



OVERVIEW OF THE MAIN GROUP HOUSING SYSTEMS IN EUROPE

The term 'group housing' embraces a wide variety of systems with many different features, all of which can affect the sows' welfare. The systems vary mainly in terms of feeding methods.

INTRODUCTION

Each system can operate satisfactorily if well managed, but may cause major welfare problems if poorly managed. In particular, it is more difficult to observe, catch and treat individual sows in large group-housing systems. Thus, it is crucial that stockpersons feel confident about their skills and decision-making with regard to group housing, and they may need extra training. Although legally sows and gilts may be kept for up to 28 days in single pens following weaning and insemination, this is not necessary, and is expensive due to penning and space requirements.

Group-housing systems should incorporate a bedded lying area of sufficient size to allow all sows to lie down simultaneously, as well as non-bedded drinker and dunging areas. Where little straw or other bedding is used, or in cool climates and uninsulated barns, kennels can be provided (i.e. an insulated roof above the insulated lying area) and this will save feed. Boar pens are often incorporated into group housing systems for sows to facilitate detection of (returns to) oestrous. Extra storage space is needed for bedding and enrichment materials. Changing from a slurry-based to a straw-based manure system requires different types of storage and machinery for muck handling.

MAIN FEEDING SYSTEMS

PARTIAL STALLS:

✓ **Partial barriers** at the feed trough which extend at least to the shoulders provide some protection when feeding.

✓ **Trickle feeding** can be used to 'fix' sows to an individual feed space by dispensing small amounts of feed at intervals aimed to keep faster-eating sows in place waiting for the next portion of feed. However, dominant sows may still be able to guard several adjacent feed spaces.

!!! NOTE: Liquid feeding can reduce aggressive competition as the individual variation in eating time is less on wet than on dry feeding. The greater volume of wet feed may increase satiety and reduce motivation for fighting



Partial stalls with full partitions

FREE ACCESS STALLS:

This system can be made by modifying existing stall housing or purchasing newly manufactured stalls. Adjacent space, often provided by removing existing rows of stalls, is needed for communal lying and dunging areas. But depending on the width of the stalls, the stall itself is also often used as lying area. An alternative option is to have individual feeding stalls where the sows are manually confined by the pen dividing gates at feed time when the dung passage can be cleaned and the (kennelled) lying area topped up with straw or similar bedding.

✓ Sows can enter any available stall, where they are protected from competition at feed time or at other times from bullying.

✓ Stalls may be designed so that sows release a mechanism to exit and access the group areas, or the stockperson manually closes and opens the stalls, usually prior to and following feeding.

✓ Sows should only be locked in for up to 1 hour after feeding.

✓ Group size can vary from 3-4 up to 20-30 or even more, but once group size is determined it is not easily changed, as the sows in each group are matched for age/pregnancy stage/body condition and size.

!!! NOTE: An advantage is the possibility for individual rationing, with extra feed added manually. Sows are easily checked and treated in these systems.

Feeding system	Group characteristics	Management tips
Floor feeding	Static groups of 10 to 20 animals	<ul style="list-style-type: none"> • Match sows of similar size and body condition • Spread food in a wide area
Partial stalls	Small static groups of 6-10 sows	<ul style="list-style-type: none"> • Dry or wet feeding • Food should be distributed rapidly • Partitions should be 50 cm long (including the trough) • Full partitions without openings are recommended.
Free access stalls	Static groups. From 4-5 up to 20-30 animals.	<ul style="list-style-type: none"> • Individual sows can have extra feed.
Electronic sow feeding (ESF)	Large dynamic groups (100- 250 animals) 30-50 animals / feeding station	<ul style="list-style-type: none"> • Systematic training program of the sows when entering • Trained stockperson to the operating system • Leave space around the entrance and exit of the feeder • Spread the entries of the feeding stations • At least 4m between the feeder and the resting area • Establish one feed cycle per day. Feeding cycle should stop when the stockperson is available

Main tips for managing common feeding systems of group-housed pregnant sows

ELECTRONIC SOW FEEDERS (ESF):

Each sow or gilt wears a unique transponder on an eartag which is recognised by the computer and her individual ration is delivered upon entry to an enclosed feeding station. The ration is typically delivered in several drops during one visit. Exit may be controlled by the sow or by the computer, which can also flag up sows which don't eat their allocation.

✓ One **feed cycle** per day is programmed, but more than one cycle is sometimes used (e.g. dividing the amount of food dispensed into half the daily ration in 2 separate cycles). Programming more than one cycle increases sow activity, but may reduce hunger and associated competitive behaviour.

✓ Competition and aggressive interactions occur around the ESF as sows prefer to eat at the same time, so a clear **one-way flow of sows** towards, through and away from each feeder is necessary with 180-degree access and exit preferable to placing feeders against a wall.

✓ There should be at least 3 m of **free space** behind feed stations and at least 2 m between feeder entrances. All gates must be one-way to prevent sows going the wrong way through the feeders, with an exit race of at least 2 m which directs sows into the drinking/dunging area.

FLOOR FEEDING:

✓ Overhead 'dump' feeders or spin feeders are used to distribute the feed in many places over the lying area.

✓ Spin feeders scatter the feed more widely, so there is less aggression than when the sows have to compete for piles of feed, as they are kept busy foraging for their feed

!!! NOTE: Food distributed on the floor can become soiled and there may be associated disease risks if pens are not mucked out regularly



Electronic sow feeder

MAIN FEEDING SYSTEMS

These are possible only in warm or temperate climates and on suitable sites with light, free-draining soil and preferably rainfall below 750 mm. Sows are fed in groups with feed distributed widely along the ground or in troughs allowing at least 2 m per sow. Although ESF could possibly be installed, individual feeding is not usually practical so sows should ideally be grouped according to body condition and size. Feed is usually made into a cob or roll to reduce wastage. Water is provided in troughs and sows can make their own wallow, which may need filling with water.

Sows are often kept in groups of 5-20 per paddock (15-20 animals/Ha) with huts made of corrugated metal on a wooden frame providing shelter and containing deep straw bedding for warmth. Hut insulation is important in extreme climates. Additional shade and shelter is necessary to prevent sunburn. Fencing normally comprises two electrified wire strands 200 mm and 500 mm above the ground. Sows may be served indoors, or run with a group of boars or be introduced to a specific boar paddock. Outdoor systems often cost less per sow place but require dedicated and skilled stockpersons and management.

