

Successful weaning of organic piglets





Weaning piglets from sows is a major challenge for many producers. Immunodeficiency, post-weaning diarrhoea, and lack of appetite often lead to harm and animal losses. Whether the rearing will be successful or not often becomes apparent in the first few days after weaning.

The optimisation of husbandry, feeding, and management can make a decisive contribution to avoiding animal losses and keeping the use of medication low.

This document considers the difficulties around weaning piglets and shows what measures are necessary to prevent problems and to remedy them in acute cases.

Content

Critical Weaning Phase	2
Post-weaning Diarrhoea: A Multifactorial Disease	4
Optimisation of Husbandry and Management	8
Optimisation of Feeding	10
Feed Supplements to Aid Digestion	12
Prophylaxis and Treatment with Medicinal Plants ..	13
Homeopathic Prophylaxis und Therapy	14
Treating Diarrhoea	15

Critical Weaning Phase

Under natural conditions, a sow slowly weans her piglets off milk when they are 13 to 17 weeks old. Already when they are about 3 weeks of age, the mother's milk no longer meets the growing piglets' nutritional needs. They then begin to ingest feed and water in addition to milk. In the following weeks, they continuously consume more solid food in several small meals with different ingredients spread throughout the day. The ingestion of soil when digging in the ground naturally covers iron requirements, and its humic acids promote healthy intestinal flora.

The switch from digesting milk protein, sugar, and fat to digesting carbohydrates from roots and nuts, vegetable proteins, and fats takes place gradually for wild pigs. By the time the mother sow weans the piglets, they are used to solid food and drink sufficient water.

Stressful weaning with shortened suckling duration

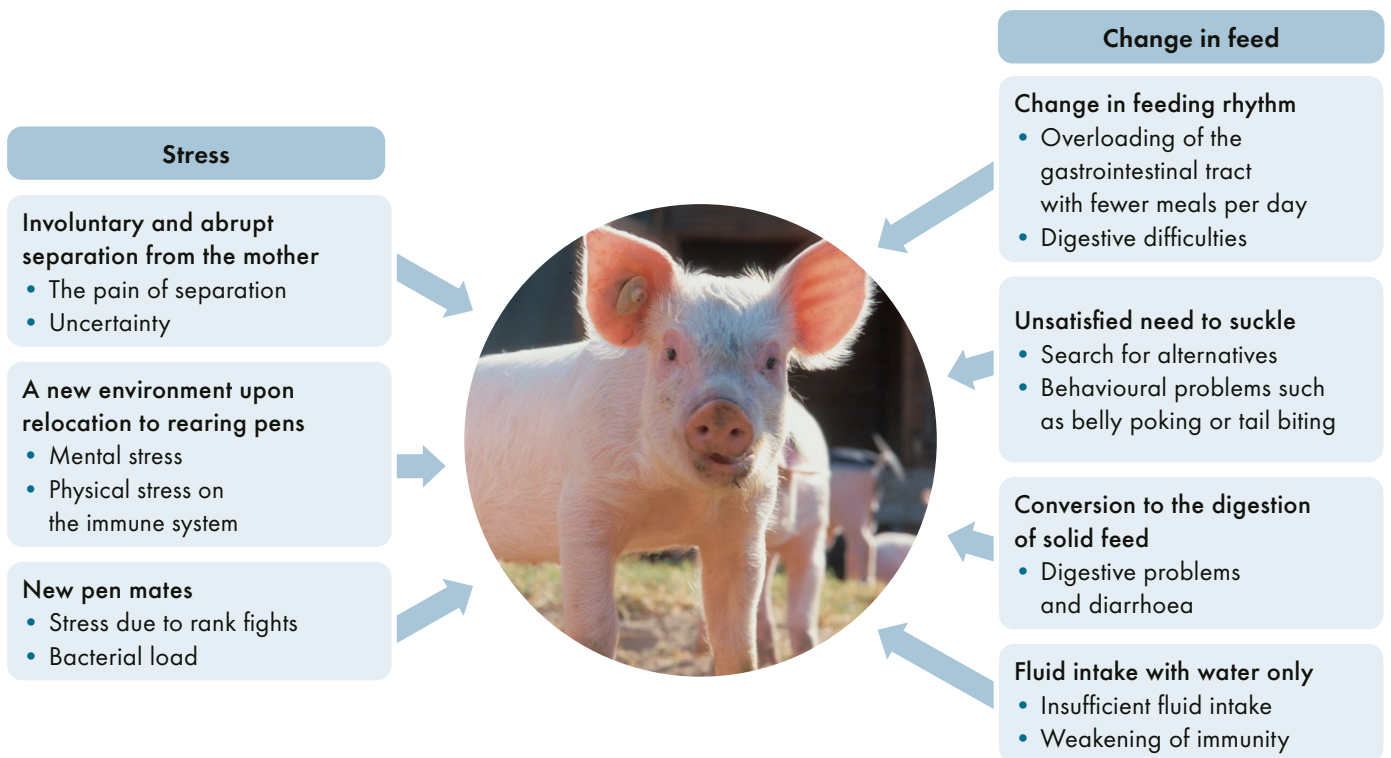
While piglets in conventional farming are separated from the mother sow as early as 3 to 4 weeks after birth, organic farms let piglets suckle for 40 days (EU Organic Production Regulation) or 42 days (Bio Suisse). But even weaning after six weeks puts the piglets under considerable stress, as they have not had enough time to wean off the sow's milk, and weaning is accompanied by major changes.

