



Effect of feed form and delivery on the growth, feed efficiency and carcass quality of grow-finisher pigs

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Introduction

- ~70% of pigs in Ireland are liquid-fed
- Units built when liquid whey and skim milk were available
- Mixed with a balancer to provide a cheap balanced diet

But

- No longer available to the same extent and/or quality
- Dry feeding systems now as labour saving as liquid feeding

Introduction

- Pelletizing improves FCE:
 - ↑ nutrient digestibility
 - ↑ nutrient density per unit volume
 - ↓ feed wastage during feeding
- And flow-ability
- Limited, good quality, information available comparing liquid, dry and wet/dry feed delivery systems, in controlled conditions

Objective

Compare dry, wet/dry and liquid feeding (Delivery) using a common diet in meal or pelleted form (Form) on the growth, feed efficiency and carcass quality of grow-finisher pigs



Materials and Methods

Meal

Pellets

Dry

Wet/Dry

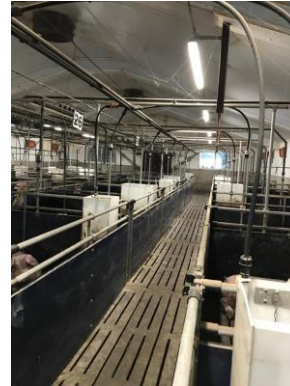
Liquid

Dry

Wet/Dry

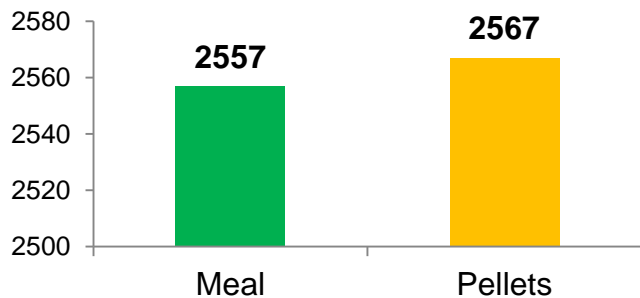
Liquid

Diet: 9.8MJ NE/kg, 10g SID lysine /kg – Start weight: ~ 33.6kg – Experiment duration: 62 days

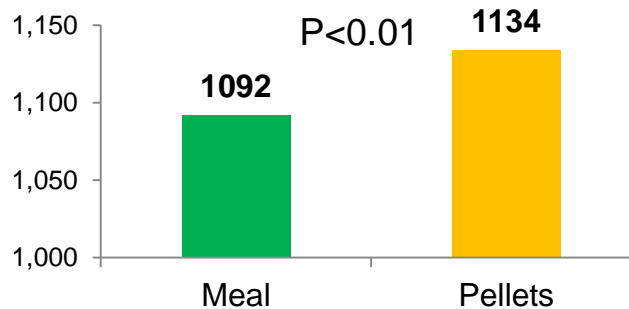


Results: Feed Form

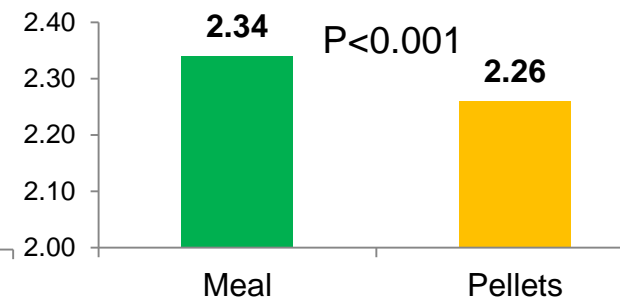
ADFI (g/day)



ADG (g/day)

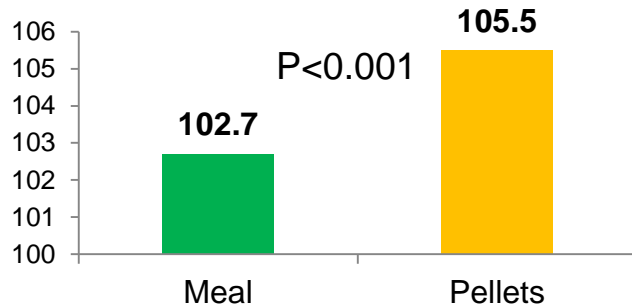


FCR (g/g)

