



Protein requirements in finishing immunocastrated male pigs

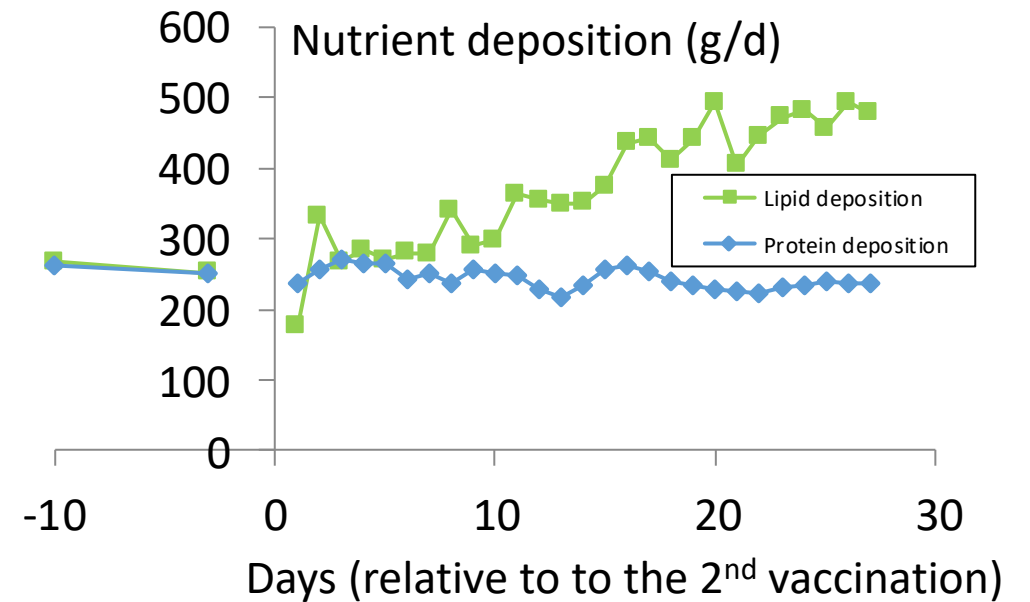
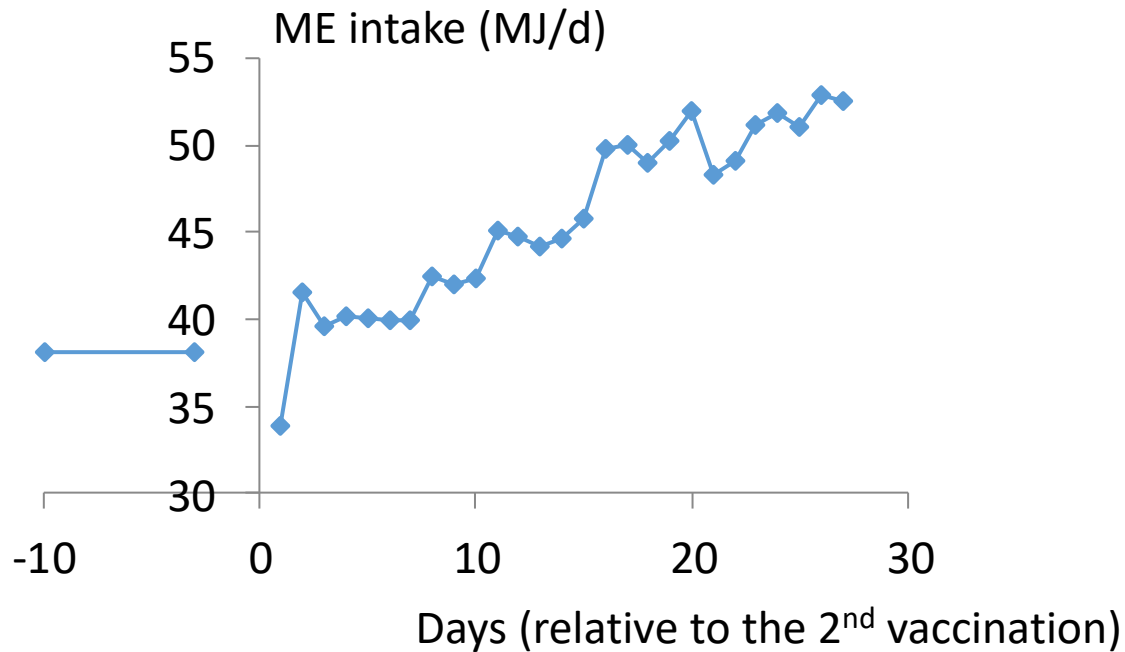
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