

Basic Pig Husbandry - The Weaner

By Graeme Taylor and Greg Roese, Livestock Officers Pigs, Intensive Industries Development, Tamworth - This Primefact is one of five articles providing an overview of basic pig husbandry, covering boars, gilts and sows, the litter, weaners and grower herds.

Introduction

Weaning is a stressful experience for young piglets, affecting them both socially and physiologically. In many piggeries weaning is more stressful than it should be, with severe growth checks and even deaths.

These deaths and growth checks have a large impact on grower herd performance, resulting in reduced profitability. However, high standards of management can dramatically reduce post-weaning losses and improve growth rates by moderating the stress of weaning. The shorter the suckling period, the more sophisticated the housing, feeding and management skills required to raise the piglets.

Types of weaning

Weaning is usually undertaken in one of the three following categories:

- Conventional weaning: 3–5 weeks of age.
- Early weaning: 10 days of age to 3 weeks.
- Specialised weaning: segregated early weaning (SEW) and medicated early weaning (MEW).

Conventional weaning: 5–10 kg liveweight (LW)

At this age, pigs are of a size and age to fend for themselves under average farm conditions. It must be remembered that age of weaning is an integral part of the breeding program and to reduce weaning age will involve changes in the mating and farrowing programs. The sow's milk production has fallen dramatically by 5 weeks, therefore it is uneconomic to feed the piglets via the sow's milk beyond this stage.

However, in order to maintain piglet growth rates, they must receive additional feed. Fortunately, by this age and weight, pigs are becoming accustomed to dry feed and can better adjust to temperature changes and stress. However, a high standard of hygiene must still be maintained. Where a suitable environment can be maintained and producers have the expertise, they can progressively reduce the weaning age to a point where they feel they can still gain the necessary benefit of the pigs undergoing an earlier weaning.

Early weaning: 4–5 kg LW

At 2–3 weeks of age, piglets have reached a stage when their digestive system is able to handle the more complex carbohydrates. At this age the piglet's heat regulatory system is also beginning to function efficiently, being able to adjust to reasonable surroundings. During the period 21–28 days, it is not uncommon to have piglets scour due to the various immunological and physiological changes which occur. The severity of the scouring will depend on the causal organism, hygiene level, nutrition and the producer's livestock handling skills. The use of specialised weaner facilities has helped considerably in the success of early weaning.

Specialised weaning

Segregated early weaning (SEW) This is weaning pigs at an 'early' age, usually less than 18 days old and removing them from the breeding herd immediately after weaning as a means of eliminating, or at least reducing, the disease load in pigs entering weaner facilities.

Medicated early weaning (MEW) This technique is used to obtain pigs free from some of the pathogens endemic in the herd. Sows are dosed with high levels of antibiotics when they enter the farrowing house

until their piglets are weaned. The piglets are weaned at 5 days of age and moved to an isolated early-weaning unit. Piglets are dosed from birth until about 10 days of age, with similar drugs to those given to the sows.

Problems associated with weaning

Problems can take various forms:

- the development of stressful behaviours, e.g. cannibalism;
- bad toilet habits;
- depressed growth rates;
- scouring.

A critical factor is the amount of creep feed consumed prior to weaning. Apart from getting piglets familiar to dry feed, feeding creep diets accelerates the maturity of the digestive system. The use of sugar and flavourings can be advantageous.

Social environment

After developing a dominance or 'pecking' order within the litter, piglets are often placed into a less than ideal environment at weaning time. Litters are often regrouped according to size and sex and moved to new and strange surroundings where they spend the next few days establishing a new peck order and adjusting to the new environment. This has the effect of reducing feed intake and imposing a nutritional stress on the piglet at a very crucial stage in its development.

Feed source

At weaning the piglet has to adjust to a solid diet as opposed to the liquid diet provided by the sow. Even if the piglets were consuming creep feed, they no longer have the choice of both diets and their digestive enzymes will take several days to adjust. This imposes an initial burden on the digestive system, and its effect will depend on the quality of feed and environment provided for the weaners. If pre-weaning feed consumption is low and post-weaning feed management is poor there is the risk of an antigenic reaction to the feed.

Digestive enzymes

As previously stated, the baby pig's digestive system is geared to handle a milk-based diet (see 'Creep feeding' in Primefact 71 Basic pig husbandry — the litter). As the piglet matures so does its enzyme system. Therefore, pigs weaned at 28 days of age are more capable of handling non-milk carbohydrate and protein than pigs weaned at 14 days of age.

Immunological system

The newborn piglet has no protective immunity at birth and it relies on the intake of colostrum for the transfer of passive immunity from the sow. This immunity lasts for 10–14 days, but the piglet's own system does not start to develop until it is 21–28 days of age. Therefore, piglets weaned at 14–28 days are at risk because their ability to resist a disease challenge is at its lowest. Contact with disease-causing organisms or changes in the normal gut 'bug' population can have dire consequences. Fortunately there are effective vaccines available for pre and post-weaning, so discuss their use with your veterinary practitioner.

Feeding interval

When fed only twice per day a pig will eat large quantities of feed in a short space of time, which results in a large mass of semi-digested food emptying from the stomach into the small intestine. This causes a heavy loading on the digestive and absorption ability of the gut. Food may pass too quickly along the digestive tract to be absorbed and this supplies a nutrient source for micro-organisms lower down the

intestinal tract.

However, when the same amount of feed is consumed in smaller quantities at more frequent intervals the stomach empties intermittently. This is gentler on the digestive system and allows the enzymes a longer time in which to act. This allows the pH of the stomach to remain stable to allow for adequate protein digestion.

Stomach pH

While the degree of acidity varies along the digestive tract, the pH of the stomach is very acid (generally pH 2–3). This low pH is due to hydrochloric acid secretion which is necessary for the function of protein-digesting enzymes, but more importantly as far as the young piglet is concerned prevents the multiplication of ingested bacteria.

When the pig is fed, the pH rises towards the pH of the food, the stomach secretes hydrochloric acid and the pH again falls towards pH 2–3. If the food is eaten in large quantities at infrequent intervals, the stomach pH tends to remain higher for longer periods. This allows the bacteria to multiply and pass on through the stomach to the intestines. This causes an increase in bacteria to occur, and if undigested protein is available, *E. coli* can thrive and cause scouring and deaths.

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Further information

A wide range of information sources exists for those interested in the pig industry. Australian Pork Limited (APL) is the national representative non-profit organisation for Australian pig producers. It combines marketing, export development, research, innovation and strategic policy development to help develop a viable and sustainable industry. Resources and contacts are listed on their website: <http://www.australianpork.com.au> or they can be contacted on 1800 789 099.

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