PIGS 2022

THE OPPORTUNITIES

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PIGWORLD — THE VOICE OF THE BRITISH PIG INDUSTRY

AHDB
PORK

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zoetis

Mick Hazzledine

Premier Nutrition

How does the nutritionist handle farm data?

- Build a picture
  - Is the data accurate? How is it calculated? How is feed use calculated (bin estimates)? How is mortality handled in the data? Number of bins? Sexed?
  - What else do we know about the farm? Stocking density, feed wastage.
  - What is the value of growth rate – heavier pigs economic – abattoir contract
  - What time of year is it?
  - Genetics and health
- Model…..and reflect!!

Premier Pig Performance Simulator vs 19

Input data

Weight start (kg)	40
End Weight (kg)	110
Growth rate target (g/day)'	Average
Sex	Boar/gilt
Dam line	Outdoor
Feed form	Pellets
Draughts, wall/floor insul.	Not insulated, not draughty
Floor in lying area	Deep straw
Pen type	Yards
House temp C	16
Mortality (%)	3

	Feed price (£/t)	NE (MJ/kg)	Protein (%)	Phos (%)
Feed NE (MJ/kg) - 1	210	9.8	16.2	0.45
Feed NE (MJ/kg) - 2	195	9.6	14.9	0.4
Feed NE (MJ/kg) - 3	185	9.4	13.9	0.36
Change weight 1 (kg)	55			
Change weight 2 (kg)	80			
Overhead cost (p/day)	12			
Weaner price (£/head)	50			
Pigs placed	2000	Clean down (d)	20	
Base Price (p/kg DW)	156	Deductions (£/pi	2.5	
Av DW (kg)	83	Transport (£/pig	2	

BaconCheck price curv	x3	x2	x	C
	0	-0.0014242	0.23073	-7.7857
Model integrity	*valid*			

Growth estimate

Feed intake requirement (kg)	196
Intake (kg/day)	2.57
Intake (+wastage, kg/day)	2.64
Daily gain (g/day)	919
FCR	2.80
FCR (+ wastage)	2.87
P2 (mm)	11.6
KO (%)	75.3

Feed (inc wastage)	Feed 1	Feed 2	Feed 3
Days	17	27	32
Feed (kg/pig)	34	68	99
Feed (t/batch)	67	135	198

Digestible lysine required (%)"	Feed 1	Feed 2	Feed 3
	0.95	0.88	0.79
" average of requirement for period +10% for population			

Economic	Fixed price	Contract***
Pig value (£/pig)	125.3	124.7
Feed costs (£/pig)	38.62	38.62
Margin over feed and weaner (£/pig)	36.67	36.04
Overhead costs (£/pig)	9.12	9.12
Margin over feed,wean, O.H (£/pig)	27.55	26.92
Feed cost/kg DW at end weight	86.5	86.5
""contract model limit +/- 7kg DW from grading sheet average D25		

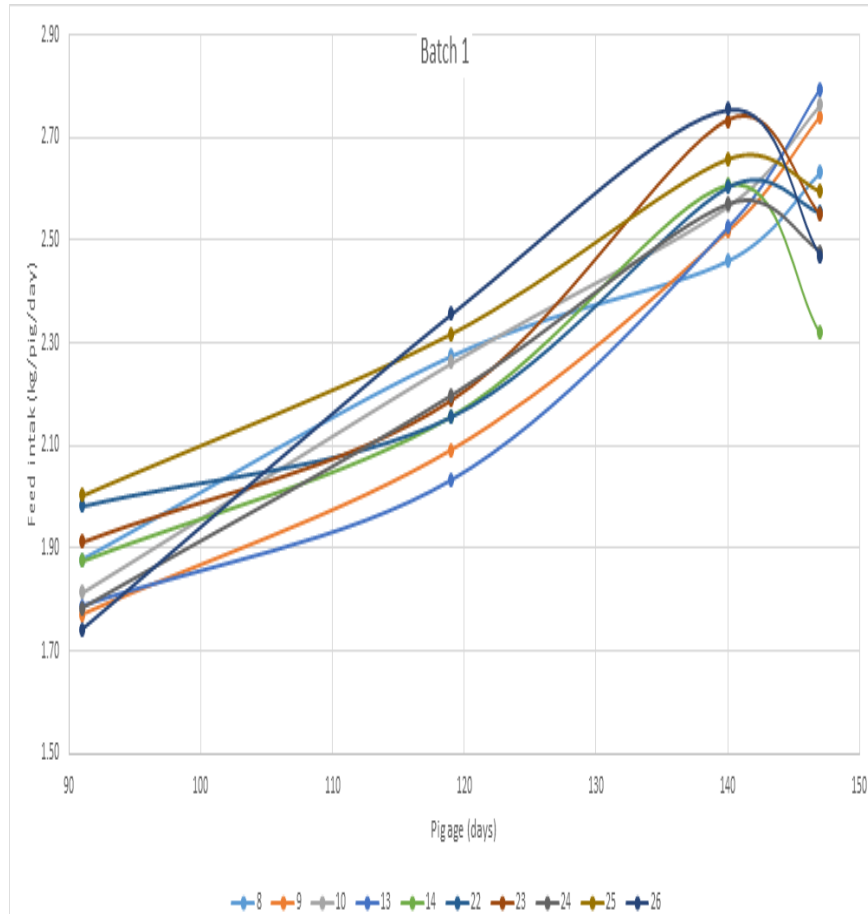| Environmental	Excreted kg/pig	exc. kg/pp/annum	% retained
N	2.46	9.3	47.6
P	0.44	1.7	43.5

