

Rearing calves with cows nature works!

Jan Paul Wagenaar Jos Langhout

Not a checklist, but tailor-made advice

A wealth of experience has been built up with the help of the farms that kept their calves with their cows on their own initiative or as part of this research project. Going back to nature may seem easy, but creating the right conditions to ensure this is possible, is not. No two farms are the same, which means implementing this method requires more than a checklist. Farmers can get advice on how to get started on the basis of their specific demands and expectations. Interested? Contact the Louis Bolk Institute or visit our website www.kalverenbijdekoe.nl

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Triodos Bank
Van nature betrokken



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Research project *Cows with calves*

Critical consumers asking provocative questions sometimes make dairy farmers take a closer look at the way they keep their livestock. An always returning question among consumers is why calves are separated from their mothers immediately after birth. While struggling to answer this question, farmers realised that outsiders found this practice hard accept. On the other hand, separating calves from cows is an accepted practice in modern milk production.

This dilemma prompted a group of dairy farmers to look for an alternative. In 2002, at the start of the research project *Cows with calves*, the number of dairy farmers that let newly born calves suckle their mothers could be counted on one hand. Since then many have followed their example. Dairy farmers want to know more about the practicalities of keeping cows with calves. Is the stable suitable? Will the calves grow wild? Can we trust the cows to take care of the calves? This brochure outlines what rearing calves with their mother means for cow, calf and farm.

Jos Langhout ***Rearing calves with cows nature works!***

the source of knowledge, naturally

LOUIS BOLK
I N S T I T U U T



Background: separating calves from cows

In order to produce milk for human consumption, cows give birth to a calf every year. In dairy farming calves are separated from their mothers almost immediately after birth. The cow is then milked twice a day and the farmer feeds the calves a measured amount of milk. This system is practical, cheap and straightforward. Hygiene is another important motivation. Direct contact between calf and cow increases the chance of diseases being transmitted from adult animals to young animals through manure, milk or feed. Good hygiene and animal health are important. However, if a farmer has his or her system in order, an early separation of cow and calf is not necessarily required.

Why an alternative suckling system?

Rearing calves separately from cows does not allow the development of a bond between mother and child. This has negative effects on the social development of calves as well as on the development of natural and species specific behaviour. Although there is nothing wrong with good hygiene, contact between animals of different age groups might have positive effects on general resistance towards disease agents commonly present on the farm.

A function for the cow-calf bond

One of the objectives of the research project "Cows with calves" is to develop a rearing method that gives the natural bond between mother cow and calf a function. At the same time the rearing method also needs to be financially and practically viable. In order to assess the applicability of rearing cows with calves a wide range of parameters was monitored: liveweight development of calves, behaviour of animals that suckle or suckled as a calf, milk production, calf milk consumption and animal health. These data and experiences were used to try and define the best conditions for rearing cows with calves.

The reality: no two farms are alike

Cows with calves is a study that was done on real farms. Good communication between researchers and the participating farmers was crucial. The farmer and researcher worked together to decide how methods were put into practice and evaluated the results together. For example, calves were weighed regularly and their behaviour was registered with the help of 24 hour cameras. However, not everything can be measured and the farmer's know-how and insight were also crucial.



Jan Vrolijk,



Jan Vrolijk started keeping cows with calves in 2002. He was prompted to do so by consumers asking him why calves are separated from their mothers at such an early age. In addition the natural method of suckling did fit well in his extensive style of farming. But there were more reasons: the uptake of colostrum and milk combined with the gradual exposure to germs on the farm could increase the general disease resistance of calves. Jan hopes that in the long run he will develop a more resistant milking herd.

In the first year weaning caused much unrest. Sometimes the cows were more stressed than the calves. This is why Jan decided to switch to a method using nurse cows. This means that calves that are born during the summer, stay with their mother and go to the pasture. Calves that are born in the winter are raised with a nurse cow and stay inside the stable in a separate pen.

Some farmers believe keeping cows with calves makes calves wild. Jan has not noticed any signs of this. "I often walk through the herd so they are more likely to be calm than wild. As calves get used to being in the

herd, they develop a feeling for the herd and have no problem adopting the daily farm routine."

The first suckled calves became cows at the end of 2004. Jan clearly observes an increase in the natural behaviour of these cows. "This is good news, but it also means we will need to learn to deal with the sometimes negative aspects of natural behaviour such as the stress of weaning and poor milk let down in the milking parlour. This is a learning process for the farmer too."

