

Chapter 4. The development of intensive pig production



Sow stall cage

Traditionally, pig keeping was a small scale operation. Rural households would each own a few pigs and fatten them up on scraps and leftover food. In the autumn, they would commonly be herded into the woods to feed on oak and beech seeds. This still happens today in some traditional farming systems in developing countries. Over time pigs were increasingly confined to sties and indoor units in larger herds. They were fed more grain and other concentrated foods.

Slatted floors that allow dung and urine to pass through have been used since the 1840s and confinement of the sow at farrowing was known in Roman times. However, the intensification of pig production did not seriously begin until the 1950s. The intensification process has been characterised by a reduction in the amount of space per animal to reduce capital costs and to ease management. This has enabled units to become larger so that each stockperson looks after an increasing number of animals thereby reducing labour costs.

Intensive pig production that has now been adopted around the globe takes place indoors on floors that are either slatted or perforated with no bedding. The breeding sows are closely confined throughout their lives and the fattening pigs are crowded into small barren pens. New building layouts and mechanisation helped to make procedures more routine making it possible to substitute lower cost, unskilled employees for qualified, experienced stockpersons.

Since domestication, people have selectively bred pigs for desirable characteristics such as larger bodies with more meat and fat. Recent breeding has tended to concentrate on faster, more efficient growth and less fat (see Chapter 10 on selective breeding).



Tamworth pigs. Thought to be a close relation of traditional UK forest breeds

Dry sows and gilts

The breeding stock consists of 'gilts', female pigs that have not yet given birth and 'sows' that have given birth to one or more litters of piglets. To get the breeding stock pregnant, they are first mated with or 'served' by a boar that is a mature male pig. Alternatively, boar semen is introduced manually by the stockperson using a process known as artificial insemination (A.I.). During this phase, the sows are sometimes referred to as 'dry sows' as they are no longer producing milk for their piglets. After service, both gilts and sows are kept in either sow stall cages, sometimes called gestation crates, or tether stalls.

Farrowing sows

Around 3-5 days before they are about to give birth, the sows are transferred to 'farrowing crates'. The sows give birth to their piglets or 'farrow' in the crates and remain there until the piglets are 3-4 weeks old. At this age, the piglets are taken away from the sow or 'weaned' and the sows are returned for mating to repeat the cycle or they are sent away for slaughter ('culled') after giving birth to an average of 3-5 litters.

In the United States, a large percentage of intensively raised pigs currently are weaned at 1.5 to 2 weeks of age so that the sows can be rebred

sooner. These 'naive' weaned pigs are taken to a separate site during the 'nursery stage'.



Farrowing crate

Weaners, growers and finishing pigs

In the EU, the weaned piglets or 'weaners' are transferred to 'flat deck' cages where they are usually mixed with other litters. Management practices will vary from farm to farm, but at around 60 days of age, when they weigh about 20kg, they are transferred to 'growing pens' at a lower stocking rate. At around 100 days of age, when they weigh 30-40kg, the stocking rate is reduced again when they are transferred to finishing pens. They may be sent for slaughter at around 170 days of age when

they weigh about 100kg, although most countries slaughter at a slightly heavier weight. Minimum stocking rates, listed in Table 2, are the minimum space requirements stated in EU law (see Chapter 16 on legislation).

In the US, there is no legislation about stocking density. The National Pork Board makes recommendations in its *Swine Care Handbook* (see Table 3). These are based on the minimum space required to achieve maximum performance. In other words, if you give them less space, pig welfare and growth rate are likely to suffer. In practice, most pig producers in the US allow less space than this. For example, one survey showed that the stocking density for finishing pigs in the US varied from 6.8-8.0ft² (0.63-0.74m²) per pig with an average of 7.2ft² (0.67m²) (Brumm, 2005).

In the US, partial or total slatted floors are also common. Groups of 10-20 piglets are commonly placed in nursery pens after weaning. At 50 lb, they are transferred to finishing pens (National Pork Board, 2002).



Weaners and growing pigs

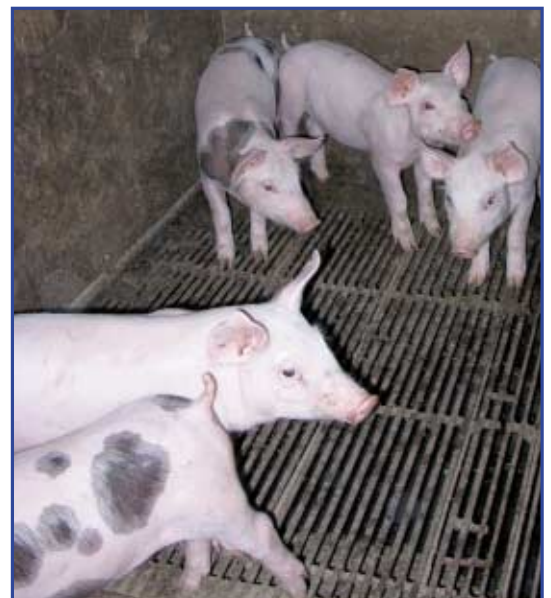


Table 2. Minimum EU stocking densities for growing pigs (Commission Directive 2001/93/EC) European Community (2003)

Live weight (kg)	Space allowance (m ²)
<10	0.15
10-20	0.20
20-30	0.30
30-50	0.40
50-85	0.55
85-110	0.65
>110	1.00

Table 3. Recommended US stocking densities for growing pigs (Swine Care Handbook, Table 3)**National Pork Board (2002)**

Live weight (lb; approx kg in brackets)	Space allowance (ft²; approx m² in brackets)
12-30 lb (5.4-13.6 kg)	1.7-2.5 ft ² (0.15-0.23 m ²)
30-60 lb (13.6-27.2 kg)	3-4 ft ² (0.27-0.37 m ²)
60-100 lb (27.2-45.6 kg)	5 ft ² (0.46 m ²)
100-150 lb (45.6-68.0 kg)	6 ft ² (0.55 m ²)
150 lb–market (68.0 kg–market)	8 ft ² (0.74 m ²)

The growing and finishing pigs may be mixed with unfamiliar pigs on several occasions during their lives. Throughout their lives, the growing pigs have free access to food and water though some units may restrict feed at the latter stages of finishing.

Boars

In intensive production, breeding boars are generally kept individually in small pens. These are usually large enough to house the boar and one or more female sows that are there to be served or mated. Some boar pens are bedded to provide good foothold while the boar is serving the sow.

In the United States, many boars are kept in stall cages and removed only when taken to a pen for semen collection or herded past recently weaned sows to detect females in heat.

**Boar accommodation****Summary**

Traditionally, pigs were kept in small groups and were fed on scraps and food they could forage for themselves. Growth rates were often similar to those of their wild ancestors. In today's intensive pigmeat production:

- Pigs have been selectively bred for faster growth with less body fat
- They are fed on specially grown concentrated feeds
- Sows are often kept in confinement systems such as sow stall cages and farrowing crates
- Growing pigs are often kept at high stocking densities in slatted cages and finishing pens