



Schils

Specialist in Young Animal Nutrition

Technical Bulletin

Guidelines for calf rearing

The first phase in a calf's life is essential for the rest of its life. The first 4-5 weeks of calf rearing should simply be good in order to reach the best possible result. For that reason it is of the utmost importance to comply with the following guidelines.

Colostrum

The quality of colostrum rapidly decreases, after just 12 hours the quality is already 40% less. This means it is of great importance that the cow is milked directly after giving birth. The quality of colostrum can be measured with a refractometer. Also the permeability of the calf's intestinal tract rapidly decreases, 6 hours after birth the intestines have already closed for 60%. Therefore the calf should receive fresh colostrum of 40°C as soon as possible.

Recommended drinking quantity:

Minimal:

< 2 hours → 2 litres

< 6 hours → 4 litres

< 24 hours → 6 litres

Preferably:

< 2 hours → 3 litres

< 6 hours → 4 litres

< 24 hours → 8 litres

Housing

↑control, ↓risk of infection

The first 3 weeks of life are the most stressful and risky period for a calf. In order to prevent infections the best option is to house calves individually.

The individual housing should be decontaminated and sanitised. Always ensure the number of individual housing is at least 15% of the total number of dairy cows.



Dry bedding

It is very important that calves have dry bedding, preferably a thick layer of straw, in order to prevent heat loss. You can easily check this by sitting down in the straw on your knees. If your knees are still dry when standing back up again, the bedding is dry. If your knees are moist, the bedding is too wet and should be refreshed.

Ventilation

There are often issues concerning draught, fresh air supply or air entering the stables in a way that is not ideal for the calves. There are a number of things you can do to optimise ventilation. The most important thing is to prevent draught, as this is harmful for the animal's health, while simultaneously providing clean and fresh air. The ground rule is: if you can get comfortable while lying down, so can the calves.



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Feed

Calf milk

There are several kinds of milk powders, each with their own benefits. The most important factor is what fits your strategy and animals. The **Schils Eurolac range** consists of four kinds of calf milk replacers for rearing calves, suitable for every situation. The Eurolac range is based on 100% vegetable fats and produced according to the spray-dried production process, which means the fat particles are very small. By using this production process, an outstanding solubility and digestibility can be assured. All the Eurolac products contain the Schils Protection Plus package, a blend of selected specialty ingredients to support intestinal health as well as the immune system of calves.



	Eurolac Red	Eurolac Green	Eurolac Blue	Eurolac Orange
	GROWTH	SAFETY	VALUE	PRICE
Skimmed milk powder	+++	-	-	-
Dairy ingredients	++++	++++	+++	++
Schils Protection Plus	++	++	++	++
Acidified product	+	+++	+	+
Spray product	+	+	+	+
Stability in solution	+++	+++	++	+

Temperature and Concentration

The milk should be prepared in water of 45 to 50°C, the ideal drinking temperature for calf milk is 38 to 42°C. To achieve the best results we recommend using a concentration of milk powder around 140 gram powder per liter milk (=140 gram powder + 860 ml water). The first 4 weeks a higher concentration can be fed to achieve higher growth. After 4 weeks the concentration can be lowered back in order for the calves to take in sufficient roughage and concentrates and promote stomach development.

Quantity

The amount of litres per feeding varies per calf. Body weight is an important factor. The ground rule is: feed approximately 5% of the calf's body weight, which is roughly the size of the abomasum. For example: A calf weighs 40 kg. 5% of this is 2 kg; this means the calf can be fed 2 litres per feeding. When a calf is fed too much at once, the milk will overflow into the rumen. Because of the rumen's inability to digest milk, it will rot and have negative effects on the calf. The manure will be unhealthy and the calf can start to bloat. For smaller calves it is better to feed more portions of a lower quantity.

When feeding with a tube the feed is always directly inserted into the rumen. This method can only be used the first feeding, colostrum only. The reason for this is that at this moment there are no bacteria in the rumen yet that will cause the milk to rot.

