

<https://www.deuka.de/en/current/ferkel-richtig-absetzen-so-gelings/>

How to choose the right piglet feed for weaning

WEANING PIGLETS CORRECTLY: THIS IS HOW IT'S DONE!



Weaning from the sow is a drastic experience for piglets. During this time, the course is set for the further development of the piglets. Growth deficits caused by too much stress, poor hygiene or inadequate feeding are difficult to make up for later. In this article you will find tips and tricks for a smooth weaning of the piglets. The right feeding plays a key role in this.

After the end of the suckling phase, piglets are separated from the mother sow. This is usually the case after 21-28 days, when the young pigs weigh about 6 -8 kg. After this, a stressful phase in the animals' lives begins, with many stumbling blocks for their further growth and development. The day of re-housing deserves special attention.

Reduce stress for piglets on weaning day with simple tricks

The **day of weaning** is the **most stressful day for piglets right at the beginning of piglet rearing**. In addition to being separated from the **sow**, the piglets are moved directly to the flat deck. In addition to a new environment, they also have to get used to new members of their own species. Pig farmers can **significantly reduce** the stress of their piglets by creating **optimal conditions**.

Tips for a good start in weaning phase and rearing

Feeding on the sow

Adjust feeding already on the sow before weaning

The change from liquid to solid food is an important change for piglets at weaning. Suckling piglets initially feed exclusively on their mother's or sow's milk. Their digestive cycle is therefore optimally adapted to this form of nutrition. To enable a **gentle transition to solid food**, suckling piglets should therefore be given **solid feed in addition to sow's milk** as early as one **week after birth**. A particularly **tasty prestarter** (e.g. *deuka primo plasma*) with a high whey content, whose taste is familiar to the piglets, is suitable for this.

During the further suckling phase, a **prestarter** (e.g. *deuka primo wean* or *deuka primo start*) should be fed, which, due to its composition, can also be fed after weaning. In addition to a high whey content, it also contains starch, which the piglets have to get used to digesting. In this way, the gastrointestinal tract can slowly adapt to the new food and produce the necessary digestive enzymes (e.g. amylase for the utilisation of starch).

Water supply

Well supplied right from the start: Ensuring water supply for piglets

Piglets need a lot of water immediately after weaning. The reason: The young animals lack the liquid from the sow's milk. In order to ensure sufficient water intake of the **piglets** directly after re-housing, it is advisable to **place additional bowls with water in the flat deck**. The same applies to feed.

Before re-housing, the **water pipes** must be **flushed to** ensure good water quality at all drinkers in the flat deck. In addition, the more drinking places that are within easy reach of the piglets, the more water is accessible to the animals and the better the **prevention of deficiencies and reduced performance**.

Stable climate

The barn climate must be right: pleasant temperatures for piglets

Piglets like it warm. In addition, the weaners, who are only a few weeks old, react sensitively to temperature fluctuations. Heat the barn sufficiently long so that the surfaces reach 28 degrees - at least. This is the only way the animals feel comfortable in the flat deck. Only a sufficiently long heating period ensures that concrete gaps, (outer) walls and metal parts are also evenly warm. This prevents the piglets from cooling down in the flat deck.

Hygiene

Clean & pure: Optimal hygiene for piglets in the flat deck

An unclean flat deck is a potential breeding ground for pathogens. The immune system of **piglets** is not yet fully developed, which makes them susceptible to diseases. To minimise the risk of contact with harmful germs, **thorough cleaning of the flat deck before housing is mandatory**.

This starts with a **sufficient soaking of the compartment and** is followed by a **thorough cleaning of the**

pens and feeders with a high-pressure cleaner. But all ramps, animal scales and aisles must also be cleaned. In addition, clean feed mixing containers with alkalis and acids in the case of liquid feeders. Finally, empty the feed silos, but also the dry feeding systems and the associated downpipes and volumetric feeders. This reduces unhygienic caking and helps to keep rodents away

Always according to size: This is how you avoid a tussle between piglets at the feeding trough

To ensure that all piglets have the best possible chances of rearing, it is advisable to **sort** the animals by pen **according to body weight**. In this way, each piglet has an equal chance and smaller, weaker piglets are not crowded out by larger piglets at the drinker and feeding trough. This also helps to avoid scuffles, in which younger piglets usually lose out. This **prevents** weaker animals from being **disadvantaged**.



Piglets need adapted feeding during weaning (© Deutsche Tiernahrung Cremer).