As a result of the changes, many piglets suffer from separation anxiety, uncertainty, and fear. This leads to a loss of appetite, immunodeficiency, and often also to diarrhoea. This can occur within a few days and up to two weeks after weaning and, in extreme cases and if left untreated, can lead to death.



In nature, the change in piglet nutrition from milk to solid food takes place slowly. The sow gradually reduces suckling time, and the piglets cover an increasing proportion of their food and water requirements themselves from the environment.

Figure 1: The process of weaning from the piglet' point of view



Post-weaning Diarrhoea: A Multifactorial Disease

Several factors are usually involved in the development of post-weaning diarrhoea (see Figure 2). A change in feed and pathogens plays a central role. The interaction of these alongside immunodeficiency and other stress-inducing factors increases the risk of diarrhoea. Reducing multiple factors can significantly decrease the risk of weaning diarrhoea.

If diarrhoea occurs the cause should be analysed, as treatment depends on the cause and targeted preventive measures should be taken.

Figure 2: Possible contributing factors to the development of weaning diarrhoea

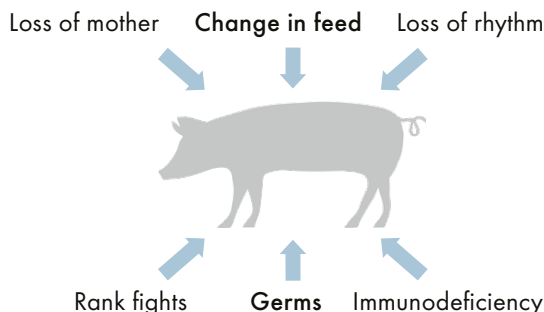
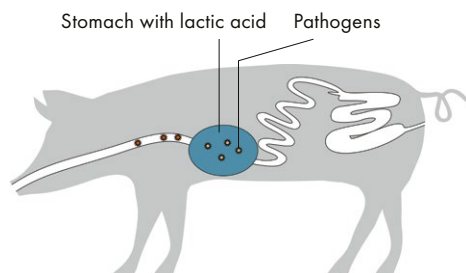


Figure 3: Insufficient acidification of the stomach contents as a cause of intestinal diseases

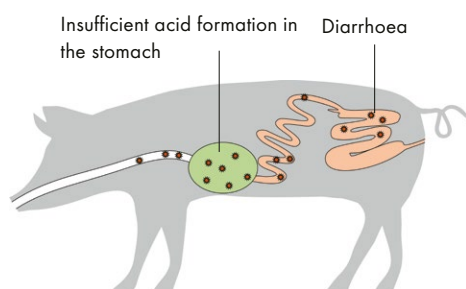
✓ Suckling piglets

In suckling piglets, microbially formed lactic acid from the sow's milk ensures sufficient acid formation in the stomach. This renders pathogens harmless.



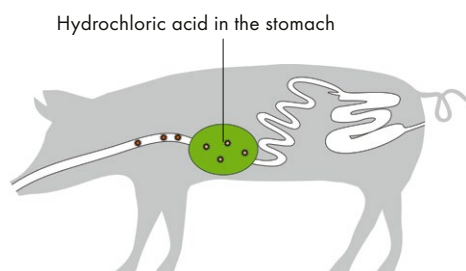
✗ Weaned piglets with insufficient acid production

If weaned piglets have not learned to produce hydrochloric acid in their stomachs, they cannot sufficiently acidify feed mash after weaning. Harmful bacteria can thus enter the intestine and cause diarrhoea.



✓ Weaned piglets with sufficient acid production

With early supplementary feeding during the suckling period, weaned piglets produce enough hydrochloric acid in their stomachs to acidify the contents and neutralise pathogens.



Immediately after birth, piglets receive passive immunity through the ingestion of stall-specific antibodies in the colostrum. This is the basis for the development of the immune system. During the suckling period, the piglets are continually provided with antibodies. At the same time, their immune system learns to produce its own antibodies. However, at the time of weaning, the immune system is not yet sufficiently developed in some piglets. This makes them susceptible to infections. If weaning takes place at a later time, the immune system has more time to develop.

Feed-induced post-weaning diarrhoea

Insufficient gastric acid production

Pathogens are always ingested with feed. Normally these are killed by lactic acid in the suckling pig, and in the adult pig by the hydrochloric acid in the stomach. This prevents the pathogens from reaching the intestine.