Oosthuizen: "We clearly observe natural behaviour"

On Durk Oosterhof's farm all calves stay with their mother, also calves that leave the farm after fourteen days. The calves that stay at the farm remain

Durk Oosterhof, Drachten: "Why didn't we think of this before?"

with their mothers for two and a half months. "After that they get milk in a bucket," says Durk. "The amount of milk is slowly reduced for a subtle transition. After weaning the animals are fed roughage and some concentrates. You see the calves joining the cows as they eat roughage in the stable or pasture at an early age."

The expectations are high for the future. Durk considers the extra milk that calves drink as an investment for the future. "The calves are given a good start so that they may become healthy and sustainable animals with a good resistance."

The advantages of keeping the calves with the cows are that the herd is calmer. Durk also enjoys it. The same goes for consumers that visit my farm. They can clearly see how their milk is produced. Why didn't we think about this before?"





The beginning: a new calf

A cow gives birth to a calf every year. This is the start of a new period of milk production or lactation. Approximately thirty percent of the calves remain on the farm and become the next generation of milking cows. The rest of the calves stay on the farm for fourteen days. Shortly before calving the cow is kept separately from the rest of the herd. In the winter this is in a calving pen and in the summer this could be an area drafted off in the meadow. Here the mother cow has all the space and rest she needs. After the calf is born the cow licks the calf dry. By licking the calf:

- the foetal membrane is removed
- the calf becomes active as respiration and blood circulation are stimulated
- the calf's fur dries and loss of warmth is prevented
- the calf is cleaned and infections are prevented
- the bond between mother and calf is strengthened


After a few days alone, the mother and calf can return to the milk herd.

The first moments are very important

The first milk that a cow produces, colostrum, has a special composition that is catered to a calf's needs. Colostrum also contains many maternal antibodies that help the calf fight off disease during the first few months of its life. It is very important that a calf drinks its first colostrum within a few hours of birth. The more often and the fresher the calf drinks colostrum, the better it is. The farmer must ensure that the calf actually drinks the colostrum. Not all calves are fit enough to drink independently and some cows lack the experience to stimulate their calf to drink.

The calf drinks more often

A calf that drinks from the cow, drinks more often and in smaller portions. In the first few days a calf may drink up to ten times a day. Later on this varies between five and seven times a day. During the first month calves drink about ten litres a day. This can eventually increase up to fifteen litres.

A black and white cow stands in the foreground on the right, its tail and hindquarters visible. Two calves are lying down in the grassy field. One calf is brown and white, and the other is black and white with a yellow ear tag. The background is a blurred green field under a bright sky.

Nils Spaans started keeping cows with calves three years ago. Until then his calves were fed milk replacer from an automatic milk dispenser. Nils was not satisfied with the growth and development of his calves. He was prompted to change when one of his cows that became crippled and could not be machine-milked any longer. This cow was set apart with a few calves.

According to Nils it is important that the calf and the cow spend the first ten to fourteen days separated from the herd. "This way you can see if everything is going well. If the mother and calf become part of a large group, it is more difficult to keep track of them."

Weaning the calves is another important element. It is a stressful event for both the calf and the cow. Nils tries to reduce stress levels as much as possible. The calves are weaned inside. Not in the pasture, because then they stray while looking for their mother and the farmer has to go get them back. He also makes sure the cow and the calf can still see one another after they are separated physically.

Nils Spaans, Broek in Waterland: "Healthy calves and a

In the future, Nils aims at cows calving down during the summer. The calves spend a lot of time outdoors which means no space problems inside the stable and better hygienic conditions. Nils points out that a farmer must dare to give the cow the responsibility for its calf. "But you learn fast, for example telling the difference between a sick calf and calf that is having an off day. In the beginning, my greatest motivation was consumer demand. Now, I also do it for myself."

lighter workload”