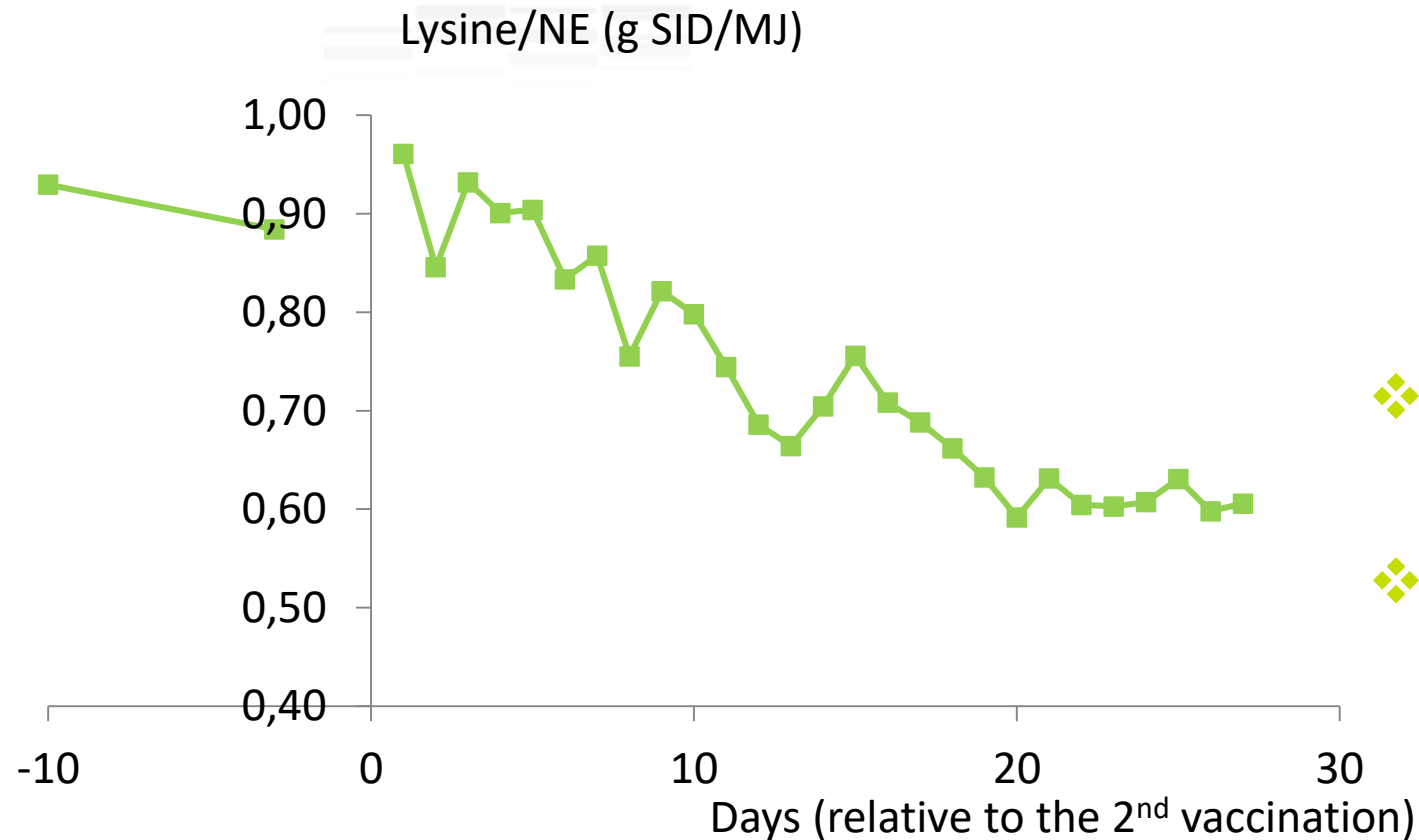
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Changes in feed intake and nutrient utilization in immunocastrated male pigs