After weaning, high levels of crude protein and minerals in the feed bind acid in the stomach. This increases its pH value, and the pathogens are no longer killed (see Figure 3). If the piglets are not prepared for the change in feed at weaning, the capacity of their stomach for acidification is still insufficient after six weeks of life. Thus, harmful bacteria can pass from the stomach into the intestine, multiply there, and cause diarrhoea.

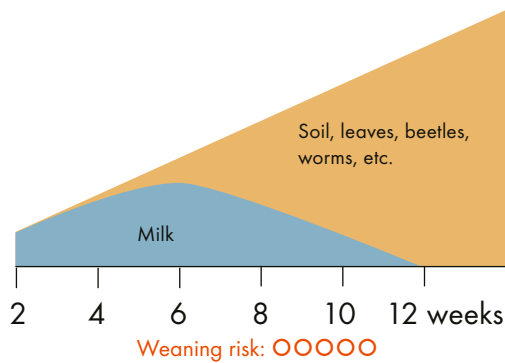
Abnormal feeding behaviour due to stress

Due to the loss of the mother, a new environment, and new pen mates after weaning, the piglets are stressed and therefore take in less feed in the first days after weaning. This leads to a lack of energy and a depletion of their fat reserves, which explains their increased need for warmth after weaning. The low feed consumption also leads to a decrease in the body's own digestive enzymes and a shortening of the intestinal villi, which makes the absorption of nutrients more difficult.

After this first shock and when the piglets begin to feel hungry, they often eat too much at once. The food can only be digested poorly due to the shortened intestinal villi and the lack of enzymes. The nutrients cannot be absorbed, and the feed is excreted undigested. A portion of the undigested feed remains in the stomach and forms a breeding ground for pathogenic coliform bacteria.

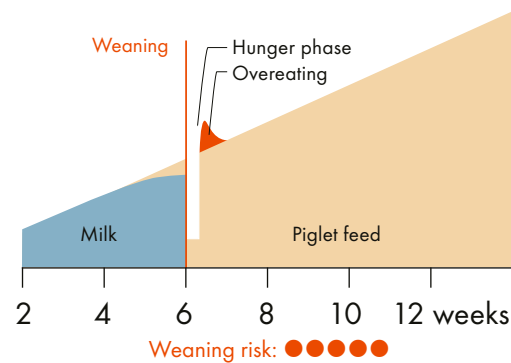
Figure 4: Effect of feeding and weaning time on weaning risk

Natural weaning



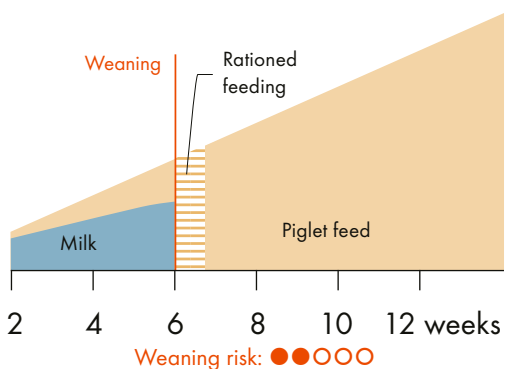
Under natural conditions, feed conversion takes place over a period of 12 weeks.

Critical weaning at 6 weeks



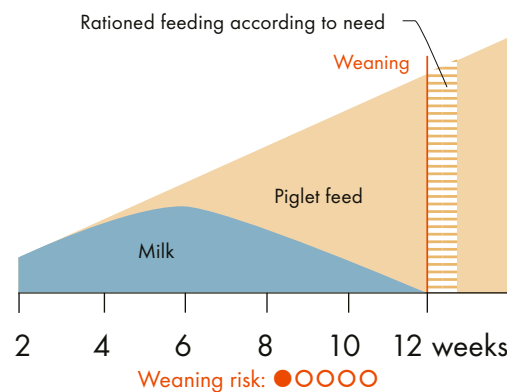
If the piglets are not sufficiently prepared for weaning, the separation from the sow leads to abnormal feeding behaviour. Too little feed intake and subsequent overeating can lead to complications.

Optimised weaning at 6 weeks



If piglet feed is introduced early, the intake of solid feed increases steadily until weaning. The digestive system is thus familiar with the feed at the time of weaning. The frequent, rationed presentation of feed after weaning increases its attractiveness and prevents a hunger phase.

Natural weaning at 12 weeks



The late weaning time in combination with the early introduction of feed leads to an almost seamless change in feed intake. In this case, rationed feeding is only necessary if the piglets initially eat nothing and then too much due to separation anxiety.

Pathogen-induced post-weaning diarrhoea

E. coli bacteria (colon = part of the intestine) naturally occur in the healthy intestine. However, many strains of this bacterium can cause diarrhoea. Based on the structures on the bacterial surface, a distinction is made between different types of *E. coli*. In the examination results of a stool sample, these specific types are designated in more detail as F4, K91, 0149, etc.