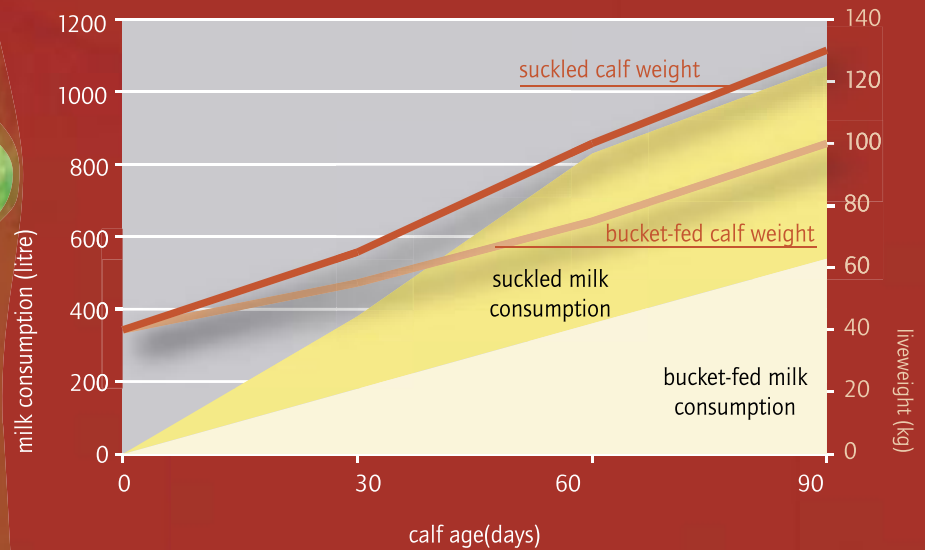
Better digestion

The biggest problem for young calves is diarrhoea. Calves that drink from their mothers suffer less from diarrhoea because nature ensures better uptake and digestion of milk. Farmers have found that despite diarrhoea, calves continue to have a healthy appetite when they drink from the cow. This allows for a quick recovery.

The calf grows like a weed

The daily liveweight increase of a calf that suckles its mother can be spectacular: more than one kilogram a day. This large liveweight increase is predictable, but is something farmers have to get used to. After a while farmers get used to this fast growth and see that their calves also learn to drink water and eat roughage such as grass, silage and hay.

The way the calves are weaned is crucial. Weaning means that the calf and cow are separated and that the calf no longer suckles milk. It is important to ensure that calves are weaned gradually. This allows the calf to keep its head start in weight and development.



Mother or nurse cow?

When a calf is old enough, at approximately three months, it is weaned. This is obviously a moment that causes stress for both the calf and the mother cow. Separating animals that have developed a bond is more emotional. A good understanding of this bond can be used to keep stress levels to a minimum.

Gradual weaning means the calf receives less and less milk over time and more and more roughage and concentrates. Apart from a shifting diet it also means a gradual physical separation between cow and calf. By first placing the calf in a pen near the milking herd, the cow and the calf can still see one another, but the calf can no longer suckle.

Another option to gradually wean a calf is the nurse cow. A nurse cow is a milking cow that is not doing well in the milking herd. Such a cow can be used to take care of one or more calves. There are many farmers that allow calves to suckle a nurse cow, sometimes quite early after birth. The number of calves one nurse cow can handle depends on the amount of milk she produces. Suckling calves with a nurse cow has both advantages and disadvantages. Ultimately, the calf will also have to be separated from the nursing cow.

