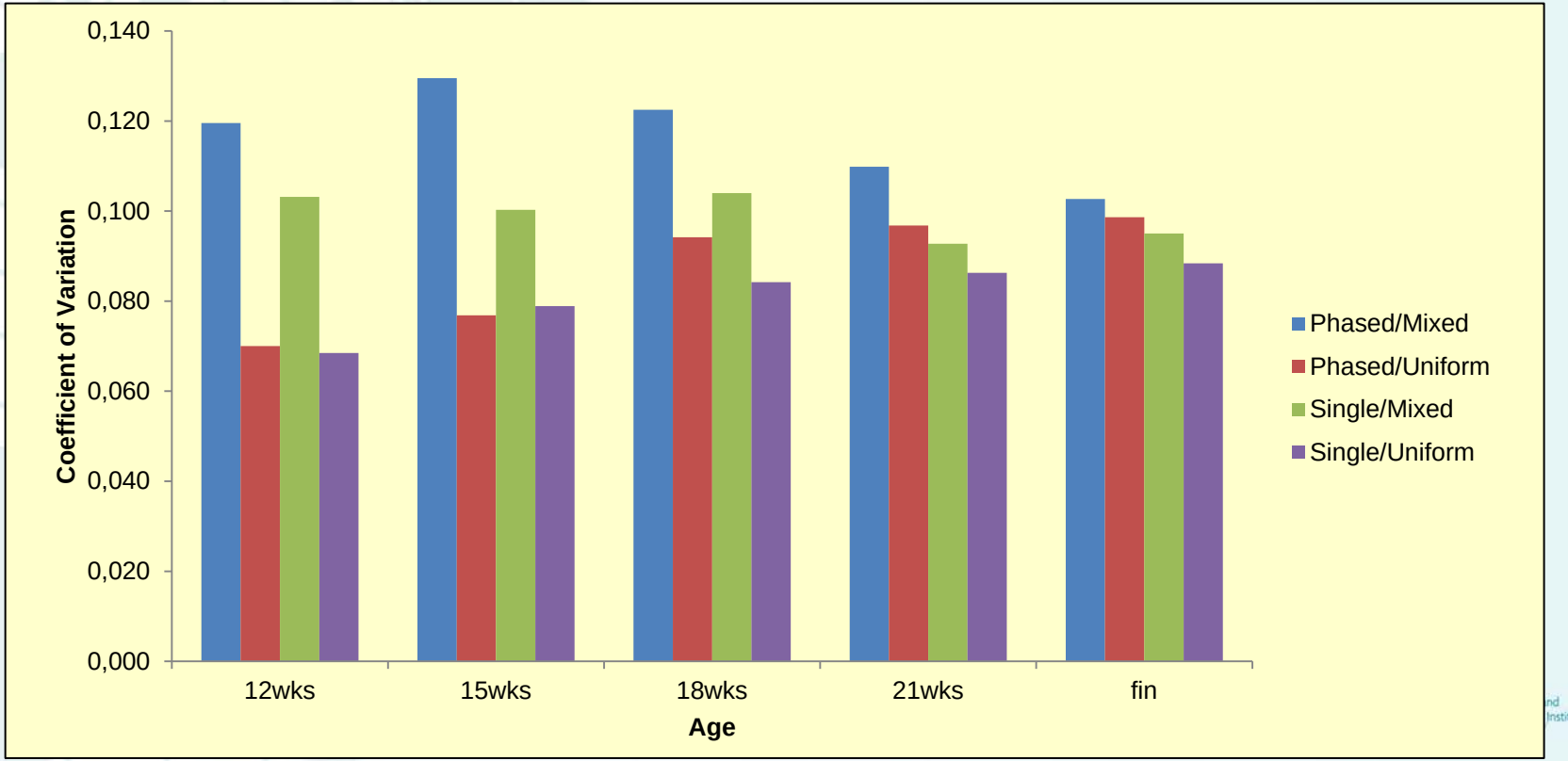
	Phased	Single	SED	P Value
12 wk (kg)	40.9	40.9	0.75	NS
18 wk (kg)	74.3	74.4	1.01	NS
Finish (kg)	114.6	115.0	1.64	NS
12wks – finish:				
ADG (g/kg)	902	909	17.7	NS
ADFI (g/kg)	2183	2192	43.7	NS
FCR	2.42	2.41	0.033	NS

