



## HEALTH

### Feeding the healthy versus the challenged pig

Large variations exist in the performance between farms (Table 1). The reasons for these large differences are complex but the largest single contributor is thought to be health status. Units using large amounts of antibiotics and with higher levels of measurable disease at slaughter (pleuritis, lung and liver abnormalities) tend to have the lowest levels of performance. Different health status promotes different performance, leading to different nutrient requirements.

Table 1 Typical performance levels in the UK – finishing pigs (30-100kg)

	Potential	Good	Average	Poor
Feed intake (kg/day)	2.06	2.16	2.00	1.9
Gain (g/day)	1250	900	700	600
FCR	1.65	2.3	2.8	3.0
P2 (mm)	7.5	10.0	10.5	12.0
Feed cost saving (£/pig)	20	10	3	0
Extra value (£/tonne)	126	47	11	0

Source: BPEX and Primary Diets



### Split litter study

- Half the litter was vaccinated and reared from 6 to 27kg liveweight in very high health conditions
- The other half received no vaccinations and were reared in dirty nursery accommodation
- The high health status pigs grew much faster than the challenged pigs
- Not only did growth rates differ, they peaked at different (total) lysine intakes (15g/day for high health versus 12g/day for challenged pigs)
- Differences in performance and lysine requirements, however, do not necessarily warrant completely different diet specifications, as the fall in feed intake associated with a health challenge often means that the lysine content of the diet remains similar (Table 2).

Table 2 Does different health status mean different diets?

Health status	Lysine requirement (g/day)	Feed intake (kg/day)	Lysine in the diet (%)
High	15	1.1	1.35
Low	12	0.9	1.33



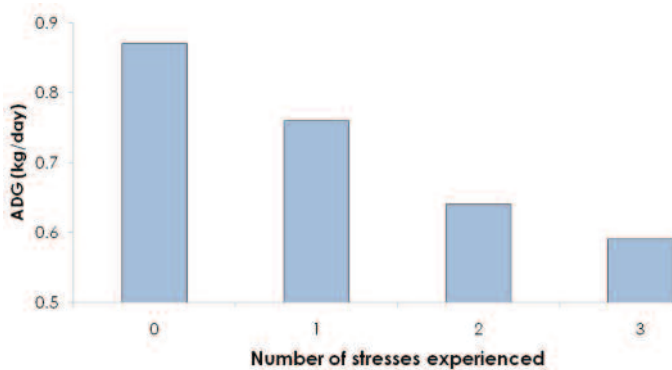
### Why is performance reduced in challenged pigs?

- Largely the result of reduced feed intake (70% of the lost performance)
- The remaining 30% is from a more active immune system; nutrients are diverted from growth to acute phase protein and antibody production.

### What can you do?

- Work with a nutritionist who will have a range of diets from which a feeding programme can be built based on a working knowledge of the performance and feed intake on the farm together with an impression of the health status (health checks at slaughter and antibiotic use)
- An experienced nutritionist will also adjust diets for challenged pigs (eg Methionine and Cystine: Lysine ratio, Vitamin E, Omega 3:Omega 6 ratio)
- The greatest payback comes not from diet adjustments but from efforts to increase feed intake
- Challenges have an additive effect which means that any effort made to reduce a challenge, no matter how small, will be rewarded with a small improvement
- Making several improvements eg lower stocking density, improved feeder access, fewer moves, less mixing, improved ventilation, better temperature control, reduced draughts is better than making just one improvement. However, one small improvement really is worthwhile because it will increase feed intake and growth performance with a better FCR, reducing feed cost per pig (see Figure 1).

**Figure 1 Removing stress by making small improvements on your unit can improve growth performance**



Source: Hyun et al. (1998)

### Check list for improving feed intake on your unit

- |  |  |
|--|--|
| ✓ Feed and water availability              | ✓ Wet feed, volume, frequency, fermentation etc    |
| ✓ Correct diet, feed specification, energy | ✓ Stocking density and wastage                     |
| ✓ Feeder settings                          | ✓ Environment / lighting                           |
| ✓ Bridging and 'out-of-feed' events        | ✓ Check feed intakes are sensible                  |
| ✓ Pellet quality/grist/dust                | ✓ Do pigs "stall" at any stage?                    |
| ✓ Bulk density                             | ✓ Does feed intake tie in with growth and grading? |

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### Other considerations

Other key nutrition/health factors are generally a matter of balance. For example, pellets tend to exacerbate ulcers and meal will tend to reduce ulcers but pigs fed meal tend to have poorer performance. It is a trade-off depending on a welfare assessment and a cost benefit analysis of the performance consequences. Your nutritionist will be able to advise you.

### Antimicrobials

- Antimicrobials should be used as little as possible but as much as necessary
- The challenged pig responds very cost effectively to the correctly prescribed antimicrobial product
- The improvement in performance is brought about through a reversal of the very factors which cause so much of the lost performance (feed intake increases substantially, the immune system is stood down from high alert to low alert which makes key nutrients available for growth again)
- There is a down side to antimicrobial use and that is the increased chance of antimicrobial resistance (AMR); it is important for the pig industry to actively attempt to reduce antimicrobial use.

### Summary

- There is one overriding factor which affects performance – health!
- Spare no effort in improving the health of your unit
- Work closely with your nutritionist; the nutritional changes required in response to disease are complex and mainly within the remit of the commercial nutritionists day to day work
- On-farm efforts to increase feed intake will be rewarding
- Ensure pigs have free access to the correct diet at all times (diet changeover, feeding spaces, feeder access)
- Become 'resolute' about the responsible use of medicines and minimising their use on your unit