A healthy gut: THE feeding goal for piglets after weaning

After a successful transfer to the flat deck, a new phase of life begins for piglets. In the following 50 days or so, the animals increase their weight to about 30 kg until they are weaned from the flat deck. Whether this phase goes smoothly depends to a large extent on the piglets' **intestinal health**. Especially now it is important to **avoid gastrointestinal problems** and to **optimally develop the microflora in the piglets' intestines**. In this way, you optimally support the development of the piglets:

1. **avoid a feed intake hole**,
2. **prevent overeating** and **weaning diarrhoea**,
3. **strengthen and develop** the **microflora in the** piglets' intestines.

1. Avoid a feed intake hole with its negative consequences for piglets

A **consistently high feed intake** is the key to successful weaning of piglets. For this, it is important that young pigs eat evenly and regularly. A **feed intake gap** caused by stress or digestive problems must be **avoided at all costs**. If it does occur, it can have some undesirable effects on the body and the development of the piglets:

- Undersupplied piglets are usually not sufficiently supplied with all the nutrients needed for growth and development. Especially an undersupply **energetic**. The body is particularly weakened by an **undersupply** in this phase with high energy requirements.
- A **longer fasting period** (from about 10 hours) can change the composition of the feed slurry in the intestine. As a result, the proportions and ratios of microorganisms in the intestine shift, which **negatively affects the efficiency of future feed conversion**. In addition, **bacteria of the microflora die** off. This releases endotoxins (bacterial decay products) that can damage the piglets' intestines and bodies.

2. Avoiding overeating and weaning diarrhoea in piglets

Digestive problems in piglets are usually **particularly delicate**: On the one hand, they have a negative effect on the nutrient intake and thus the development of the animals - on the other hand, the still maturing immune system is not optimally supplied and developed: This leads to problems. The **main cause of** digestive problems in piglets is **overeating due to an undersupply of feed**.

If piglets eat too little feed (e.g. due to scrambling at the feed trough, lack of orientation or stress), **overeating** usually follows. To compensate for the energy deficit of an undersupply, the young animals quickly consume large amounts of feed. However, this usually leads to problems: The **food mush is not sufficiently acidified in the stomach**. This in turn reduces the digestibility of the food. Subsequently, an excessive amount of undigested **starch** and protein often reaches the large intestine. **Harmful germs** can **multiply dramatically in** this nutrient medium and thus upset the microbiota of the piglet intestine. The result: **weaning diarrhoea**.

3. Strengthen the piglets' microflora and promote intestinal health

Only when the intestines function properly do piglets get all the nutrients from the food they need for their growth and development. Intestinal **health** therefore forms an **important pillar for smooth piglet rearing**. A strong intestinal barrier also protects against harmful germs and inflammation caused by them. With the

right feed, pig farmers can influence the development of good gastrointestinal health.

Properties of high-quality prestarters and piglet-rearing feeds (FAZ):

Probiotic properties

Probiotic properties

Probiotics are special **feed additives containing beneficial microorganisms**. These have a **positive effect on the bacterial environment in the small intestine**. In this way, they can positively influence the feed conversion of **piglets**. Their presence in the small intestine competes with harmful germs (pathogens) and thus inhibits their development. The weakly developed immune system of the young pigs then has to deal with fewer pathogens - this frees up capacities for better development and higher performance.

Prebiotic properties

Prebiotic properties

Prebiotics (syn. prebiotics) are **indigestible carbohydrates** in feed. These dietary fibres develop their **digestive properties in the large intestine**, where they are fermented. There they can boost the production of volatile fatty acids. Especially with still young **piglets**, it is important to steer the **development of the microbiota in the intestine in the** right direction right from the start.

Antioxidant properties

Antioxidant properties

High-yielding **pigs** have a high metabolic rate. In **stressful situations** (e.g. **heat stress**, disease outbreaks or housing changes), free **radicals** are released. Free radicals are reactive, aggressive oxygen compounds that can cause inflammation in the body. Antioxidants are substances found in various foods that bind free radicals and thus protect cells from inflammation and oxidative stress. For example, **vitamin C**, **vitamin E** or polyphenols have antioxidant properties.



After weaning, piglets eat starch and cereal-based piglet feed for the first time (© Deutsche Tiernahrung Cremer).

This brings performance: feeding vital piglets

The piglets' intestines are healthy? The intestinal barrier strengthened and the microenvironment developed? Then the piglets' **performance** can **now be fully exploited**. For this, it is important that the **lysine-energy ratio of the piglet feed** is correct. Young animals have a high potential to produce lean meat. This potential is lost more and more in the course of a pig's life and the live weight gain shifts from meat gain to fat gain. Therefore, it is important to **feed the lean meat of piglets** in the **best possible way**.

