

## Chapter 3. Natural behaviour of pigs

### Introduction

Studies of domestic pigs who have escaped back into the wild have shown that their behaviour closely resembles that of the European wild boar from which they originated. Even in intensive farming conditions, most of the behaviours can still be observed. An understanding of the natural behaviour of pigs can therefore help us to identify and remedy a range of pig welfare problems.



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Wild boar

### Range and habitat

Areas inhabited by pigs in the wild will always contain water, feeding areas, resting places, and sites for cooling, rubbing and defaecation. Pigs may range an area from 100 to over 2,500 ha depending on the availability of food. The wild boar is not generally considered to be a territorial animal.

### Social organisation

Social behaviour is highly developed in pigs. Within hours, newborn piglets begin to form social dominance relationships with littermates and eventually a stable hierarchy is formed. Fighting is therefore rare except when closely matched mature males encounter each other during the breeding season. Aggression may occur during the autumn when food becomes concentrated in patches but it is usually regulated by the 'submissive' behaviour of lower ranking individuals.

The early associations between piglets often persist into adulthood, particularly among females. It is believed that pigs can remember up to 30 other individuals (Meese and Ewbank, 1973), which is consistent with the finding that pigs are rarely observed to congregate in groups of over 20.

The basic social unit consists of one to several females and their offspring with other loosely associated individuals. This organisation remains more or less stable until the beginning of the rutting season in October when the boars join the females. Mature males are relatively solitary but bachelor groups may form in the late summer.

Sows usually give birth in spring though it is known that they can give birth practically all year round. In good feeding conditions, sows can give birth twice a year. In social groups, the breeding is often synchronised.

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Wild boar and domestic sows with young



## Birth

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Wild boar sow collecting nesting material

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Domestic sow collecting nesting material

The gestation for domestic sows is 115 days. One or two days before giving birth, the sow separates herself from the main group and becomes increasingly aggressive towards her own young. Research suggests that her search for seclusion increases the survival chances of her new litter (Jensen, 1988). The sow spends a considerable time looking for a suitable site where she will construct an elaborate maternal nest. This consists of a hollow dug in the earth, which is lined with grass, leaves and twigs, with larger branches to form side and overhead cover.

The average litter size for both wild and feral domestic sows is 5 to 6 piglets though rarely they can give birth to over 10. The piglets are born at approximately 15 minute intervals. The sow spends most of the time lying on her side and, in contrast to most hoofed animals, does not lick her young to remove the embryonal sheath or help the young to stand.

## Maternal behaviour

Young piglets are very active and are able to stand within a few minutes after birth. They sample the sow's 14 teats before attaching to one with which they will remain for the rest of the nursing period. Newborn piglets also go up to the sow's nose and sniff. This may be important for future mutual recognition.

It is common for piglets to be born within a range of sizes and for the smaller ones to be born last. The larger, earlier born piglets attach themselves to the more productive anterior teats, which they then vigorously defend. This means that the strongest piglets get the most food, significantly increasing their survival chances at the expense of the weakest. This ensures that, when food is scarce, there is a good chance of some of the piglets surviving. When food is plentiful, they all have a chance.

The piglets then develop a pattern of alternating between suckling every hour or so and sleeping. To begin with, the sow spends more time lying on her side and grunts softly to encourage the piglets to come and suckle. After a few days the piglets initiate most of the suckling by coming up to the sow, squealing and attempting to massage her udder. The piglets keep warm by huddling together close to the mother's udder for the first few days of life during which the sow remains relatively inactive.

## Suckling

Before standing and lying down, the sow and the piglets co-ordinate their behaviour to prevent the piglets from being laid upon. The sow goes through the ritual of rooting through the nest to disturb the piglets which may be nudged out of the way. Preparing to suckle, the piglets then group on one side of the sow and the sow lays her hindquarters on the other side of the group. If a piglet is laid upon, he or she will utter a loud squeak and the sow will instantly change position or stand up and grunt. If there is no reaction from the sow, the piglet is sometimes able to get free by vigorous struggling (Schmid, 1991).