NS interaction for performance data

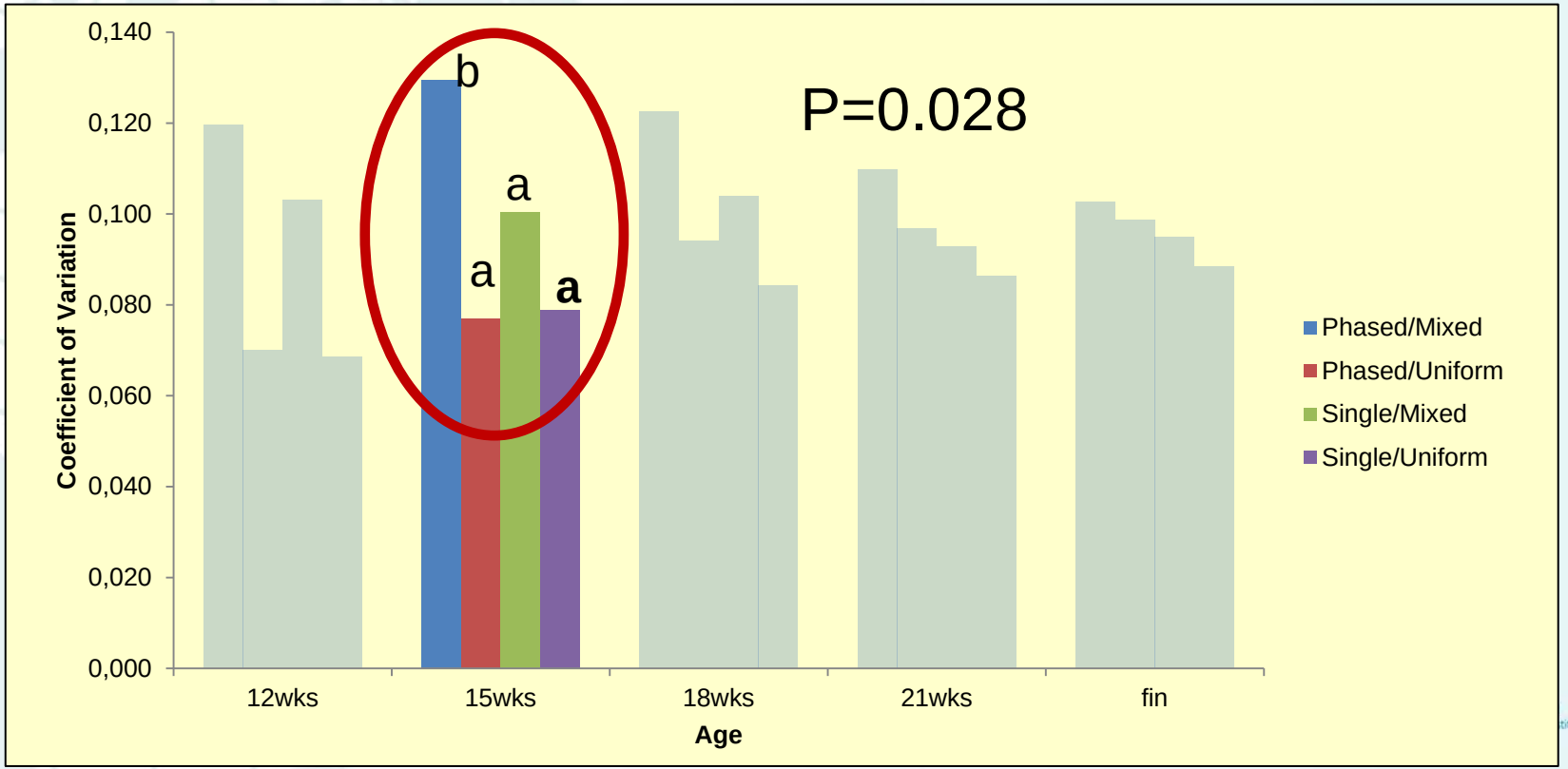
Interaction – Variation in growth rate between 12 and 15 weeks of age



