

Effect of amount of starter diet fed on response of weaner pigs to dietary energy concentration

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Introduction

- Low feed intake after weaning may justify feeding a high energy starter diet for longer
- Insufficient energy supply may result in decreased performance
- Pigs fed the low energy dense diets may compensate with higher feed intake

Material and Methods

- 48 pairs of pigs weaned at 27 days of age (BW 8.3 +/- 1.04 kg)
- 2x2 factorial design
- Weight at day 14, 28 and 42

Stage 1 Treatments

- LOW (2kg starter, 5kg link/pig) approx. 15 days
- HIGH (5kg starter, 10kg link/pig) approx. 28 days
- Starter diet: 16.1 MJ DE, 22% CP, 1.62% Lys
- Link diet: 15.5 MJ DE, 21% CP, 1.45% Lys

Stage 2 Treatments

To day 42 post weaning:

- low density diet (LD – 13.0 MJ DE/kg, 17.3% CP, 1.05% Lys)
- high density diet (HD – 15.0 MJ DE/kg, 20.2% CP, 1.23% Lys)

Stage 2, Diet composition %

	LD	HD
Barley	80.2	-
Wheat	-	64.9
Soy	17.3	27.2
Fat	-	5.1
L-Lysine HCl	0.48	0.47
DL-Methionine	0.15	0.18
L-Threonine	0.17	0.18
L-Tryptophan	0.01	0.02

Results

Performance of pigs from day 14 to 28

	LOW	HIGH	LOW	HIGH	s.e.	Significance levels
	LG		HG			S1 * S2
ADFI, g	730	810	736	751	22.0	0.26
ADG, g	427	569	540	515	28.0	***
FCE	1.75	1.41	1.36	1.43	0.04	***

*<0.05, **<0.01, ***<0.001, n.s.= not significant

S1= stage 1 treatment, S2=stage 2 treatment

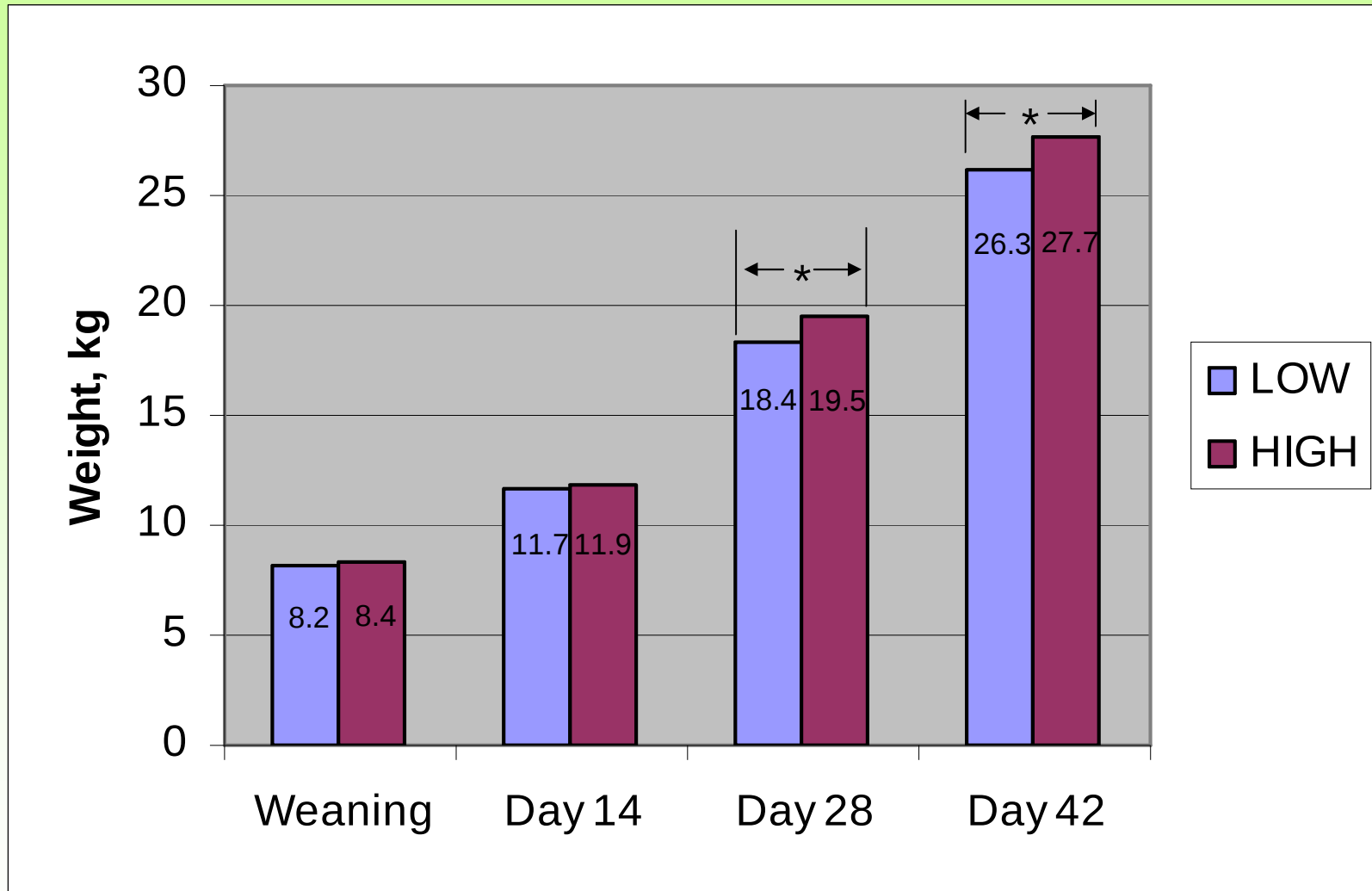
Performance of pigs from weaning to day 42 by treatment

