



This note is extracted from “A review of our current understanding of Phosphorus requirements of pigs”, commissioned by BPEX Pig Development Centre and prepared by Professor Ilias Kyriazakis.

INTRODUCTION

Phosphorus is both expensive, and when in excess in pig diets contributes to environmental pollution.

Current BSAS (2003) standards for dietary P (as g digestible P per kg air dry feed) are:

10-30 kg	30-60 kg	60-90 kg	90-120 kg	Pregnancy	Lactation
3.4	2.5	2.4	2.2	2.3	3.2

French, Dutch and Danish standards are similar, and their industries adhere to them.



CURRENT STATE OF PLAY IN THE UK

In the UK feed technologists agree that the current BSAS (2003) standards for P requirements formed a useful starting point in the formulation of their diets for pigs.

Growing pigs: Many formulations included a minimum 10% over specification above the standards, as a safety margin.

Breeding pigs: As for growing pigs, diets for pregnant and lactating sows were also formulated at levels above the recommended BSAS (2003) standards.

Home mixers: Traditionally the levels of total P usage in the home mixing sector have been high and hence digestible P levels would have exceeded BSAS (2003) standards.

REQUIREMENTS OF GROWING ANIMALS AND BREEDING STOCK

- A more accurate prediction of food intake on farm will improve our ability to achieve P intakes that are closer to the requirements of the pigs
- A more frequent change than currently used in the P content of the diet offered to growing pigs will lead to a better match with P requirements
- P requirements of finishing pigs (destined for slaughter) could be substantially reduced during the last stages of finishing without adversely affecting pig performance; particularly when diets that have been supplemented with exogenous phytase
- Proposed reductions should not apply to pigs which are destined to become future breeding stock
- The dry sow is oversupplied with P for most of gestation. There may be scope for reducing the P content of dry sow diets (below current BSAS standards) without adversely affecting reproductive performance and bone strength
- The requirement for P during lactation is mainly dependent upon level of milk production and a lower level of food intake would require a higher concentration (g/kg) of digestible P in the diet. The possibilities for reducing phosphorus excretion during lactation are limited compared to those during pregnancy



PDC CONCLUSIONS IN THE LIGHT OF P PRICE AND THE ENVIRONMENTAL IMPERATIVE

- In UK there is a tendency to overfeed phosphorus to our pigs
- BSAS standards for P can be followed without the addition of a safety margin
- P levels in diets for pregnant sows can be reduced, provided that individual intake is known and gilt rearing and lactation diets are appropriately formulated
- P levels in diets for finishing pigs destined for slaughter can be reduced
- Diets can benefit from phytase inclusions
- These conclusions assume normal levels of feed intake; where feed intake levels are low (or high), proportionate adjustment can be made

kt@bpex.org.uk • www.bpex.org.uk