But how good are the models?

- There are >20 constants to "grow the pig" – all have a degree of error
- Growth rate and feed intake curves are **critical** to determining nutrient requirements
- Disease we can only model indirectly (ie using growth, intake)
- Population modelling in its infancy (10% more for population cf individual)
- Good for the "bigger picture", optimum slaughter weight

- **But much better if driven by real farm data**
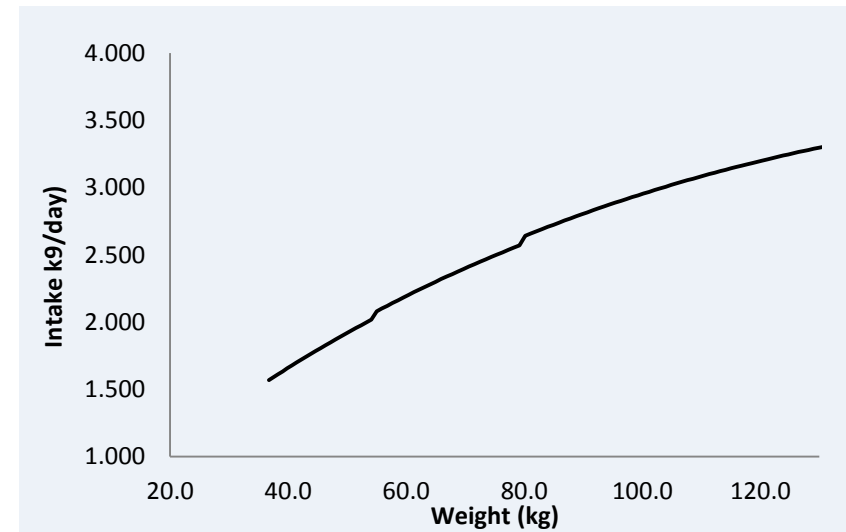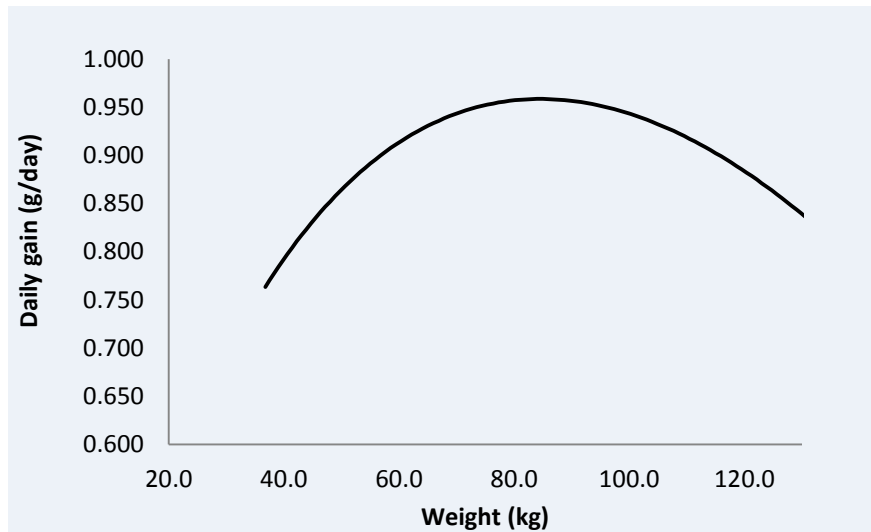
Example
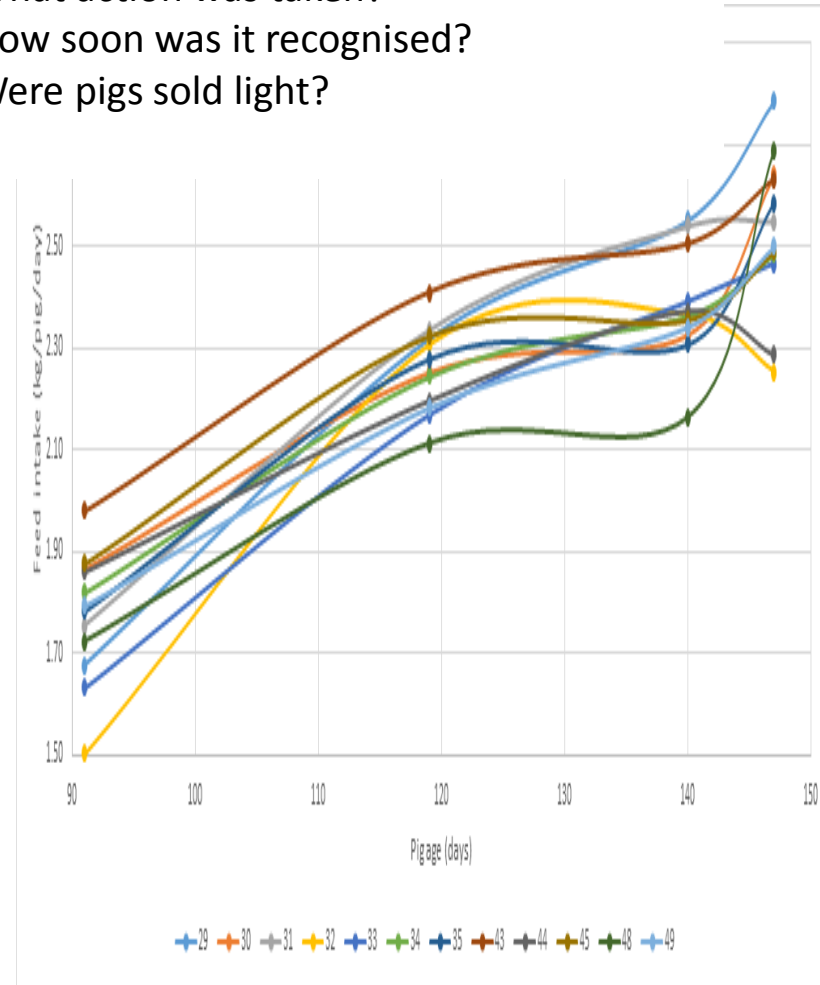## Feed intake on subsequent batches of finishing pigs