After one or two days, the sow begins to leave the nest for short periods. A couple of days later, the sow incites the young to follow her and they remain very close. After a week, the piglets become more independent. During this period the sow can

become very protective and attack potential intruders. The sow finally leaves the nest between 7 and 14 days depending on weather conditions.

Young pigs start sampling solid food objects after about 3 weeks. After a few weeks, the sows and their litters begin to re-group and they may tend to

their offspring together. Social interaction between different litters thereby begins gradually from an early age. In social groups, sows usually synchronise nursing behaviour.

The young piglets are gradually weaned between 13 and 17 weeks. The young will remain in the family group until the following year when the sows are due to farrow again. Before beginning the search for a suitable nest site, the sows will chase away their offspring. Quite often, daughters will return to the family groups once they begin reforming.

## Suckling

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After a few days, piglets initiate suckling by massaging udder

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then the sow briefly ejects milk

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Each piglet has his or own teat which they will defend against each other

## Transition to solid food



Piglets start to eat solid food from the age of about 3 weeks



Piglets gradually eat increasing amounts of solid food before weaning at 13-17 weeks old

## Activity patterns



**Mid-day siesta.** Pigs are mainly active during the morning and early evening

Pigs have two peaks of activity, one in the early morning, the other in the evening. They are usually found resting once dusk has fallen, though it has been suggested that some wild boar have developed nocturnal habits to avoid disturbance from people. In social groups, periods of feeding and rest tend to be synchronised between group members. Pigs construct simple nests for sleeping, particularly when the weather is cold.

Pigs are frequently seen to use trees for rubbing and wallows for rolling in. These behaviours keep the skin in good condition and help to remove parasites. Wallowing also serves to cool the animals during hot temperatures. Pigs lack sweat glands, apart from on the disc of their snout. Intensively kept pigs sometimes have to resort to wallowing in their own dung and urine when they need to cool down.

Pigs like to keep in physical contact with each other. During sleep and rest, they are frequently all seen lying together. This huddling serves to reduce heat loss.

During periods of activity, most of the time is spent looking for food.

## Temperature control



**Wallowing**



**Huddling**



**Seeking shade**

## Feeding

Pigs are omnivorous opportunists and will eat almost anything. The food they eat is usually highly varied, high in fibre and takes a long time to find and consume. Most foraging is directed to objects at ground level which are investigated by sniffing, rooting and chewing before finally being eaten.

In spring and summer, pigs forage on more open grassland and marshland where they feed on grass, roots, tubers and invertebrates. Most feeding in autumn occurs in woodland where they will gorge on acorns, nuts and berries to last them during the sparse winter months. Pigs also eat a large range of vertebrates including frogs, snakes, turtles, the young and eggs of ground nesting birds and have been known to prey on small rodents. Carrion is also devoured.



Iberian pigs feasting on acorns in autumn

## Defaecating and urinating

Pigs usually select specific areas for defaecating and urinating. These are commonly natural corridors between bushes and trees. Under farm conditions, pigs prefer to defaecate and urinate away from their lying area unless they are suffering from heat stress (AHAW, 2005).



Rooting behaviour in farmed wild boar and domestic pigs. Other feeding strategies include browsing and grazing



Some traditional breeds have pigmented skin to protect against the sun. Wallowing in mud can provide solar protection for light-skinned breeds.

## Summary

### Sows:

- Usually live in groups of a few females with their offspring
- Leave the group and make a nest in an isolated spot for farrowing
- Return to the group with their piglets one or more weeks later

### Piglets:

- Compete for the best teat and then defend it
- Start to eat solid food at 3 weeks old
- Are finally weaned at 13-17 weeks old

### Pigs:

- Are omnivorous opportunists
- Will forage for several hours a day
- Usually eat considerable amounts of high fibre food including roots
- Choose specific areas for defaecating and urinating which are separate from their lying areas
- Understanding pig behaviour is essential to understanding the needs of pigs and to remedying welfare problems