- ❖ Immunocastration: 2 step vaccine against GnRH to avoid boar taint in entire male pigs
- ❖ Consequences on feed intake and metabolism:



Kinetics of lysine requirements after the second vaccination



- ❖ Function of growth potential
- ❖ Feed intake level and kinetics of adaptation

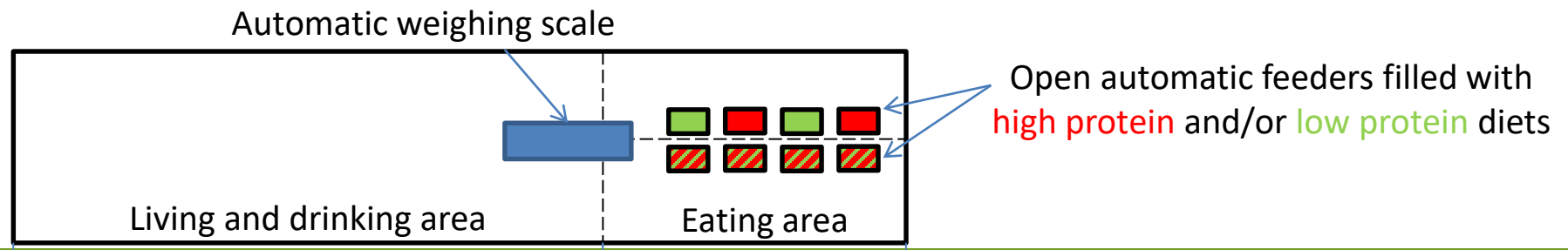
How to adapt the diet to the changes in metabolism of immunocastrated pigs?

Experimental diets

	Low protein diet	High protein diet
Wheat+Corn+Barley	82.17	66.08
Wheat bran	12.01	5.51
Soybean meal		21.18
Rapeseed meal		0.29
Oil		1.00
Synthetic AA	0.20	0.49
Vitamins and minerals, molasses	5.62	5.45
CP (%)	11.09	18.99
NE (MJ/kg)	9.71	9.39
Lys/NE (g SID/MJ)	0.40	0.96

