



The animal feeding industry in the UK relies heavily on imported protein sources, mainly soya. There are increasing concerns about the sustainability of UK pig production arising from the environmental impact of importing proteins and their price fluctuations.

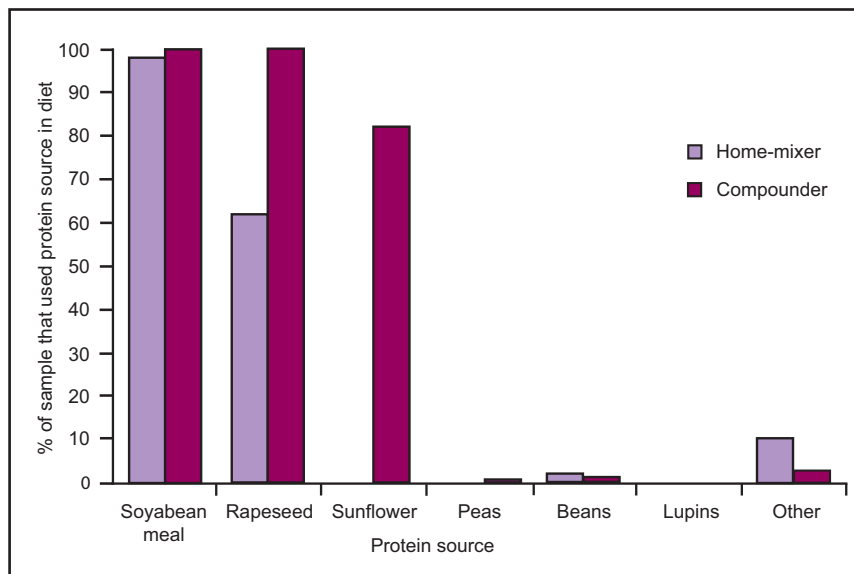
The Green Pig project aims to bring together plant breeders, crop growers, pig nutritionists and pig producers to assess the potential of using home grown legumes for growing/finishing pigs as a means of reducing environmental burden.

Researchers at the Scottish Agricultural College (SAC) have conducted a survey on (perceived) constraints of using home grown pulses in UK pig diets. A survey was sent out to compound producers and home-mixer pig producers to:

- Quantify the use of home-grown protein sources in grower and finisher pig diets
- Quantify the constraints (real or perceived) in the use of home-grown protein sources.

Responses covered ~65% of UK compound feed sold and ~15% of the UK home-mixer herd.

Protein sources used in UK pig diets



- >98% of the compound and home-mixer samples included soyabean meal in their diets
- <2% of the compound and home-mixer samples included beans in their diets
- <1% of the compound sample included peas in their diets.

Constraints

Availability

- 96% of the compound sample felt that peas and beans were not readily available to use in pig diets
- 70% of the home-mixer sample felt that peas were not readily available to use in pig diets
- 39% of the home-mixer sample felt that beans were not readily available to use in pig diets.

Nutritional value of pigs

- >90% of the compound and home-mixer sample felt that peas provided adequate nutritional value
- >70% of the compound and home-mixer sample felt that beans provided adequate nutritional value.



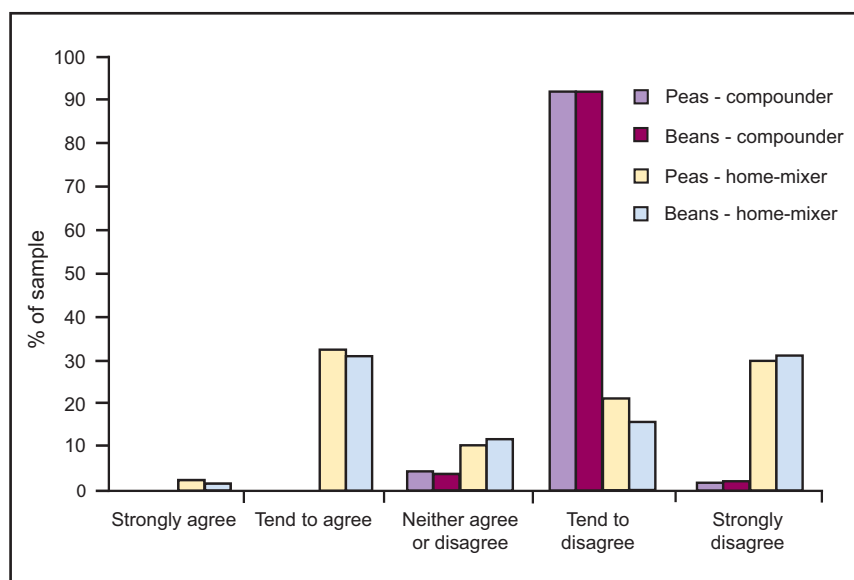
Inclusion levels

Weighted mean maximum inclusion levels with range (%)				
	Compounder grower	Compounder finisher	Home-mixer grower	Home-mixer finisher
Soyabean meal	20.1 (15-25)	19.4 (12-25)	19.3 (15-25)	16.3 (9.5-25)
Peas (current)	8 (-)	(-)	(-)	(-)
Peas (would consider as max)	15 (5-20)	19.5 (5-25)	12.7 (5-30)	13.2 (5-30)
Beans (current)	5.8 (3.8-6)	9.5 (5-10)	11.0 (8-30)	10 (8-15)
Beans (would consider as max)	11.4 (2.5-15)	13.1 (5-20)	9.3 (5-40)	14.9 (5-40)

- Current inclusion levels of peas and beans are low compared to soyabean meal
- Perceived maximum inclusion levels of peas and beans are lower than the ~30% reported from other countries, including Canada and France¹.
- Green Pig undertakes growth trials to assess the feasibility of using up to 30% peas or beans in grower and finisher pig diets under UK conditions.

Cost

Are peas and beans an economic alternative to soya?



Conclusions

- Cost relative to soya and consistency of supply is the biggest constraint of using peas/beans as an economic alternative to soya in grower/finisher diets
- The nutritional value of peas and beans is less of a perceived constraint, although the perceived maximum inclusion levels are low compared to the literature
- Knowledge of these constraints (perceived or real) will allow us to identify ways to overcome them and increase confidence in using peas and beans in UK pig diets as an alternative for soya.

Project Partners

The Green Pig Project is a collaborative project involving research and industrial partners: SAC, University of Nottingham, NIAB, BOCM Pauls, BPEX, Evonik-Degussa, Midland Pig Producers, Harbro, Premier Nutrition Products, PGRO, QMS, Soil Association and UNIP. The project was sponsored by Defra through the Sustainable Livestock Production LINK Programme.

Reference

¹Jezierny D, Mosenthin R & Bauer E (2010). The use of grain legumes as a protein source in pig nutrition: A review. *Animal Feed Science & Technology*. 157: 111-128.

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