Even pathogen-induced diarrhoea can be prevented to some extent by optimal feeding and management measures. In some cases, however, vaccinations or chemotherapeutic treatments are necessary after diagnosis by stool sample examination. Faeces testing is recommended especially in cases of recurrent post-weaning diarrhoea.



Piglet with curly tail and solid feces.



Piglet suffering from watery diarrhea.

How to collect stool samples

- Only sample newly sick animals, since after a few days of diarrhoea, the original microbes that caused it can usually no longer be found in the stool sample.
- If possible, take swab samples from the rectum.
- For diagnostic purposes, only use fresh stool samples.

Generally, two forms of coliform bacterial infections are distinguished:

1. Enteric colibacillosis

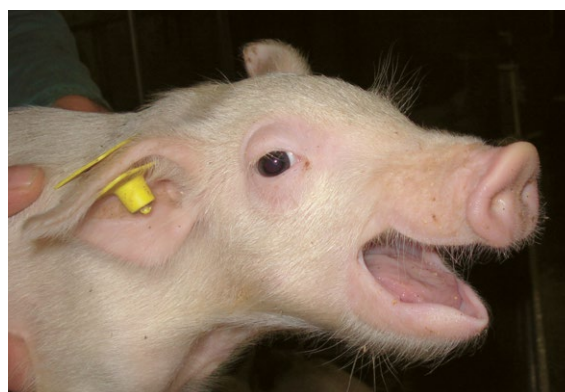
The disease appears a few days after weaning; the diarrhoea is severe and the stool watery. The animals still eat in the beginning but become increasingly languid and die of dehydration.

2. Oedema disease

Sudden deaths of well-fed animals after weaning are an indication of oedema disease (enterotoxigenic *Escherichia coli*). This disease is caused by *E. coli* bacteria that produce toxins (Shiga toxins). It occurs somewhat later than enteric colibacillosis (up to 2 weeks after weaning) and does not itself cause diarrhoea. However, oedema disease can co-occur with enteric colibacillosis.

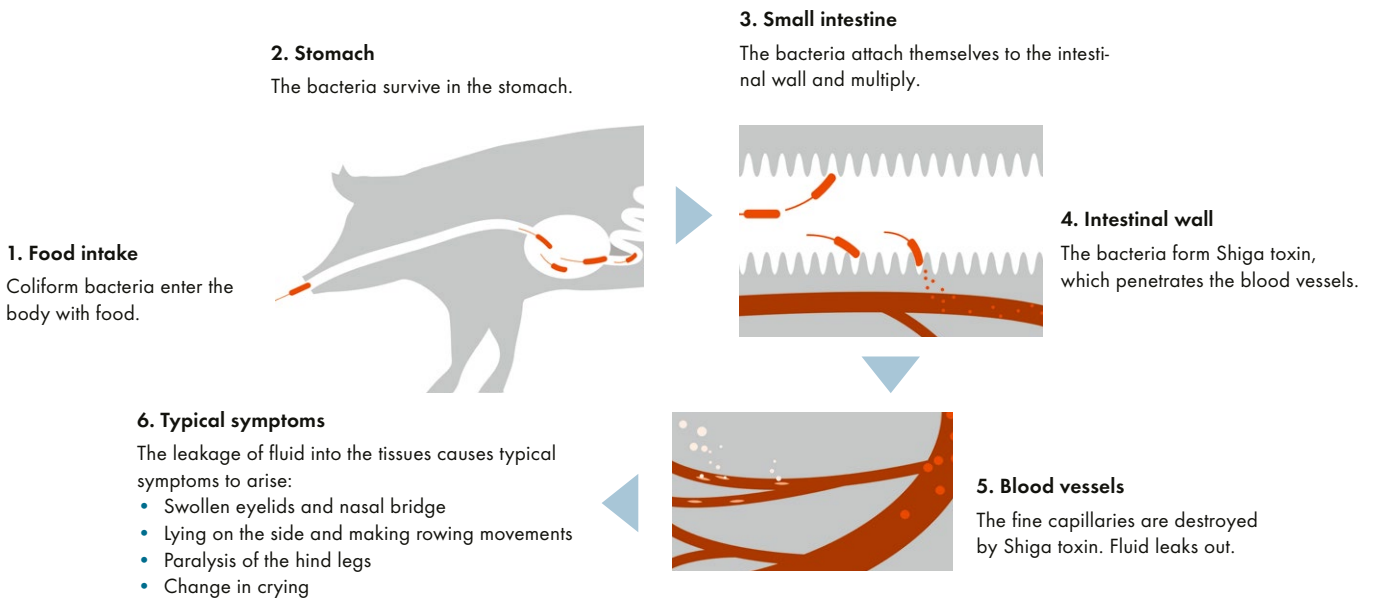
Vaccinating piglets against Shiga toxin in the first week of life can prevent sudden deaths from oedema disease with a very high degree of certainty. Vaccination is strongly recommended in farms where this disease is present. However, vaccination does not prevent diarrhoea caused by other *E. coli* bacteria or diarrhoeal pathogens.