	LOW	HIGH	LOW	HIGH	s.e.	Significance levels
	LD		HD			S1*S2
ADFI, g	705	697	646	688	16.0	0.27
ADG, g	400	456	448	474	21.7	0.35
FCE	1.71	1.59	1.44	1.45	0.04	*

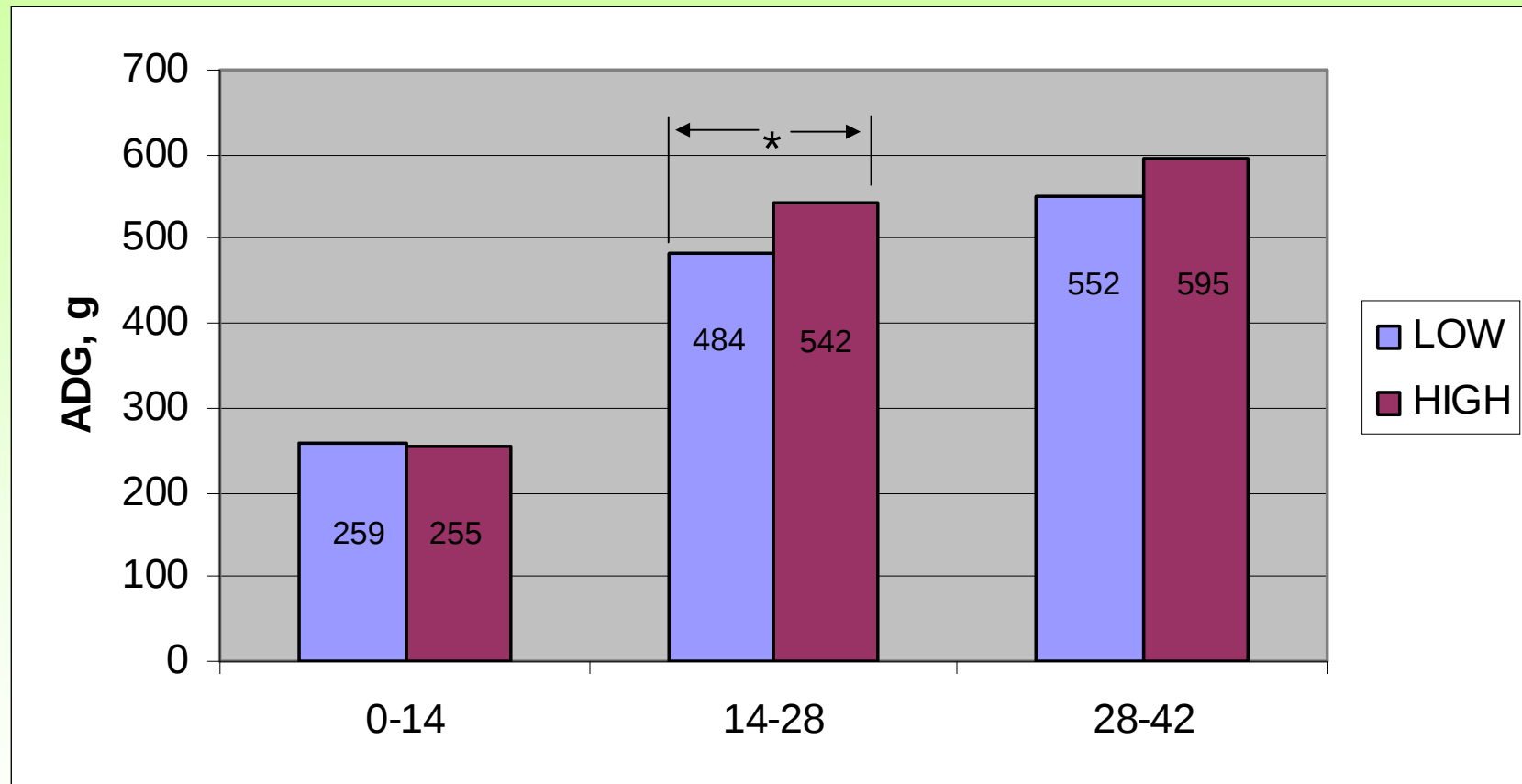
*<0.05, **<0.01, ***<0.001, n.s.= not significant