The strong bond between cow and calf

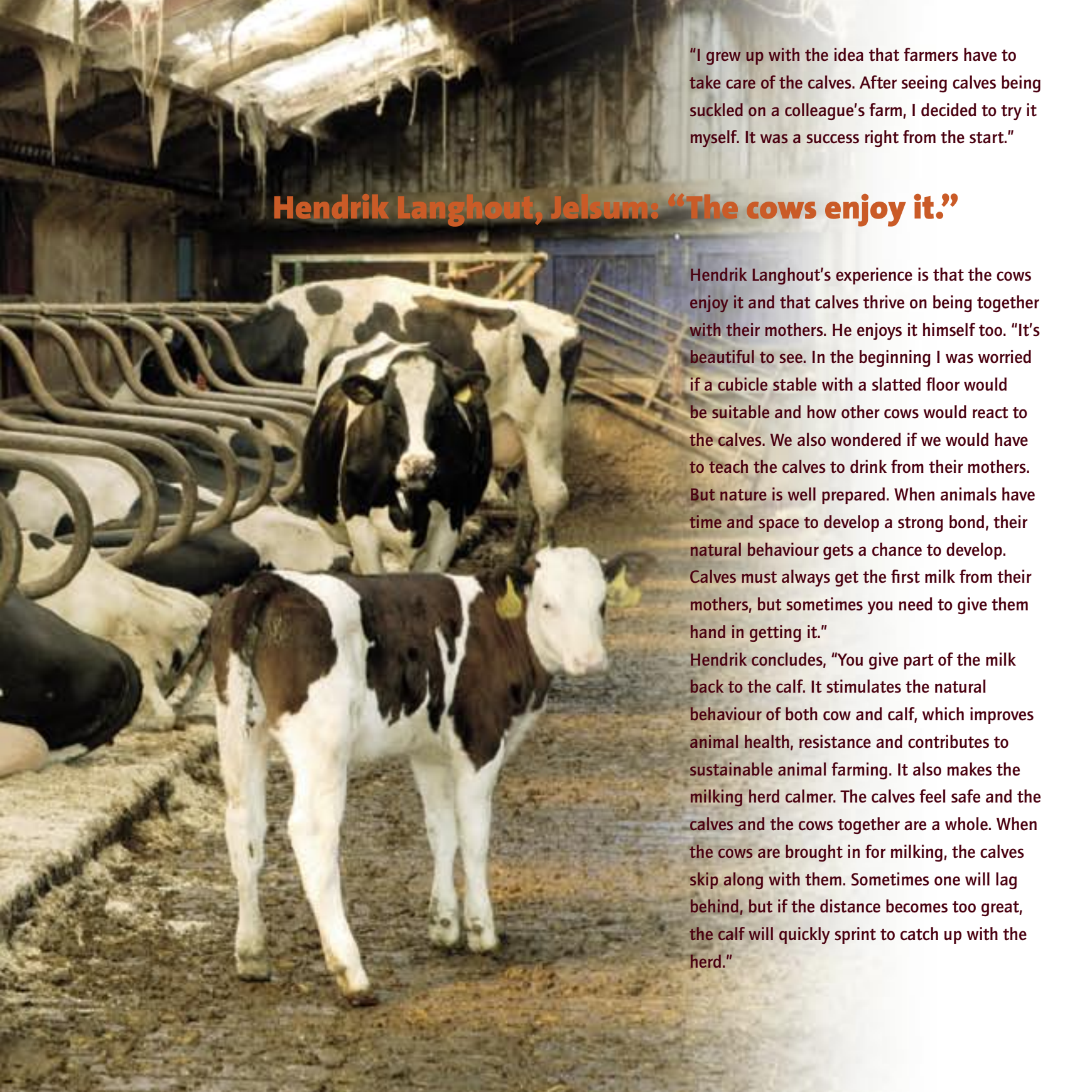
Rearing cows with calves is based on the self-reliance of animals. The fundament of this self-reliance is the strong bond between cow and calf:

- the calf activates the cow's maternal behaviour
- the cow takes care of and licks the calf to keep it clean and active
- in the first few days the cow stimulates the calf to drink
- colostrum increases the calf's natural resistance
- milk is excellent feed and ensures good growth
- a social environment contributes to the calf's development
- natural herd instinct makes the calf stay near the herd and the calf be taken up in it.

Unanswered questions

Cows with calves still has some unanswered questions. Do calves that suckle their mother perform better compared to calves suckling nurse cows? What is the optimal period of suckling? Should calves that will leave the farm be suckled? Does exposure to germs strengthen or weaken an animal? Do calves that stay with cows have fewer problems with prodding later on when they develop horns?



A photograph of a black and white cow and her calf in a barn. The cow is standing in a metal stall, and the calf is standing in the aisle next to it. The barn has a slatted floor and a wooden structure in the background.

"I grew up with the idea that farmers have to take care of the calves. After seeing calves being suckled on a colleague's farm, I decided to try it myself. It was a success right from the start."

Hendrik Langhout, Jelsum: "The cows enjoy it."

Hendrik Langhout's experience is that the cows enjoy it and that calves thrive on being together with their mothers. He enjoys it himself too. "It's beautiful to see. In the beginning I was worried if a cubicle stable with a slatted floor would be suitable and how other cows would react to the calves. We also wondered if we would have to teach the calves to drink from their mothers. But nature is well prepared. When animals have time and space to develop a strong bond, their natural behaviour gets a chance to develop. Calves must always get the first milk from their mothers, but sometimes you need to give them hand in getting it."

Hendrik concludes, "You give part of the milk back to the calf. It stimulates the natural behaviour of both cow and calf, which improves animal health, resistance and contributes to sustainable animal farming. It also makes the milking herd calmer. The calves feel safe and the calves and the cows together are a whole. When the cows are brought in for milking, the calves skip along with them. Sometimes one will lag behind, but if the distance becomes too great, the calf will quickly sprint to catch up with the herd."



Research project *Cows with calves*

The most important results:

- keeping cows with calves is a picturesque sight
- cow, calf and herd express much more natural behaviour
- good calf growth, development and health
- each farm has its own system, demands and conditions
- farmers have more fun in their work
- farmers can depend on the self-reliance of their animals
- good stockmanship is a prerequisite
- calves that have been suckled make good mothers
- inexperienced mothers need some help getting started
- mothering behaviour in the herd increases in new generations