



**Harper Adams
University**

University Farm Pig Unit

The commercial pig unit comprises of 230 sows managed on a 32 sow, batch farrowing system, producing groups of 350 weaners every three weeks. The unit is designed to allow a wide variety of research with flexible facilities including individual feeding for sows, farrowing pens and crates. Weaner accommodation (8.5 - 22kg) can provide up to 36 pens of 5 pigs for research trials up to 5 weeks post weaning. Removable partitions allow flexibility in group size and pen number. There are 5 batches (15 weeks) of finishing accommodation made up of 5 rooms of 350 pigs up to 110 kg. One room is a traditional straw based system with 22 pens. Four fully slatted rooms have been constructed with 14 pens of 25 pigs. The unit is stocked with high health animals supplied from two breeding companies and performance is currently in the top 10% of UK herds.

Investment in facilities and stock allows Harper to simulate high output commercial units and ensure research projects continue to be relevant to today's modern high performance pigs. All the facilities are licensed and include digestibility pens for pigs from weaning to 90kg. Recent research projects reflect the needs of the industry and include: nitrogen retention and meat eating quality; feed additives for immune system enhancement; control of diffuse phosphate pollution control; Mycotoxins in straw; and the effects of using herbal products on performance, immune function and health. Undergraduate studies into the management of group housed sows has shown that providing secure lying space to sows near the bottom of the hierarchy can increase litter size by 1.5 pigs.

In addition to commercial research contracts the pig unit attracts DEFRA, BPEX and Link funding through collaborative projects with other institutions.

Research Projects

There is a wide range in diversity of research as highlighted by the following projects:

- Assessment of the differences between the progeny of sire lines in terms of growth, and meat quality traits.
- Evaluation of the use of an organic acid water additive on the performance of the weaned pig.
- An investigation of the effect on palatability of hydrolysed vegetable protein in weaner diets.
- An investigation of the optimum time to open the sow crate in the QE Liberty Farrowing Crate system.
- Investigations of the effect of weaning systems on piglet performance and immune function e.g. the effect of mixing pre weaning on piglet performance and immune function.
- Investigations into the role of vitamin C in lactation and post weaning.
- The effect of weaning age on performance and behaviour post weaning.
- Low protein diets in finishing pigs.
- The levels of mycotoxins in straw.
- The effect of feed additives on the life time performance of sows (6 Parities)