Sudden deaths with the same presentation can also have other causes such as infections by streptococci, *Hämophilus parasuis* (HPS), or mycoplasma/eperythrozoonosis (*Mycoplasma suis*). The usual antibiotic treatments are not effective against these diseases. A diagnostic clarification of the actual cause by the farm veterinarian is therefore absolutely necessary.



Typical symptoms of oedema disease include swollen eyelids and a hoarse, raspy cry.

Figure 5: How the typical symptoms of oedema disease develop



Breeding for F18 *E. coli* resistance

E. coli bacteria of fimbria type 18 cause diarrhoea in piglets. In pigs that are genetically resistant to F18 pathogens, the bacteria cannot attach to the intestinal wall, as these pigs lack the necessary receptor. Available in Switzerland and southern Germany are sows and boars bred to be resistant, as well as semen from Swiss breeds. Producing genetically resistant piglets for meat requires sows and boars that are bred to be completely resistant. Information on how to build up such a herd is available at info@suisag.ch.



The best way to prevent oedema disease is by using Coli-F18 resistant sows and boars.

Optimisation of Husbandry and Management

The complex interrelationships between various factors require a comprehensive optimisation of the piglets' living conditions to prevent weaning diarrhoea. Only a combination of optimised husbandry and feeding with good management can ensure the animals' long-term health and productivity.

Measures for minimising piglet losses

- Extend the suckling time.
- Ensure a disease-free suckling period.
- Feed piglets before weaning.
- Enable contact between piglet groups even before weaning.
- After weaning, keep littermates together and do not mix litters that do not yet know each other.
- Provide sufficient warmth.
- Use the same drinking and feeding facilities in the rearing and farrowing barns.
- Only change the ration proportions between starter and rearing feed, not their components.
- Provide multiple meals per day.
- Act quickly in case of emergency.

Husbandry und management

The healthier the piglets are during the suckling period, the more stable they are in the weaning phase. The prevention of diseases before weaning is therefore of great importance. In the weaning phase, it is important to use appropriate management measures to keep stress as low as possible.

Pre-weaning measures:

- All diseases that occur during the suckling period must be diagnosed and treated. Of particular importance in connection with weaning is the treatment of coccidia, as these destroy the intestine and thus inevitably cause diarrhoea.
- Provide a sufficiently large, warm, and draught-free piglet nest equipped with either overhead or floor heating.
- Enabling the piglets to have contact with their later group mates already during the suckling period (as is the case in group farrowing, group suckling, or piglet hatches) can reduce the physical stress resulting from things like new germs as well as the psychological stress from things like rank disputes.



If the piglets are to be regrouped after weaning, it has proven successful to let the groups come into contact with each other before weaning via a piglet hatch.

Post-weaning measures:

- It is best to keep piglets together as a farrowing group rather than regrouping them. The smaller the farrowing groups, the easier it is to check the animals regularly.
- Provide separate areas for feeding, resting, rooting and defecating. A well-ventilated, damp place with a view of the neighbouring pen or a sheltered corner, preferably in the outdoor area, is suitable as a defecation area.
- Leave the piglets in the farrowing pen for a few days.
- Provide a dry, bedded, protected, and warm lying area (20 – 25 °C, with a heat source).
- Regularly check the lying behaviour of the piglets. If the piglets are lying in a pile, offer a heat source or increase the temperature.
- For the first week, it is essential to guarantee a 1:1 animal-to-feed space ratio to avoid competition when feeding. The piglets are used to eating together from suckling.
- Provide sufficient fresh and dust-free air in the stall (with no draughts!).

Good hygiene at every stage

The more intensive the pig farming, the more important good hygiene is. This requires appropriate husbandry and management measures:

- Establish a cleaning procedure for the farrowing and rearing pens when possible. Cleaning the pen and leaving it empty is most effective for reducing germs, and the piglets can be born and weaned in a clean environment.
- Avoid using a common manure gutter to prevent the spread of germs from one group to the next.
- In the rearing pens, remove pathogens of the previous group as best as possible to break the chain of infection. If specific harmful germs have been detected in the herd that can be rendered harmless with effective disinfectants, disinfect the pens. Otherwise, wash the pens thoroughly and let them dry.
- If possible, separate the rearing pen from the farrowing and fattening pens.
- Wash the sows before bringing them into the farrowing pen. Streptococci, staphylococci, coliform bacteria and parasite eggs can otherwise be transferred from the sow's udder to the new-born piglets.



Optimal housing for piglets after weaning is a hygienic, separate stall with a good climate and opportunities to be active.