Batch 1

Batch 2
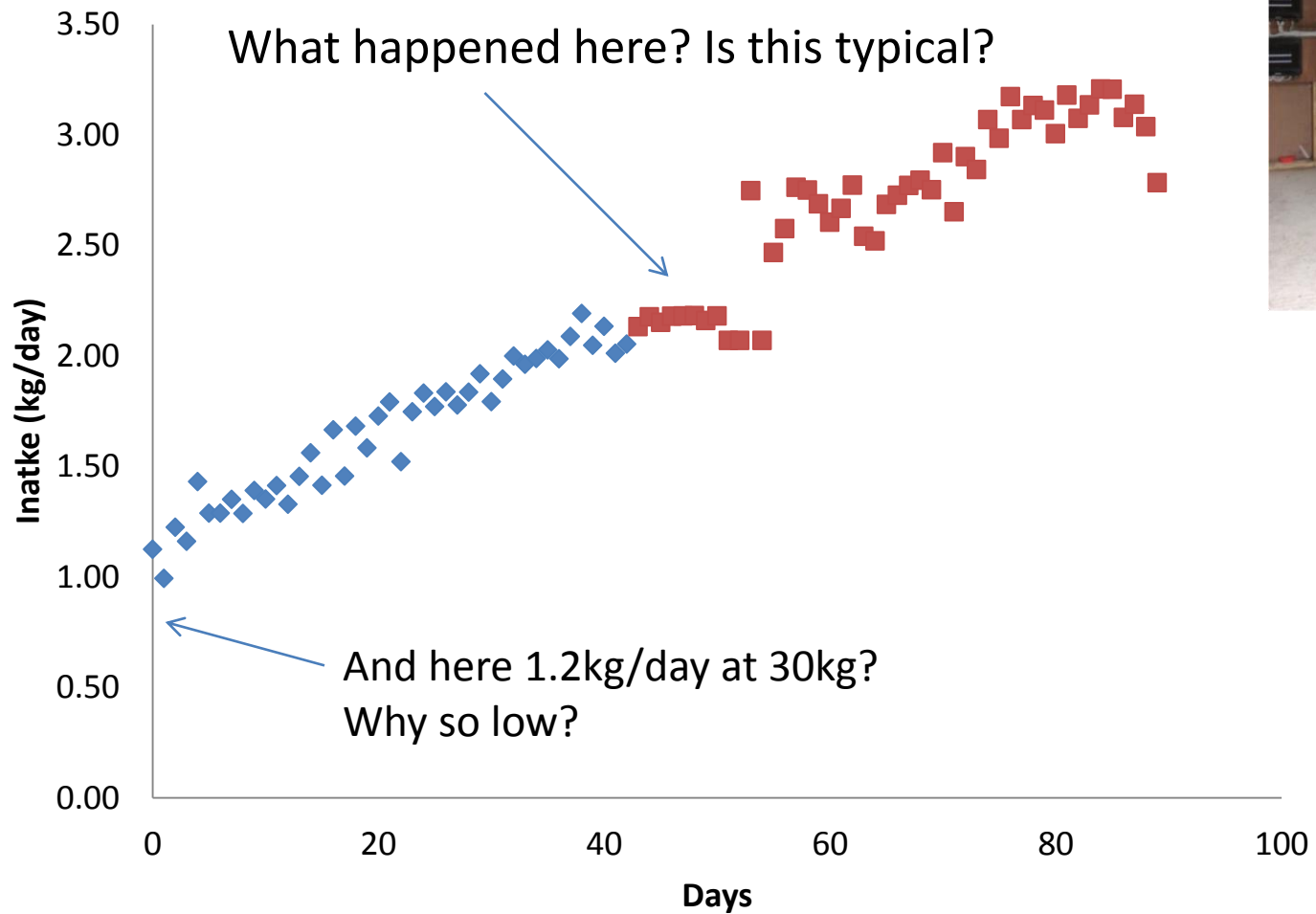Why is feed intake not increasing?
What action was taken?
How soon was it recognised?
Were pigs sold light?

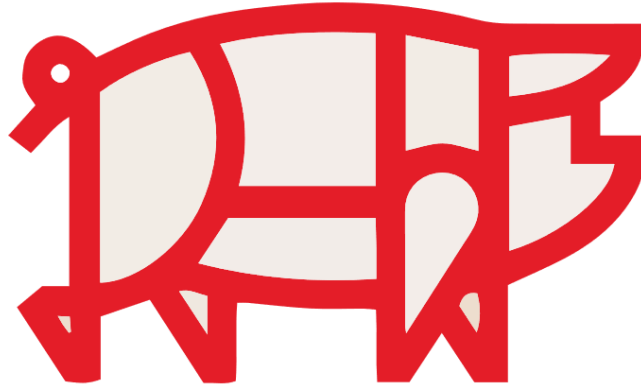Source Dominic Charman AHDB

Example
Cranswick trial farm

What would the nutritionist like to know and how would like to receive the data?

- Daily pen records of feed (and water), mortality
- Weight estimates on selected pens (individual weights very useful particularly approaching slaughter weight).
- House temperature
- Farm comments – differences to norm, health
- Log in and collect data – preferably .xls, graphical.
- Automatic amber, red alert when intake or other parameters outside of pre-determined limits by mail.
- Historical averaging to update norm
- (Link to abattoir returns and grading analysis)
- **Model then becomes farm specific and increasingly accurate over time**

So what is all this information worth?

- Obviously depends upon the starting point
  1. Basic nutrition and production
     - Refining feeding programmes and reducing nutrient excess £5-10/t (0.1% SID lysine £8/t)
     - Higher physical performance? More marginal as feeds often over-specified (safety margins)
     - Reduce N and P excretion
     - Optimum slaughter weight (marginal feed cost 80p/kg DW)
  2. Troubleshooting/early detection
     - Your guess is as good as mine!
  3. Research
     - Additives, concepts, sire-lines
     - Third party income (£10-20k gross/trial if well replicated)
- To what extent are the results from this farm applicable to other farms under the same ownership?
- Feed blending allows much quicker implementation of nutritional changes (and feeding of different sexes within a house)

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