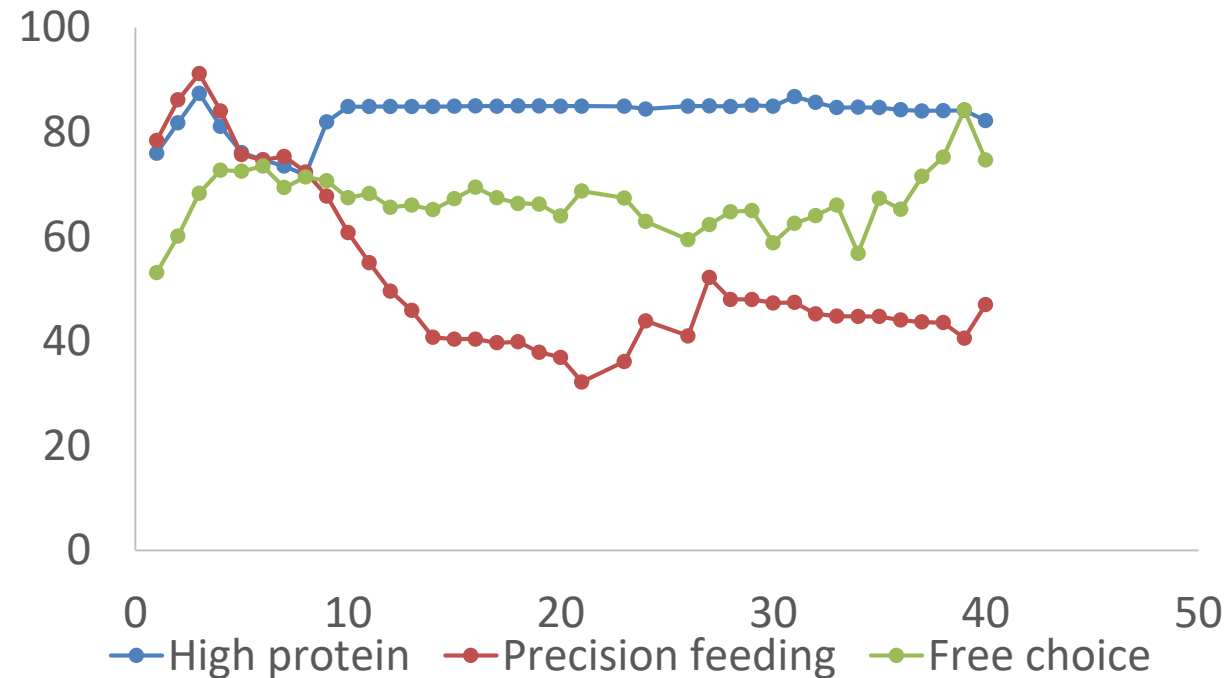
Experimental design

- ❖ 75 male pigs Pietrain × (Large White × Landrace)
 - ❖ First vaccination Improvac at entrance in fattening building (~30 kg BW)
 - ❖ Second vaccination (V2) at ~70 kg BW
- ❖ From V2 to slaughter, 3 treatment groups:
 - ❖ « High protein » group:
 - ❖ Individual mixture of the 2 diets, based on feed intake and growth measured at V2
 - ❖ « Precision feeding » group:
 - ❖ Daily calculation of the proportions of the 2 diets, based on growth potential measured at V2 and daily feed intake
 - ❖ « Free choice » group:
 - ❖ 2 diets available: animals can make their own mixture



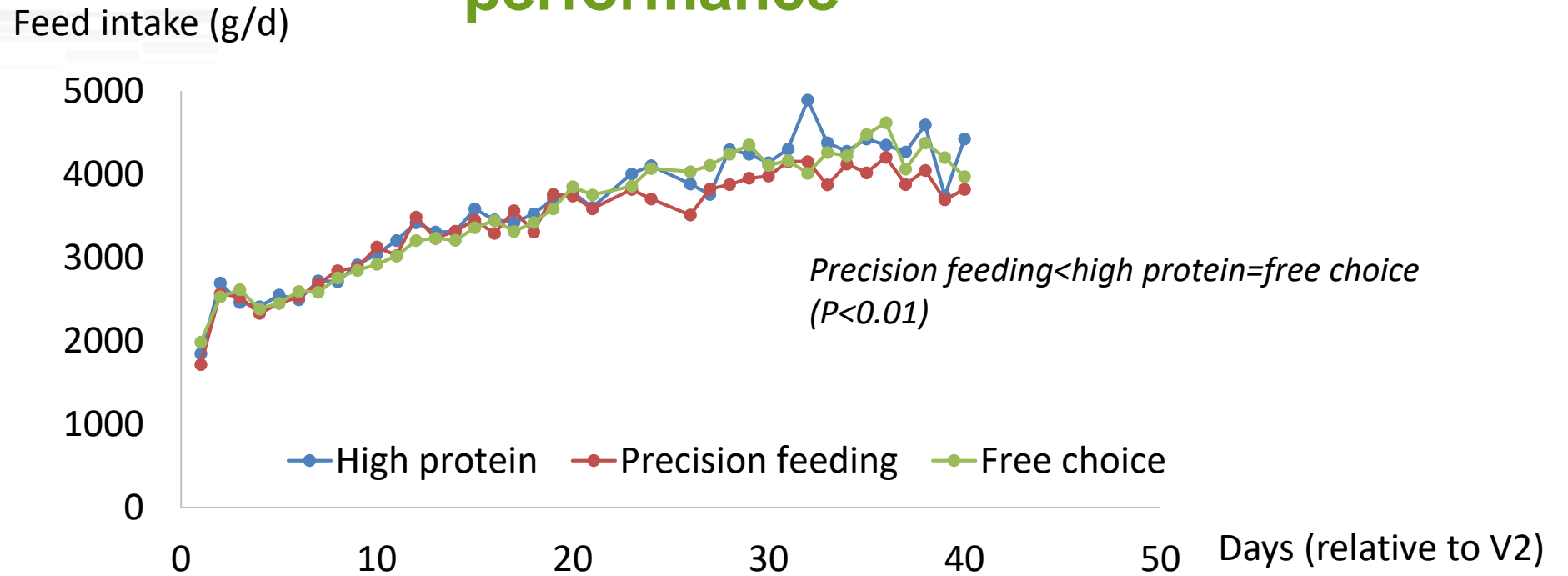
Effect of feeding strategy on proportion of high protein diet in the mixture