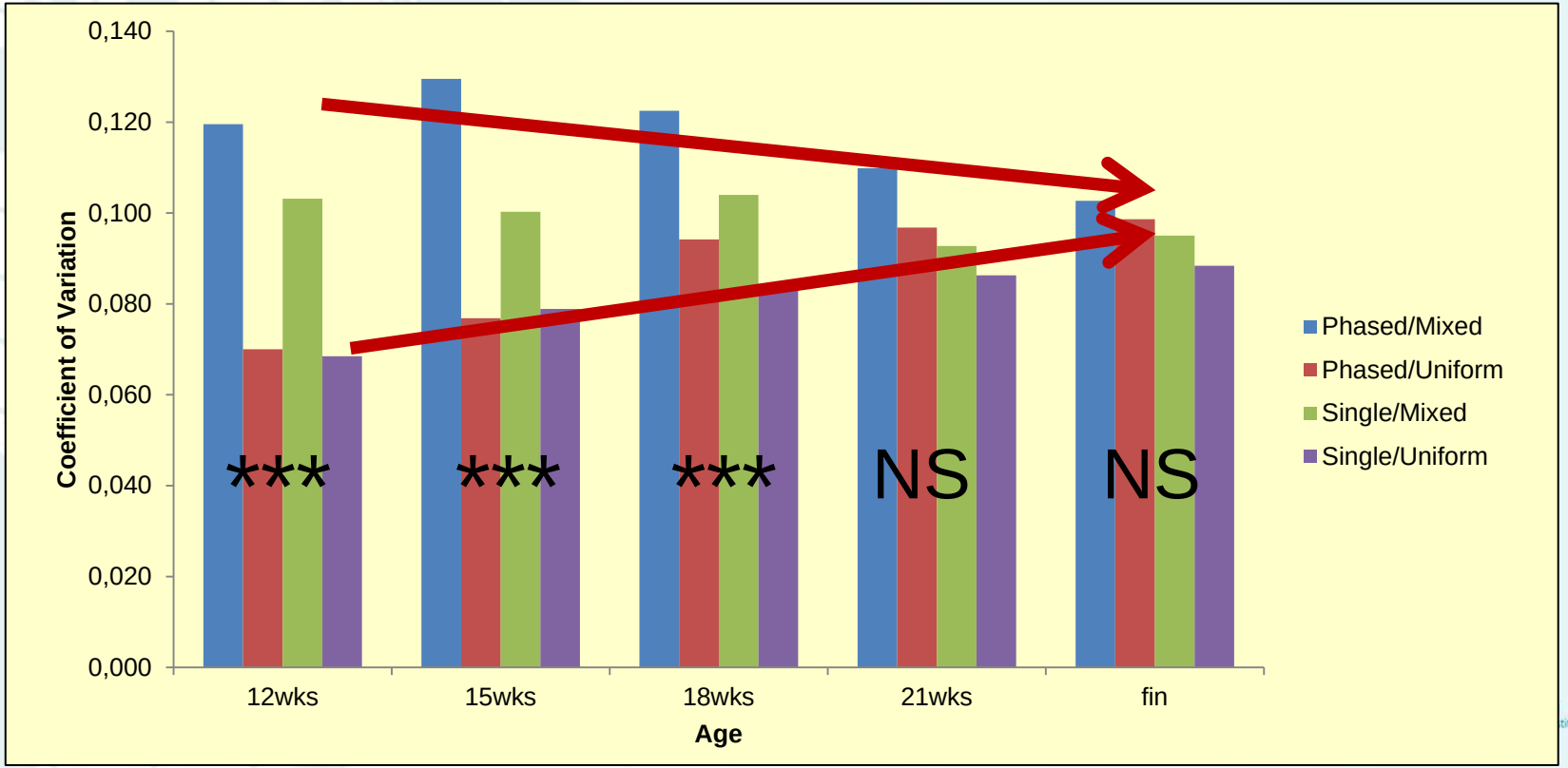
Coefficient of Variation in weight at different ages



Interaction – Variation in weight at 15 weeks of age



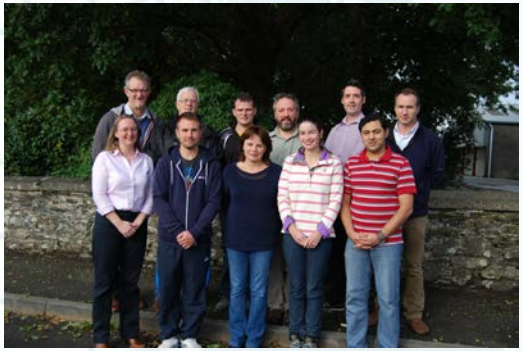
Mixed Vs Uniform weight group effect:



Conclusion

- Offering a single diet or diets in a phased manner did not affect average pig performance
- Average pig performance was also similar in mixed and uniform weight groups
- When a mixed weight pen of pigs was offered the ‘phased’ regime the variation in daily gain and 15 week weight increased.
- However effects were not present as the finishing stage progressed
- Pen weight variation converged in all treatments to a ‘variation level’ of approximately 10%

Acknowledgements



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