S1= stage 1 treatment, S2=stage 2 treatment

Effect of starter diet on pig weights

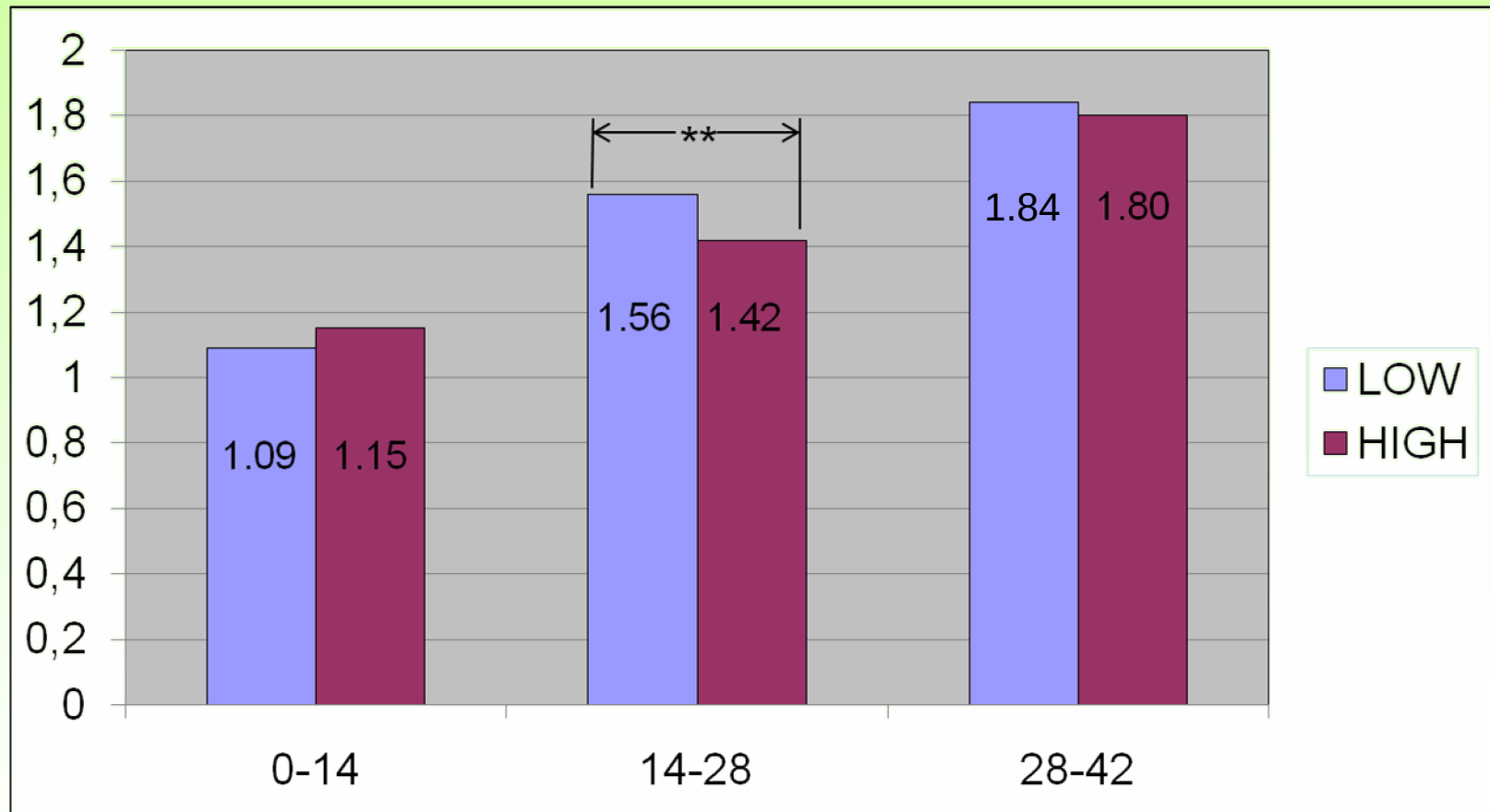