High protein diet (% in the mixture)



Days (relative to V2)

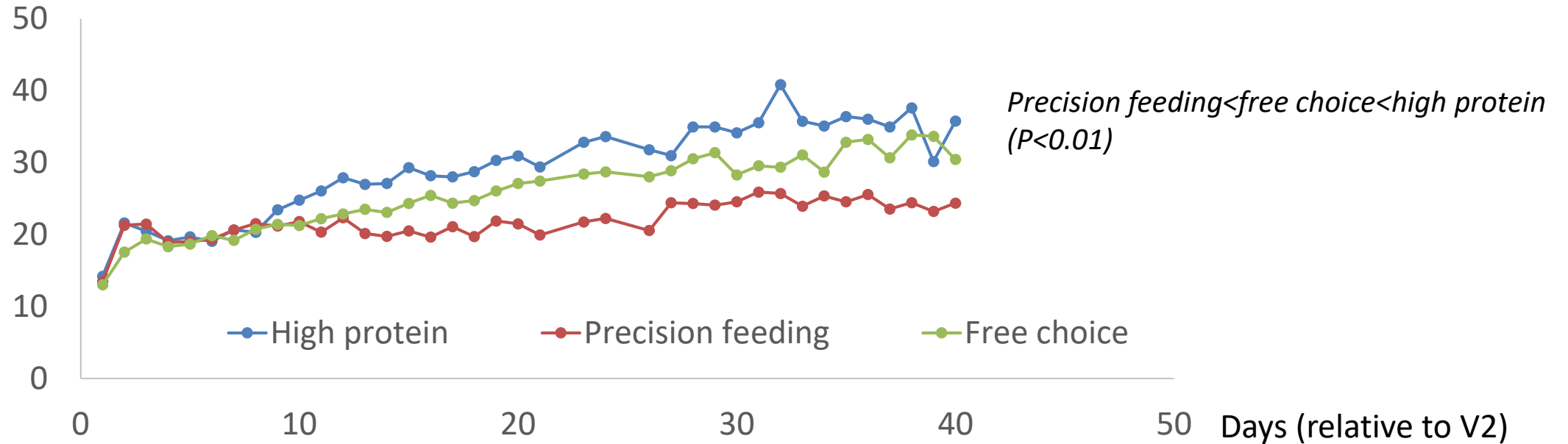
Effect of feeding strategy on feed intake and growth performance



	High protein	Precision feeding	Free choice	<i>P</i>
BW (127 d; V2)	74.3	74.4	74.1	0.86
BW (159 to 168 d; slaughter)	116.1	114.2	117.0	0.14
Growth rate (kg/d)	1.11	1.06	1.14	0.07