Whether piglets put on fat or meat depends not only on their age, but also on the **feed composition**. Any energy that piglets consume in excess of their requirements is put on fat. For muscle growth, protein (especially amino acids) is needed in addition to energy. This shows that the ratio of energy to amino acids is important for meat gain. The **lysine-energy ratio** is important. Lysine is the first limiting amino acid from which pigs form protein to build up their muscles. Since piglets excrete excess amino acids undigested, lysine should be present in the feed in the right ratio to energy.

For a high lean meat content, however, it is important to keep an eye on the **amino acid pattern** of the feed as a whole. A piglet feed optimised for precaecal digestible amino acids (i.e. small intestine digestible amino acids) is preferable to a feed optimised for gross amino acids. After all, the difference between the two values is excreted undigested and cannot be used by the animal.

Components of high-quality piglet feed for the time of weaning

Increase digestibility

Increase the digestibility of the piglet feed

The better piglets digest their food, the more nutrients are available for growth and development. The **digestibility of the Piglet feed** is therefore of great importance for the development of the piglets. Accordingly, attention should be paid to optimising the digestibility of piglet feed. Certain feed additives can help with this.

- **NSP enzymes**

Some feed components (e.g. dietary fibres) **swell strongly**. This can have a **negative effect on the consistency of the** feed slurry. However, viscous feed slurry is not optimally broken down by digestive enzymes in the stomach and intestines and the feed is consequently not optimally digested. The addition of **non-starch polysaccharide-splitting enzymes** (NSP enzymes for short) helps to break down the swelling dietary fibres of the feed, thus making the intestinal contents more fluid so that the digestive enzymes have easier access to the food components. This improves the digestibility of the feed.

- **optigrain®**

There are several reasons for using digested **components** in **piglet feed**. Pressure hydrothermal treatment of feed components that are difficult for weaned piglets to digest - above all **wheat, barley and maize** - increases their surface area, which **improves** their **digestibility**. This leads to rapidly available energy and thus to a rapid rise in blood sugar levels shortly after feeding. As a result, a feeling of satiety arises. However, with the subsequent drop in the blood sugar level, hunger quickly returns (*McDonald's effect*). Thus, broken-down components ensure regular feed intake in many small portions, while at the same time ensuring digestion of the starch in the anterior intestinal segments Deutsche Tiernahrung Cremer produces such components under the brand name *optigrain®* using the patented *opticon®* process.

In the declaration, the component is described as "pressure hydrothermally digested (...)".

- **optiraps®**

The use of **appropriately treated protein- and fibre-containing raw materials** (e.g. rapeseed meal) also offers advantages: Treatment with heat and pressure using the *opticon®* process opens indigestible fibre membranes. This makes internal **nutrients** in the large intestine usable for the piglets. The result is a **mix of fibre components that can be digested at different speeds**, which promotes and develops the microbiota in the large intestine Deutsche Tiernahrung Cremer uses digested rapeseed under the brand name *optiraps®*. Another advantage of the *opticon®* treatment: **toast and roast aromas** are created, which have an attractive effect on piglets and thus contribute to a high, even feed intake.

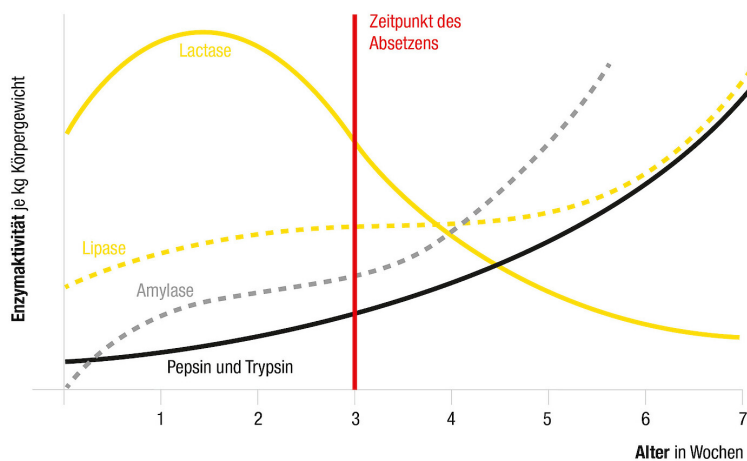
In the declaration, the component is described as "pressure hydrothermally digested (...)".