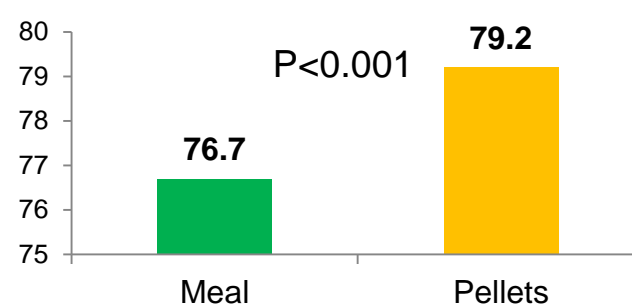


Results: Feed Form

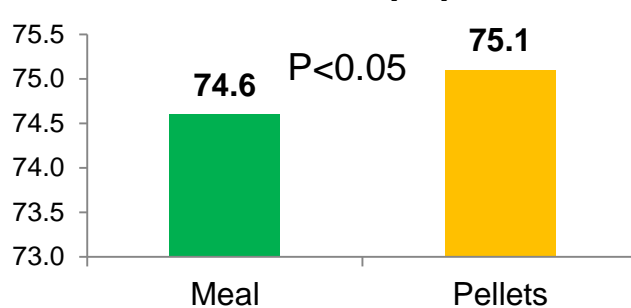
Live-weight (Kg)



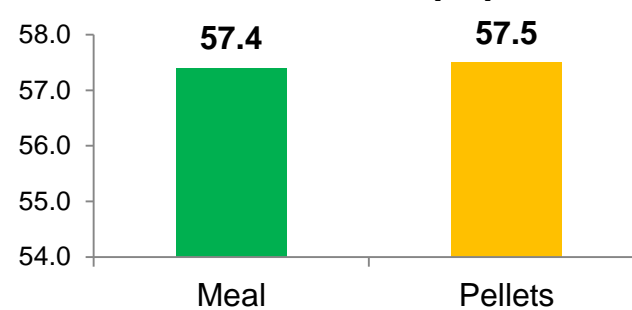
Carcass weight (kg)



Kill out (%)



Lean meat (%)



Cost Benefit of Pelleting

1.To a target slaughter weight of 105kg

	Meal	Pellet
FCR	2.34	2.26
Initial wt (kg)	33.6	33.7
Kill Out (%)	74.6	75.1
Final weight (kg)	105	105
Feed price (€/tonne)	262	262
Total Feed/ pig (Kg)	167.08	161.14
Total feed cost (€/pig)	43.77	42.22
Price per kg DW (€/kg)	1.40	1.40
Carcass weight increase (kg)	55.48	55.94
Value of increased Carcass weight (€)	77.67	78.31
Margin over feed (€/pig)	33.90	36.10

Cost Benefit of Pelleting

1. To a target slaughter weight of 105kg

	Meal	Pellet
Final weight (kg)	105	105
Margin over feed (€/pig)	33.90	36.10
Benefit of feeding pellets (€/pig)	2.20	
Margin over feed (€/tonne of feed)	202.91	224.91
Benefit of feeding pellets (€/tonne of feed)	22.00	



€21/T

Cost Benefit –

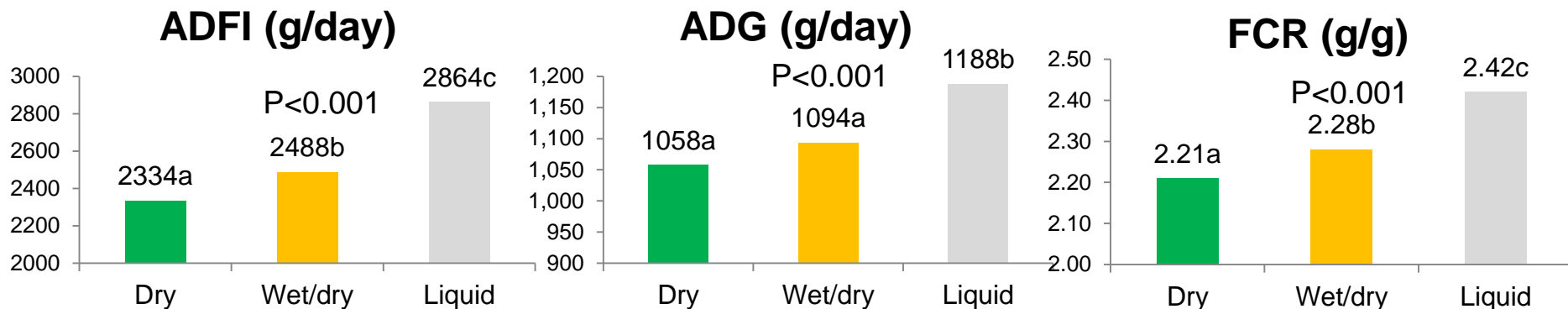
2. Finishing over a fixed number of days