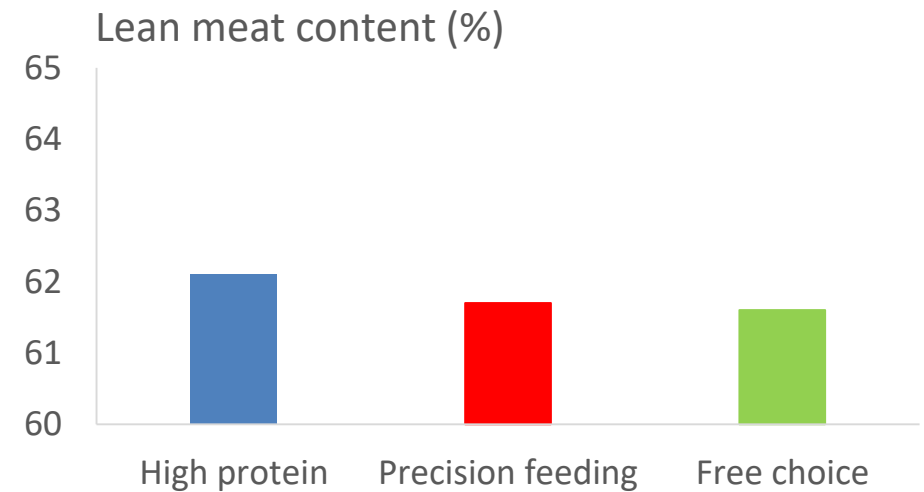
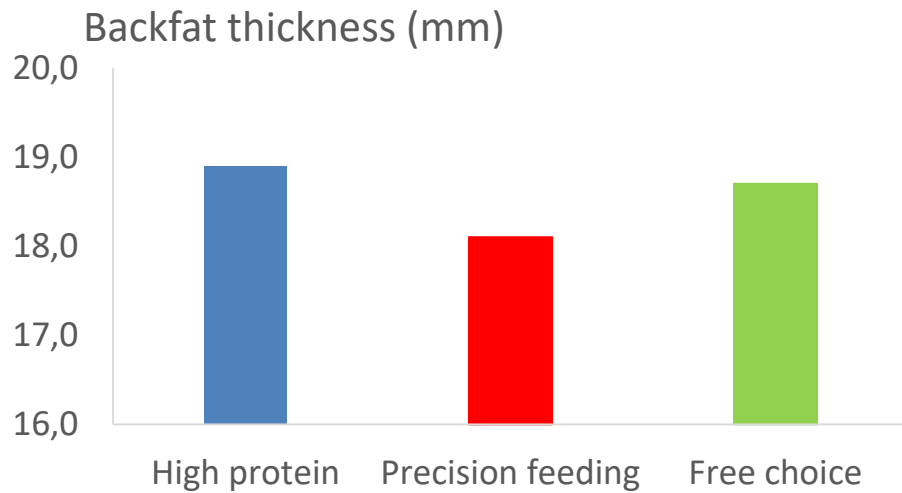
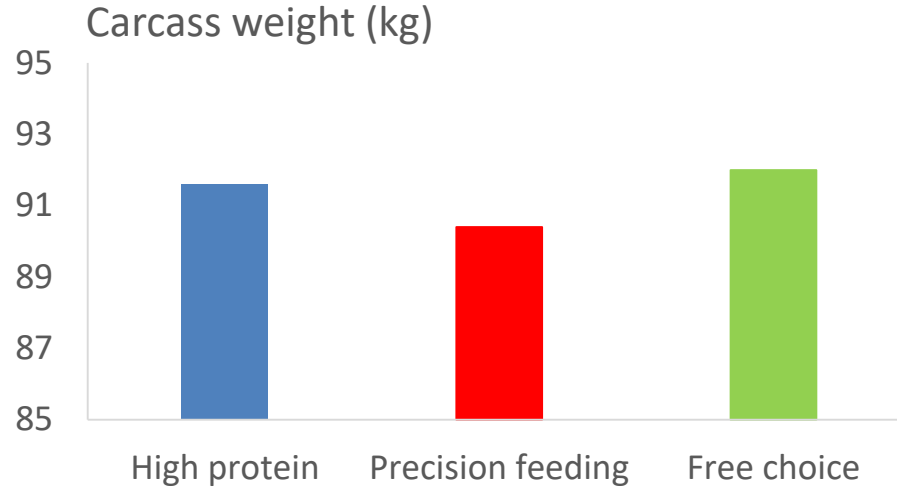
Effect of feeding strategy on lysine utilization

Lysine intake (g/d)



	High protein	Precision feeding	Free choice	<i>P</i>
Lysine intake (g/d)	28.4 ^c	21.5 ^a	25.0 ^b	<0.01
Lysine deposition (% of intake)	47 ^a	59 ^b	55 ^b	<0.01

No effect of feeding strategy on carcass characteristics





Conclusions

- ❖ Precision feeding:
 - ❖ Lower feed intake and slightly lower growth performances
 - ❖ Decreased by 25% the intake of lysine
 - ❖ Better efficiency of lysine utilization
- ❖ Free choice:
 - ❖ Intermediate savings
 - ❖ Increased lysine intake after 35 days
 - ❖ Back to EM?



Thank you for your attention





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