Effects of Stage 1 treatment on ADG



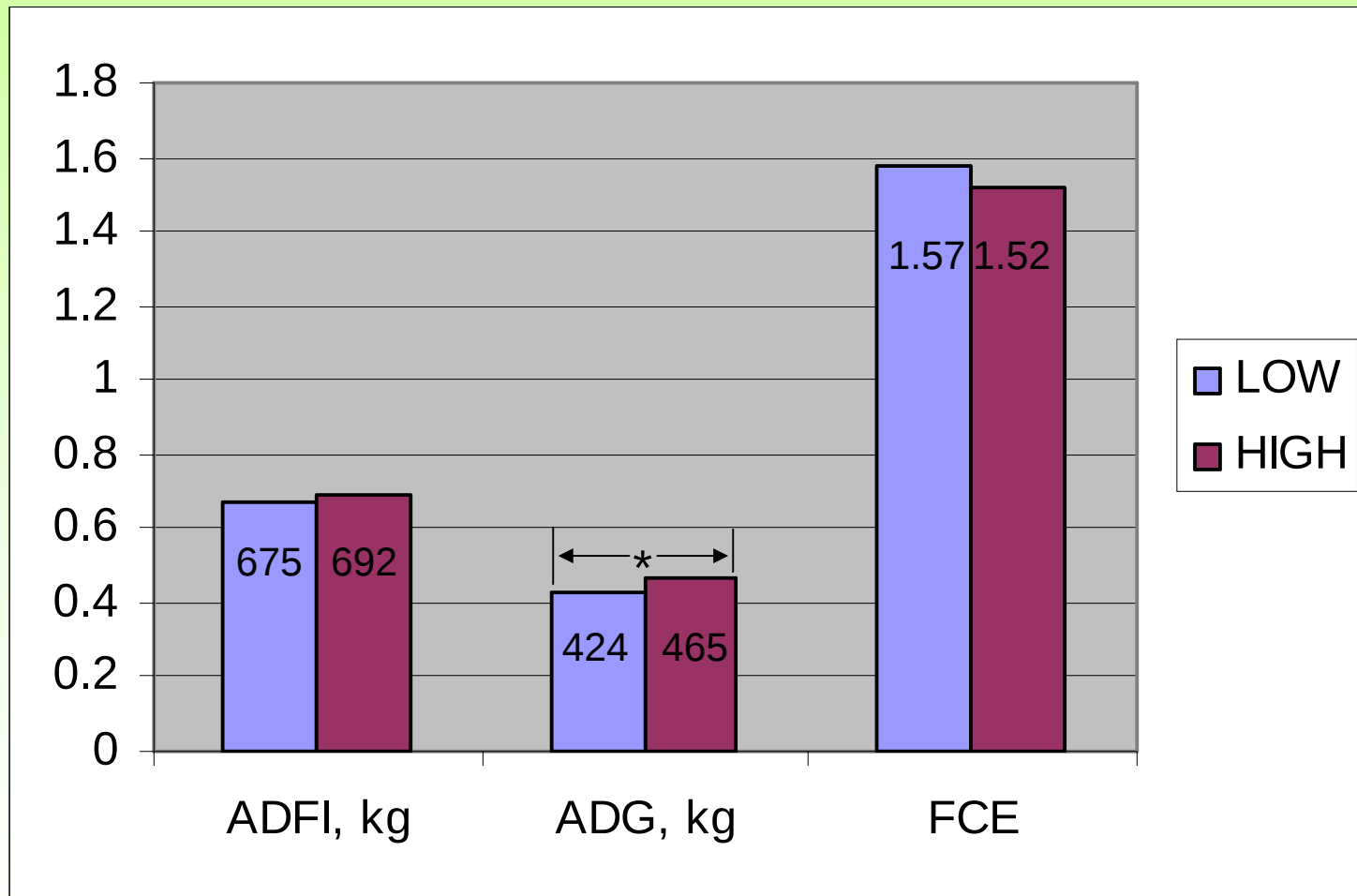
* = $p < 0.05$

Effects of Stage 1 treatment on FCE