- **praecaecal digestible Amino acids**

The protein digestibility of **piglet feed** can also be increased. This is best achieved by **increasing protein quality** and **looking at protein components differently**. This includes, for example, optimising for **precaecal digestible amino acids**. This is calculated on the amount of amino acids that can actually be absorbed by the animal in the small intestine. Highly digestible protein sources are also suitable for feeding, e.g. **potato protein** or **protein hydrolysate**. Protein hydrolysate in particular meets all the requirements piglets have for protein: It has a high proportion of free amino acids and is therefore very easy to digest - but at the same time it is also particularly tasty. The use of **pressure hydrothermally treated protein sources** can also help to improve the digestibility of the ration.

Appropriate piglet feeds contain, for example, digested **soya protein concentrate or toasted soya beans**. These ingredients have particularly few antinutritional properties (e.g. trypsin inhibitors) and are therefore highly digestible, especially for piglets.

Aktivität von Verdauungsenzymen beim Ferkel



The lactose-splitting enzyme lactase is still present in large quantities at the beginning of the weaning phase. For this reason, milk and whey products are an integral part of prestarters. Starch utilisation only begins with an increase in the starch-cleaving enzyme amylase; starch-rich feed components should therefore be continuously increased in the feed from the third week of life. Protein-splitting enzymes (pepsin and trypsin) are also only released after the third week. Accordingly, protein digestion should be supported by acids directly after weaning! (© Deutsche Tiernahrung Cremer).

Lowering the stomach pH

Reduce stomach pH of weaned piglets for optimal digestion

The sow's milk is decomposed by lactic acid bacteria. The lactic acid produced by the bacteria strongly lowers the pH value in the piglets' stomachs. After weaning and the switch to a diet containing cereals and starch, the acidifying effect of lactic acid ceases. However, the production of gastric acid is only just beginning in piglets, which have had little or no solid food up to now (see illustration).

Buffering components

Certain components in piglet feed (e.g. crude protein and calcium) have a "buffering" effect on the **pH value** in the piglet stomach and **thus prevent it from dropping**. However, if the stomach pH remains high, piglets cannot sufficiently utilise the protein in the feed. The protein-cleaving enzyme pepsin, which is needed for this, only becomes active at a low pH of less than 3.

Low protein and calcium

Piglet feed should therefore contain only **little crude protein (< 18 percent)** and **calcium (< 0.65 percent)**. A **comprehensive acid concept (including formic lactic acid)** also has a firm place in piglet feeds: it helps to lower the pH value in the stomach to the desired pH range of 2 - 3.



During the weaning phase, an acid deficit develops in the piglets' stomachs. The reason: The number of lactic acid bacteria decreases, while stomach acid production does not yet start sufficiently. To achieve optimal intestinal health, acids should be used in the piglet feed during the weaning phase and buffering substances such as crude protein and calcium should be reduced (© Deutsche Tiernahrung Cremer).

For max. compatibility

A high proportion of whey and milk products

What the piglet doesn't know, it won't eat: In order to motivate suckling piglets to eat solid food, it is worth **choosing a feed with a high proportion of whey protein** **Weaner feed** with a **high proportion of whey and milk products**. The sweetish taste is familiar to piglets from sow's milk. In addition, the enzyme system is optimally adapted to the digestion of these components. The acclimatisation of young pigs to grain- and starch-rich food is gentle and not so abrupt.

Milk from the sow is particularly fatty. The piglets' gastrointestinal tract can optimally utilise fats and fatty acids. **High-fat Piglet feed** are therefore particularly suitable for **feeding at the beginning of the weaning phase**. But here, too, the devil is in the detail:

- Feed with **short- and medium-chain fatty acids** (the building blocks of fats) can be better utilised by piglets than long-chain ones.
- **Unsaturated fatty acids of vegetable origin** (e.g. in soya oil) are easier to digest than saturated fatty acids from animal sources. However, as the latter are more palatable, a mix of both fat sources is suitable in **prestarter or weaning feed**.

Conclusion: "Weaning piglets the right way: this is how it works!"

- The weaning phase is important for the growth and development of piglets.
- The day of weaning from the sow is particularly stressful - pig farmers should therefore prepare it well.
- During the weaning phase, several feeding goals are in focus: to avoid digestive problems (caused e.g. by overeating or choosing the wrong feed), to develop the microflora of the digestive tract and to strengthen the intestinal barrier.
- To optimally feed the performance of healthy piglets, the lysine-energy ratio as well as the aminogram must fit.

Contact person



Kristina Stärk

Product Manager Pig

E-Mail: kristina.staerk@deutsche-tiernahrung.de

Tel.: +49 (0)211 / 3034 - 404