- Since the sows only form stall-specific antibodies if they have been in the herd for a sufficiently long time, gradually integrate the gilts into the herd before they are inseminated and at the latest 6–8 weeks before farrowing.



A long trough enables all the piglets to feed simultaneously after weaning.

Optimisation of Feeding

Feeding is of great importance in all phases. It is important to make the transition from sow milk to solid feed as smooth as possible. Accordingly, piglets must be prepared already in the suckling phase for feed.

Feeding before weaning

Experience shows that piglets hardly eat solid feed in the first two weeks of life. Nevertheless, their interest can be awakened by presenting them with small amounts every day. In addition to piglet starter feed, whole wheat grains are also suitable for early feeding. Although these are only partially digested, they are visually appealing and are excellent for allurement. Only interesting and palatable piglet feed is readily accepted by the piglets.

Feeding suckling piglets also trains enzymes to prepare the digestion system for solid food. At weaning, each piglet should weigh at least 10 kg and eat 200–300 g per day.

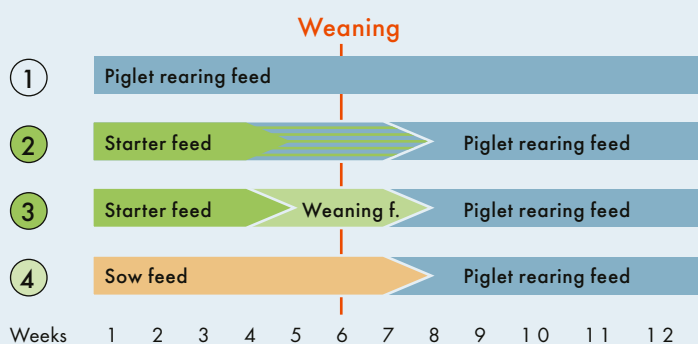
Keep in mind

- Mix starter and rearing feed before weaning or cut starter feed with barley in a ratio of 50 : 50.
- Offer the feed with rooting soil as top dressing and moisten it. This encourages the piglets to root and provides a visual stimulus.
- Pelleted or granulated feed is better received than mealy components.
- Piglets like to eat with their mother. Therefore, the piglet feeding station should be next to the sow feeding station.
- Push uneaten feed to the sow after a few hours. This also makes the leftover feed attractive again.
- For reasons of physiology and ease of labour, practise floor feeding instead of automatic feeding.
- Offer highly digestible, palatable feed (e.g. feed with milk components or pumpkin seed cakes).

Feeding during and after weaning

- Change the feed a few days before or after weaning, never during weaning.
- When changing feed, blend the feeds gradually over 1 week.
- After weaning, divide the daily rations into at least 3–5 meals. Do not feed ad libitum!
- Ensure a trough length of at least 18 cm per piglet rearing station.
- Automated feeding allows for precise adjustment of the consistency of the feed and the frequency of presentation. At the beginning of weaning, offer about 10 mushy meals per day. For large groups, provide a second feeding trough.
- In problem herds, present mushy feed from the beginning to promote a feeling of satiety. Piglets are, after all, already familiar with liquid feed. Since mushy feed spoils more quickly than dry feed, ensure proper hygiene.

Figure 6: Which feed strategy to use?



- ① No feed conversion, simple feed management
- ② Protein-rich and palatable starter feed
- ③ Weaning feed: 50 % starter feed + 50 % barley; or special weaning piglet feed low in protein and minerals (15 % raw protein (RP), Ca <6 g/kg)
- ④ If the piglets eat only sow feed during the suckling period, they should be weaned with this feed.

● Recommended variants ● Only for group suckling



Piglets should be fed restrictively and not ad libitum after weaning. A change in feed is carried out over several days by blending the feeds.



To ensure a good water supply for the weaned piglets, there must be enough drinking bowls available at a suitable height.

Feed composition: what to keep in mind

- Keep the proportion of legumes below 15 % (max. 10 % field beans, 15 % peas, 5 % lupins). The legumes bind acid during digestion and thus increase the pH value.
- For low acid binding, keep the calcium content below 6 g per kg during weaning.
- Use easily digestible protein components such as skimmed milk powder (which contains a lot of calcium, so keep the proportion moderate!), brewer's yeast, and soya or pumpkin seed cakes.
- To ensure that the crude protein content of the feed does not exceed 150 g per kilo in the first 10 days after weaning, blend the feed with components rich in crude fibre such as barley, triticale, or oats.
- Increase the crude fibre content to 5–6 % when weaning by supplementing with feed such as hay or wheat bran.

Example: Composition of a piglet starter feed

Barley	24%
Wheat	21%
Soya cakes	14%
Peas	10%
Skimmed milk powder	7%
Pumpkin seed cakes	5%
Vitamins, trace elements, minerals	2%
Whole wheat grains	5%
Rolled oats	12%

Water supply

An adequate supply of fresh, ideally slightly warm water is the cheapest 'feed' and the simplest measure to prevent disease.