Water (optional: with electrolytes) can always be fed by probe. **Schils Unilyt** is a product to stabilise the electrolyte balance. Unilyt will provide quickly available energy and minerals and should be fed after cases of stressful situations (transport, new housing etc.), in case of hot weather to compensate moisture loss, at signs of weakness or digestion problems or preventative.



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When feeding milk to calves, it is important to always gently increase and decrease the quantity. Especially the decrease will ensure the rumen is able to take over the energy demand of the abomasum. This will prevent the setback of calves when weaned.

Concentrates and roughage

A calf needs more than just good calf milk. Good quality roughage will stimulate the rumen development. An early developed rumen means higher growth and a better skeleton structure later on. Straw or hay are good forage feeds, as they give higher and less variable rumen pH and therefore less risk for rumen acidosis. Research has shown that straw increases total solid feed intake, promotes growth and has a positive effect on the rumen pH (Castells et al, 2013). Hay has a positive effect on ruminating. In a research from Terre et al. (2013) calves showed less abnormal behaviours and more activity with hay in their diet. Hay and straw will also ensure an easier transition from the milk period to post weaning, because of their high effective fibre levels.

Our recommendation is to provide a minimum of 10-20% of total solid feed (or ad libitum) hay or straw.

Schils Eurolacto Flakes is a mix of flakes (barley, corn and spelt) and pellets (high quality raw materials completed with vitamins and minerals) ideal for raising calves. The perfect digestibility guarantees an ideal rumen and gut transit, assuring high daily gains.

Health

Diarrhea

When a calf is suffering from diarrhea, it is important to provide sufficient water with **Schils AS-Vital**. AS-Vital is a good solution for these kinds of situations. AS-Vital can be applied in case of risk of, during, and recovery from diarrhea. It is a very versatile complementary feed compound for calves up to an age of 6 months that can be used for all types of diarrhea and has a revitalising effect on the intestines. When using AS-Vital (mixed into water, milk or milk replacer) the intestines of the calves are regenerated and harmful bacteria are cleared from their system. A calf suffering from diarrhea should drink at least 6 litres per day to prevent dehydration; preferably 8 litres. It is important to identify the source of the diarrhea. Is it caused by bacteria, a virus or by intestinal parasites?

A quick identification of the source can be achieved by using a **Schils Diarrhea-Test**. Within a few minutes you can easily and accurately identify Rotavirus, Coronavirus, E-coli K99 and Cryptosporidia.

A company-specific strategy can help to prevent these issues in the future.



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Respiratory problems

Respiratory problems can be caused by a number of reasons. A lot of farmers believe all respiratory problems are caused by poor ventilation, but this is not always the case.

Bacteria and viruses

Ventilation can be part of the problem when the humidity in the stable is too high. The chance for illnesses increases in this case. Most respiratory problems, however, are caused by bacteria and viruses. This is the reason why finding the cause of the problem is of such importance. Without knowing the reason of the illness, it is impossible to find the right solution. Vaccinating the calves will surely help in some situations, but it is important to know beforehand if vaccinations will provide a solution.

Contamination

Contamination is often seen between sections / stables when calves are coughing and the partitions are not optimal. Also automatic calf feeding systems can be the cause for higher levels of contamination. Calves all use the same nipple to drink, which of course increases risks.

What to do?

The advice we offer to counter respiratory problems is to house your calves in small groups. Always make sure to work hygienically and make sure ventilation is good. When respiratory problems do occur, the correct treatment is of great importance.

Adding **Schils Oxi Plus** to the calf milk will reduce respiratory problems and decreases the number of lung treatments. Research has shown that adding specific essential oils in the calf milk decreases the number of losses, veterinary treatments and at the same time increases weaning weights and solid feed intakes.



Measuring calves will provide valuable information on the health and growth status of calves. To check if calves are growing according to plan, the following can be measured/checked.

- Shiny coat
- Concentrates and roughage intake
- Manure

An actual measurement can provide an accurate representation of how your calves grow in comparison to calves on other farms. To measure is to know!

For more information about these subjects or the products described, please contact your Sales Manager or Schils BV via info@schils.com / +31 - 46 45 99 900

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