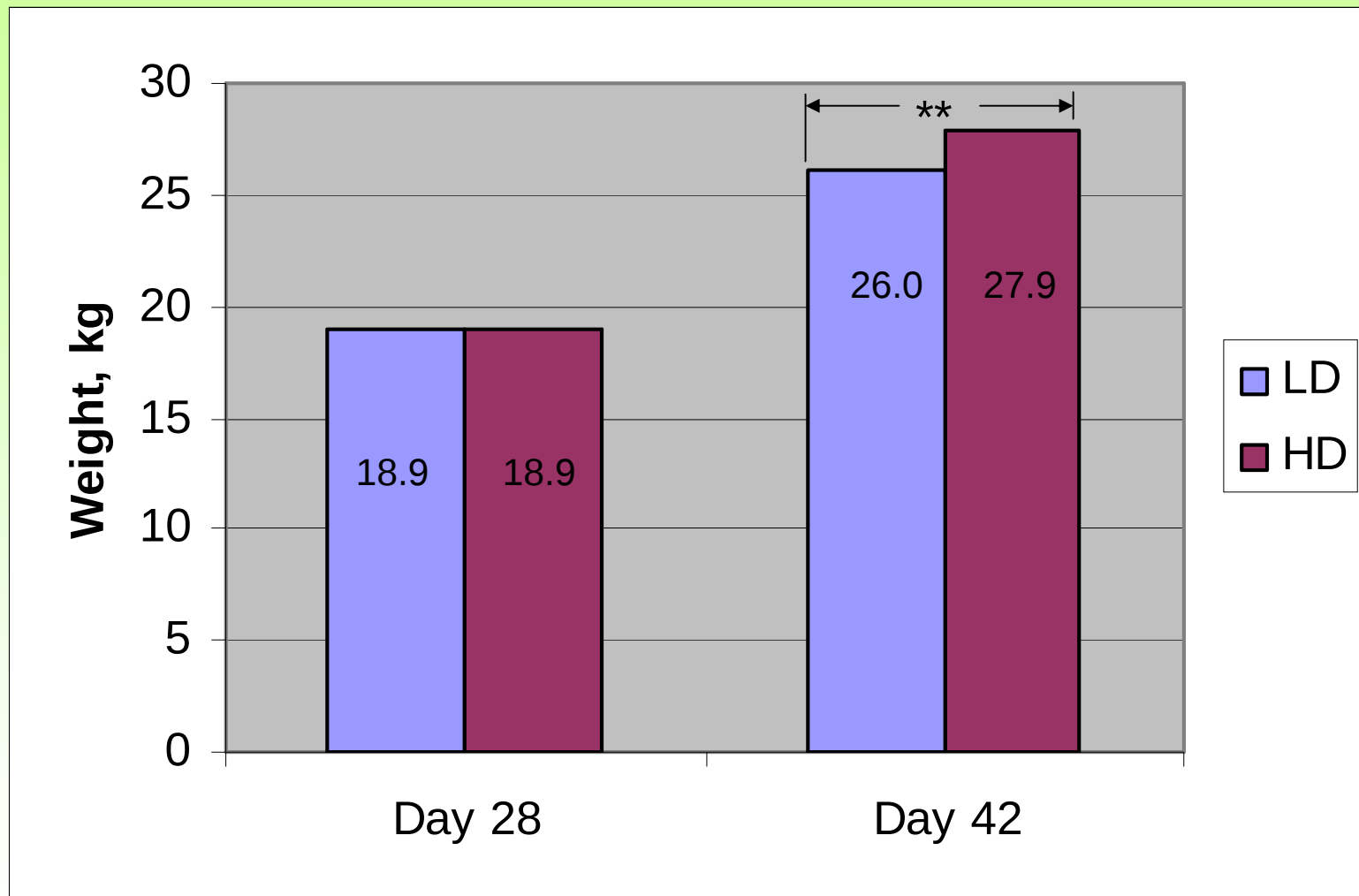


** = $p < 0.01$

Effects of Stage 1 diet on performance from weaning to d42

