RESEARCH UPDATE

PIGFEED (Part 2)

Introducing new feeding programs & facilities for Irish finishing pigs

This project is a collaboration between Teagasc, AFBI & Universitat Autònoma of Barcelona to improve production efficiency in grow-finisher pigs. The project will study different aspects of feeding & management of finishing pigs to increase farm profitability & improve pig health & welfare.

Background

Increasing efficiency of Irish pig production at an international level is one of the main priorities of Teagasc Pig Development Department. Feed during the grow-finisher period accounts for over 60% of the total cost of production on pig farms. Thus, small improvements in this stage result in important increases in profit for farmers. This project gives answers to simple questions that many farmers may have about ideal dietary specs, how to organize their pens or what modifications are needed in their facilities to optimize production.

Objectives

- To determine the minimum dietary amino acid & energy to maximize profitability on Irish pig farms.
- To study the effects of density & group composition on performance & health & welfare.
- To develop fast methods to optimize diet formulation for grow-finisher pigs.

Study 4 - Low weight at birth & weaning as a criterion to manage pigs during the grow-finisher period

In the Teagasc Pig Research Facility we are looking for the best way to manage pigs to optimize growth, health & welfare, while reducing labour inputs. We now manage pigs as intact litters based on the results presented in the previous research update (Part 1). However, small pigs are removed from their litters to a separate pen in the same room (same batch). In this trial we wanted to find a cut-off value to decide which pigs are not going to be ready for slaughter at 24 weeks so we can manage them separately from the main group. This subset of pigs poses a management challenge & have economic implications for pig producers. In the trial we followed a batch of pigs from birth to slaughter & weighted them every 2 weeks. The data was analysed using decision trees (see figure 1) that are normally used in many industrial processes.

As a summary of the results, a cut-off of 3.7 kg at weaning identifies slow growing pigs within a batch. This weight is quite low & is normally a small percentage of the piglets. For the rest of the pigs, a cut-off of more than 1.1 kg of body weight at birth together with more than 6.4 kg at weaning identifies the pigs that will go to slaughter at 22 weeks of age.

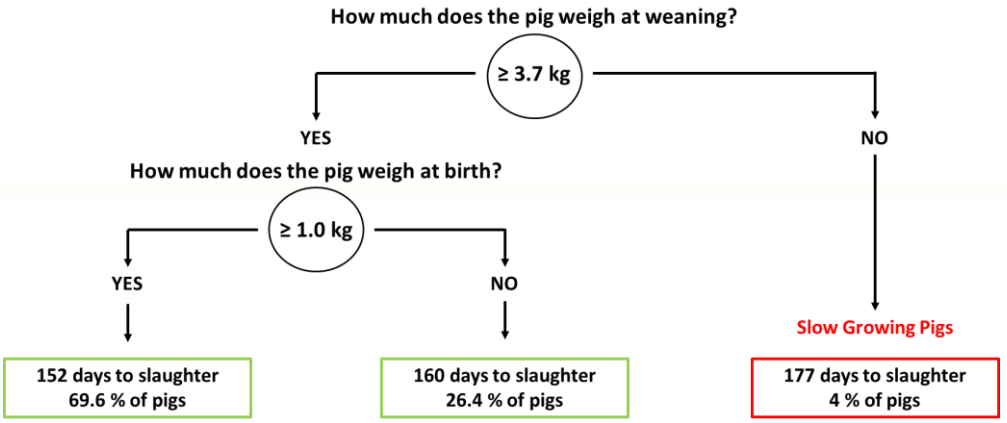

Figure 1. Decision tree to identify slow growing pigs within a batch.

Study 5 - Slow growing pigs respond to high levels of lysine improving FCR

Slow growing (SG) pigs are a challenge & have economic implications for pig producers. Lysine requirements are well established for the grow-finisher pigs however there are reasons to think that SG pigs may need more lysine than the rest of the group to maintain the same level of growth. In this trial we compare the growth of SG & fast growing (FG) pigs with different lysine levels, 0.92, 1.18 & 1.45% SID lysine. The diets were fed from 15 weeks of age when pigs were 40kg, for SG, & 63kg, for FG pigs. Up to 110kg FG pigs gained 255 g/day & consumed 625.5 g/day more than SG pigs. The increase in lysine in the diet improved FCR in SG pigs by 0.3 but did not affect FCR of FG pigs.

Table 1. FCR of slow- or fast-growing pigs from 15 weeks to slaughter (110kg) with 3 dietary lysine levels.

	Slow growing pig			Fast growing pig		
SID Lysine level	0.92 %	1.18 %	1.45 %	0.92 %	1.18 %	1.45 %
FCR	2.4	2.2	2.1	2.3	2.2	2.3

Take home message

- Time to slaughter can be calculated based on birth & weaning weight & cut-off values can be used to separate pigs that will perform poorly. In this case, pigs >1.1kg at birth & >6.4kg at weaning are expected to reach slaughter weight in 22 weeks.
- Slow growing pig performance increases when lysine levels increase but more research is needed as the levels studied would result in expensive diets.