Keep in mind

- As pigs naturally drink from open water surfaces, drinking bowls with a flow rate of 0.5–1 litre per minute are most suitable.
- Select and install piglet water bowls in such a way that they do not get very dirty and are easy to clean (for example, by making them accessible only via a platform). It is optimal to install them above a grate so that excess water can drain off.
- The piglet water bowls should be variable in height so that they can be adjusted to fit the size of the animals.
- Placing watering bowls in the pig run area keeps the inside of the pen dry, but freezing must be prevented (install an insulated ring main).
- Install at least two water bowls per pen. For larger groups, provide 1 drinking bowl for every 10 animals.
- Check the drinking bowls several times a day for contamination.
- Clean the drinking lines regularly with 0.2 % fruit vinegar, formic acid, or citric acid.

Feed Supplements to Aid Digestion

Some feed supplements can help stabilise piglet digestion. Due to their availability, the feeding technique of the farm, and the preferences of the farm manager, their suitability may vary from farm to farm. Feed supplements should be organic in origin or be approved for organic feeding (as listed in the input lists for organic agriculture).

Silage

Encourages digestive activity and supplies lactic acid bacteria and pH-lowering acids.

- Use only the best silage.
- Wet clover grass silage is particularly suitable.
- To keep the stable dry, offer the silage in the outdoor area of the pig run.

Bluntleaf dock (*Rumex obtusifolius*)

The plant is used fresh or prepared as a tea to prevent diarrhoea.

- Offer 30–40 g per animal per day of the fresh whole plant with the root.

Stinging nettle (*Urtica urens/U. dioica*)

For many hundreds of years, it has been said to have a strengthening and 'blood purifying' effect.

- Offer stinging nettle fresh (or wilted) as a tea or mixed with water at room temperature for 12 hours around the time of weaning.
- Each piglet can be given around 10 g of fresh nettles (or 2 g of dried nettles, or a tea made from them) daily for 10–14 days.



Wet silage is particularly well-received by the piglets.

Organic apples and carrots

Organic apples and carrots support digestion, as their pectins bind harmful metabolic products in the intestine and thicken the faeces.

- Before administering, cook the apples and carrots to activate the pectin (Moro's carrot soup).
- Add apples and carrots in a proportion of 5–10 % to the rations.

Organic fruit vinegar

Fruit vinegar is good for lowering the pH value in the stomach, thereby supporting digestion.

- Dilute the vinegar with water in a ratio of 1 : 1 and add it as 1–3 % of the feed rations.

Dry peat / rooting material

The humic acids of the peat support digestion in the piglet's stomach and intestine. Offering small amounts of sterilised peat over several days has already shown positive results on many farms.

- According to the EU Organic Production Regulation, peat is not allowed as feed but only as rooting material. Therefore, peat should be sprinkled over the feed as a top dressing at a rate of 2 % or 4–6 g to stimulate rooting.

Probiotics

Probiotics, such as lactic acid bacteria and yeasts, support digestion by stimulating the growth of bacteria found in the intestines and thus counteracting the colonisation of unwanted intestinal germs. Probiotics include effective microorganisms, 'Brottrunk' (fermented grain beverage) and yoghurt products. Many probiotics are offered as feed additives. Their suitability for organic agriculture should be verified before use (e.g. by checking the catalogue or list of inputs for organic agriculture).

Feed additives may be distributed by veterinarians but not prescribed, as they are not medicinal products. Therefore, the farmer is responsible for their legally appropriate use!

Prophylaxis and Treatment with Medicinal Plants

Medicinal plant teas are particularly suitable for treating diarrhoeal diseases, as they supply not only medicinal plant extracts but also fluids. Medicinal plants are primarily used not for killing pathogens, but rather for alleviating the unpleasant symptoms of diarrhoeal diseases and supporting piglets' self-healing.

In principle, teas for piglets should always be prepared based on an oral rehydration solution or one recommended by the World Health Organization (WHO). The WHO solution is more effective, as it contains additional buffer substances in contrast to a simple electrolyte solution.

When preparing teas, only use as much water as is needed. The brew is then mixed with electrolytes and offered to the piglets several times a day in small quantities. A piglet can consume up to 0.5 l of tea per day.

Oak bark tea, stinging nettle, dock, and Moro's carrot soup are suitable feeds not only for supporting digestion but also for treating diarrhoea. Moro's carrot soup in particular can be offered fresh several times a day to piglets suffering from diarrhoea.

Black tea

The theine contained in black tea is particularly suitable for reanimating listless and lethargic piglets. The tannins contained in black tea also have a similar effect to oak bark.

- For the treatment of diarrhoea, simmer the black tea for 10–15 minutes.
- 2 g black tea (1 teaspoon) is enough for 5 piglets.

Caraway tea

The essential oils of caraway have a decongestant and flatulence-reducing effect and thus, above all, relieve pain in the gastrointestinal tract. Caraway also stimulates the appetite.