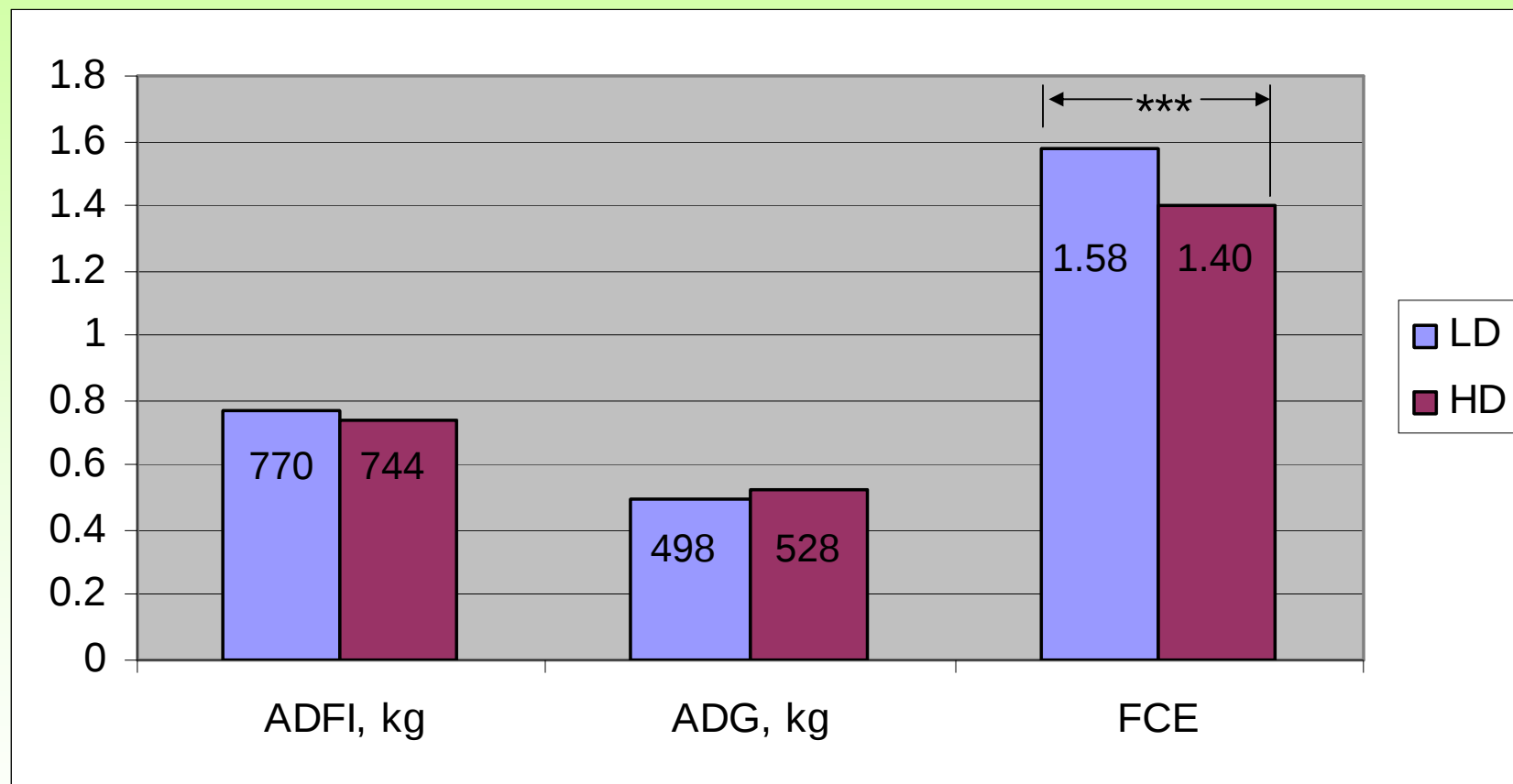


Effect of Stage 2 treatment on pig weight



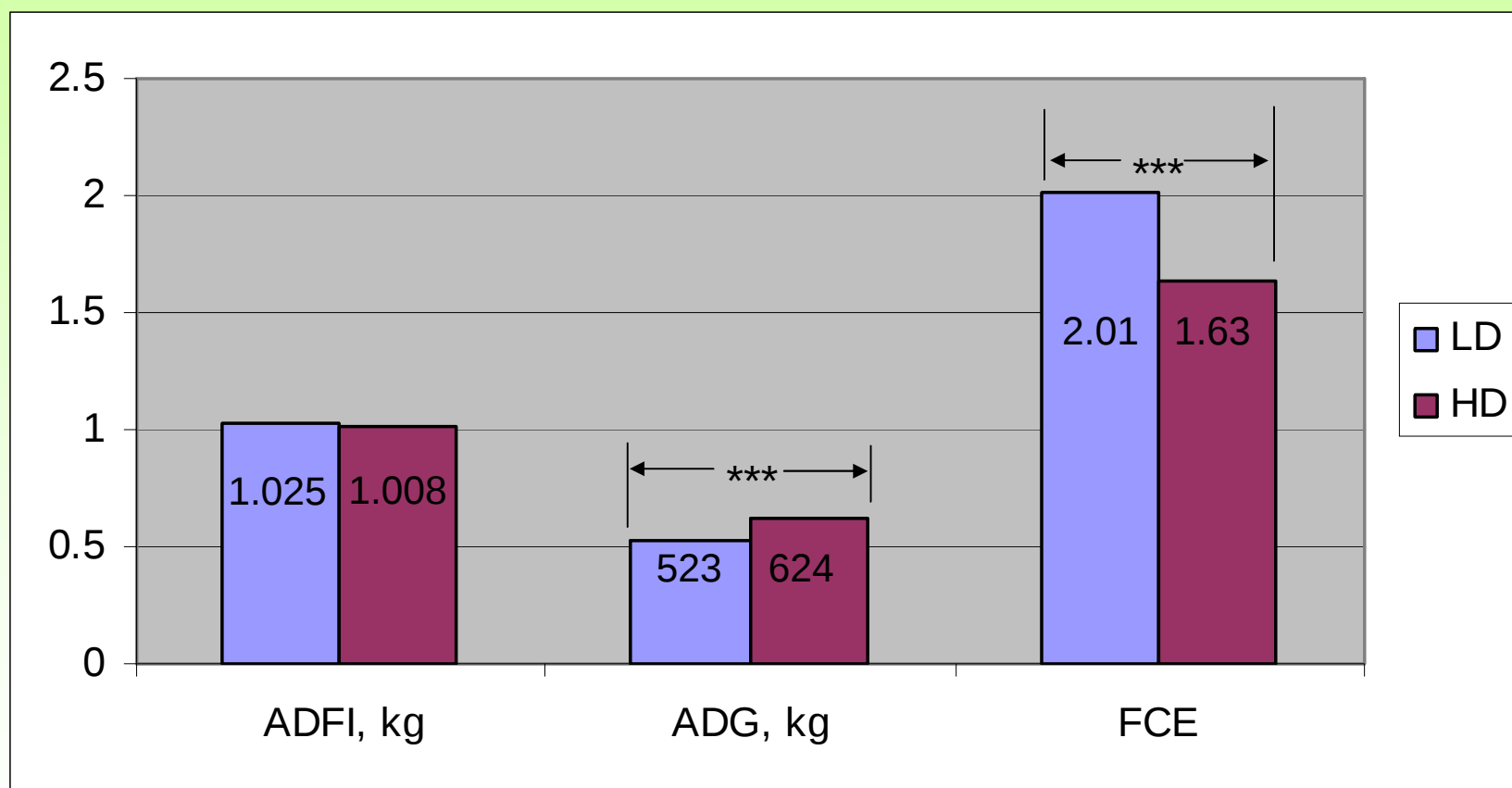
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Effect of Stage 2 diet on performance from day 14 to 28