	Meal	Pellet
Final weight (kg)	102.7	105.5
Margin over feed for period (€/pig)	32.91	36.33
Benefit of feeding pellets (€/pig)	3.42	
Margin over feed (€/tonne of feed)	203.53	206.66
Benefit of feeding pellets (€/tonne of feed)	20.20	



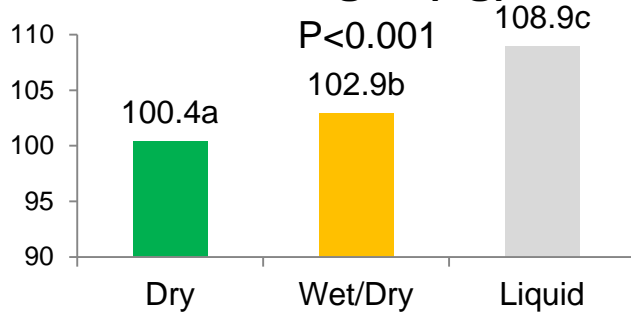
€20/T

Results: Feed Delivery

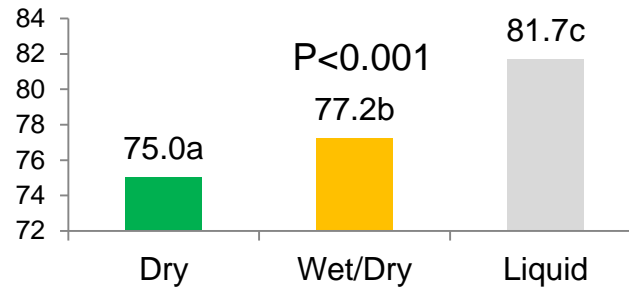


Results: Feed Delivery

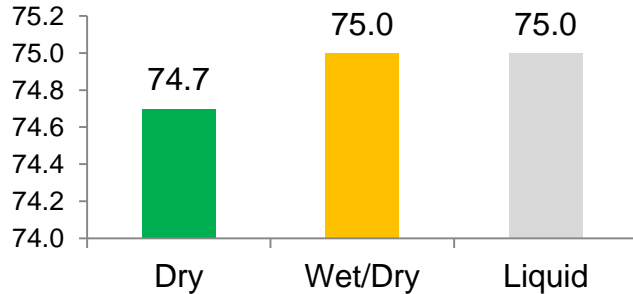
Live-weight (kg)



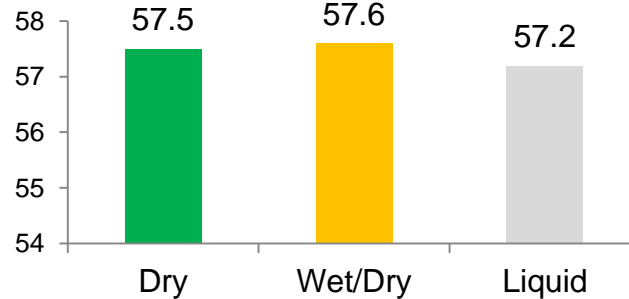
Carcass weight (kg)



Kill out (%)



Lean meat (%)



Cost Benefit –

1.To a target slaughter weight of 105kg

	Dry	Wet/Dry	Liquid
Final weight (kg)	105	105	105
Margin over feed for period (€/pig)	36.44	35.59	32.98
Benefit of dry over liquid feeding (€/pig)	3.47		
Benefit of wet/dry over liquid feeding (€/pig)		2.62	

Cost Benefit –

2. Finishing over a fixed number of days

	Dry	Wet/Dry	Liquid
Final weight (kg)	100.4	102.9	108.9
Margin over feed for period (€/pig)	34.30	34.64	34.60
Benefit of dry over liquid feeding (€/pig)	-0.30		
Benefit of wet/dry over liquid feeding (€/pig)		0.04	

Conclusions

- Pelleting increased growth, improved FCE and increased KO%
- Liquid feeding increased feed intake and growth to slaughter but worsened FCE
- Dry feeding resulted in better FCE compared with all other methods of feed delivery, especially liquid feeding

Industry application



If Dry or Wet/Dry feeding:

Feeding a pelleted diet is worth €20-21/tonne of feed

If finishing pigs to a target slaughter weight and space is not an issue:

Dry and Wet/Dry feeding will increase margin over feed by €3.47 and €2.62 /pig, respectively

If space is an issue and maximising growth is essential:

Liquid feeding will increase margin over feed per pig by €0.30/pig

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