- Always store caraway as undamaged seeds to keep the essential oils locked in the fruit.
- Immediately before preparing the tea, pound the fruits with mortar and pestle so that as many fruits as possible are cracked and the essential oils are released (do not grind them!). Then pour boiling water over the fruits and leave them covered for 10 minutes.
- If caraway is not well received, it can be replaced by fennel or aniseed.
- Use about 2g of caraway fruit per piglet per day (1 teaspoon is enough for 2 piglets).



Clockwise from top left: black tea, caraway seeds, camomile flowers, oak bark

Oak bark tea

The tannins in oak bark have an astringent effect and prevent harmful bacteria from adhering to the intestinal mucosa.

- Boil approximately 5–10 g of oak bark (*Cortex Quercus*) per piglet per day for 10–30 minutes to dissolve the tannins.

Camomile tea

The essential oils of camomile have an anti-inflammatory and antibacterial effect. The yellow pigments – the flavonoids – soothe the gastrointestinal tract. Thus, camomile is used above all for inflammatory diarrhoea.

- Use 1 g (1 teaspoon) of camomile per piglet per day and make a decoction.
- Because of the essential oils, always steep the camomile tea with the lid on and let the condensation drip off the lid back into the tea after 10 minutes.

Homeopathic Prophylaxis und Therapy

Homeopathic remedies are successful at preventing and treating oedema and post-weaning diarrhoea. For such remedies to be effective, however, the piglets must be vital, and there must be a reliable and meaningful diagnosis. Management errors cannot be remedied through homeopathics. Since weaning circumstances can be very individual, it has proven useful to analyse and optimise management with the consultant or the herd veterinarian before beginning homeopathic treatment.

As much as possible, homeopathic prophylaxis and therapies should be prepared individually for each herd. Therefore, only general recommendations can be given here.

For prenatal prophylaxis

To ensure that piglets are as healthy as possible, special attention should be given to the birth and suckling phase.

For a smooth birth, a homeopathic mastitis, metritis and agalactia (MMA) prophylaxis can be used. For this, a complex of Lachesis 30C, Pulsatilla 30C, Phytolacca 30C, Caulophyllum 30C and Sabal ser. 30C is given 1 to 2 days before birth.

Treatments during the weaning phase

For weaning piglets, the following homeopathic medicines (also as complexes) are possible for prophylaxis and therapy:

On the first day after weaning:

- Aconitum 200C as an acute remedy for anxiety
- Arnica 30C to counteract discomfort from physical stress
- Stramonium 30C for calming during the establishment of the piglet hierarchy
- Ignatia 30C to ease bereavement

Homeopathics for the following days:

- Carbo vegetabilis 30C for severe diarrhoea and great weakness
- Arsenicum album 200C for debilitating diarrhoea and enormous weakness
- China 30C for weakness after water loss
- Nux vomica 30C for digestive disturbances due to the changes in feed
- Lycopodium 200C to support the liver in metabolic disorders
- Belladonna 200C for central nervous system disorders and oedema disease



A homeopathic complex for weaning can be administered over 2 weeks if necessary. Often, however, a few days of treatment is sufficient.



In acutely ill animals, injection is preferable to feed medication, as the appetite of these piglets is usually reduced.

Treating Diarrhoea

If piglets are sick with diarrhoea, take immediate action and observe the piglets closely. At the very latest, when piglets show severe diarrhoea with watery faeces and streaming defecation for 2 days in a row, consult the farm veterinarian.

If weaning diarrhoea occurs repeatedly, an animal health plan should be worked out in consultation with the farm advisor or veterinarian!

How to proceed

- Immediately offer the piglets constant access to sufficient water!
- The use of electrolyte drinking troughs is advisable, as animals with diarrhoea have an increased need for fluids and electrolytes.
- Ensure that the piglet nest is warm to meet the piglets' increased need for warmth.
- Ensure particularly good hygiene. Avoid the transmission of germs to other piglets as well as further exposure to germs.

If **antibiotic treatment** is initiated by the veterinarian, individual animal treatments are preferable to group treatment so that only the piglets that are actually ill receive antibiotics. Treatment must be given for the prescribed duration to avoid the build-up of antibiotic resistance, even if a piglet's condition seems to improve the day after treatment.

Composition of typical electrolyte solutions

Simple rehydration solution:

- 1 l water
- 20 g glucose (organic)
- 4 g table salt

WHO solution:

- 1 l water
- 20 g glucose (organic)
- 3.5 g table salt
- 2.5 g baking soda (Sodium bicarbonate)
- 1.5 g potassium chloride



A tea made from the WHO solution is readily absorbed, provides hydration, and relieves symptoms of diarrhoea.



Weaned piglets must be offered a warm lying area. If the piglets are lying in a pile, they are too cold.



Dry bedding serves as material for the piglets to root around in and protects them from the cold from below.

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