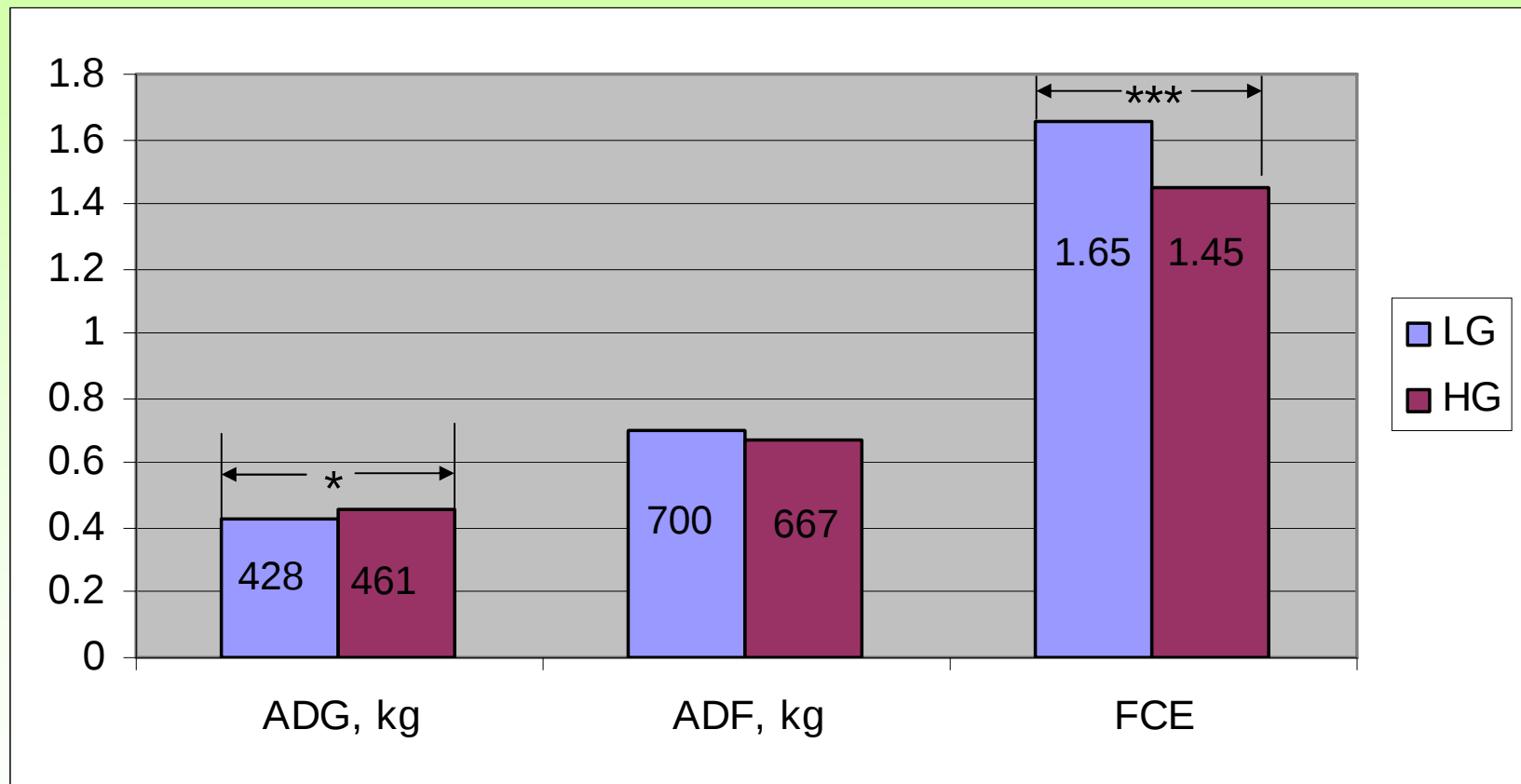
*** = $p < 0.001$

Effect of Stage 2 diet on performance from day 28 to 42



*** = $p < 0.001$

Effect of Stage 2 diet on performance from weaning to d42



* = $p < 0.05$; *** = $p < 0.001$

What is the benefit of extra starter feed

Day 42 weight (kg) =

$$8.7 + 1.92 * \text{weaning wt} + 0.21 * \text{amount starter/link diet}$$

$$r^2 = 0.33$$

Conclusions

- Pigs fed extra starter heavier at d28 and 42
- Pigs fed HD in stage 2 heavier at d42
- Significant interactions for ADG and FCE from d14 to 28 overall FCE

Questions?