

The milk of human kindness

A gentle, patient approach is the key to a successful first milking of a house cow. Organic farmer **Christine Page** explains the steps to take that will help to build confidence in cow and handler

There is something incredibly cathartic about sitting snugly next to the warm belly of a cow quietly chewing her cud while you milk by hand. A milk pail and a stool is all that is needed for this daily ritual.

However, that blissful stage is the domain of those who have had the time and patience to build a harmonious and trusting relationship with their cow, and who enjoy the calmness of this peaceful practice. For some, using a milking machine might be more suitable. Before deciding which, it is worth considering the pros and cons of each, but first some facts.

LET DOWN

To milk a cow involves her wanting to be milked. It isn't possible to milk a cow which won't let down her milk. 'Let down' involves the release of the hormone oxytocin, which triggers the contraction of the smooth muscle cells that surround the milk producing alveoli cells in the udder. That contraction squeezes the milk out of the cells and lets it down, ie, releases it into the udder cistern and down to the teat.

Oxytocin is released by the cow in response to a stimulus that she has learned to associate with being milked, in a similar way to the learned salivation behaviour of Pavlov's dogs. For example, she might learn that seeing



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her owner walk across the paddock carrying a stool and milk pail at 8am means milking, and by the time they have tied her up and sat next to her she is already leaking milk onto the pasture. Or she may associate walking into the milking parlour with being milked and, hey presto, the milk starts to flow.

It is important to note that oxytocin is immediately suppressed by adrenalin, or any of the stress hormones. If seeing that same person come across the paddock with stool and milk pail in hand reminds her of yesterday's unpleasant incident then no oxytocin will be forthcoming and

neither will the milk. The old saying 'Kind words go in one ear and out the udder' is certainly true.

The effect of oxytocin lasts between three to five minutes. Calves tend to suckle infrequently, but when they do, this is about the length of time it takes a well grown calf to empty an udder.

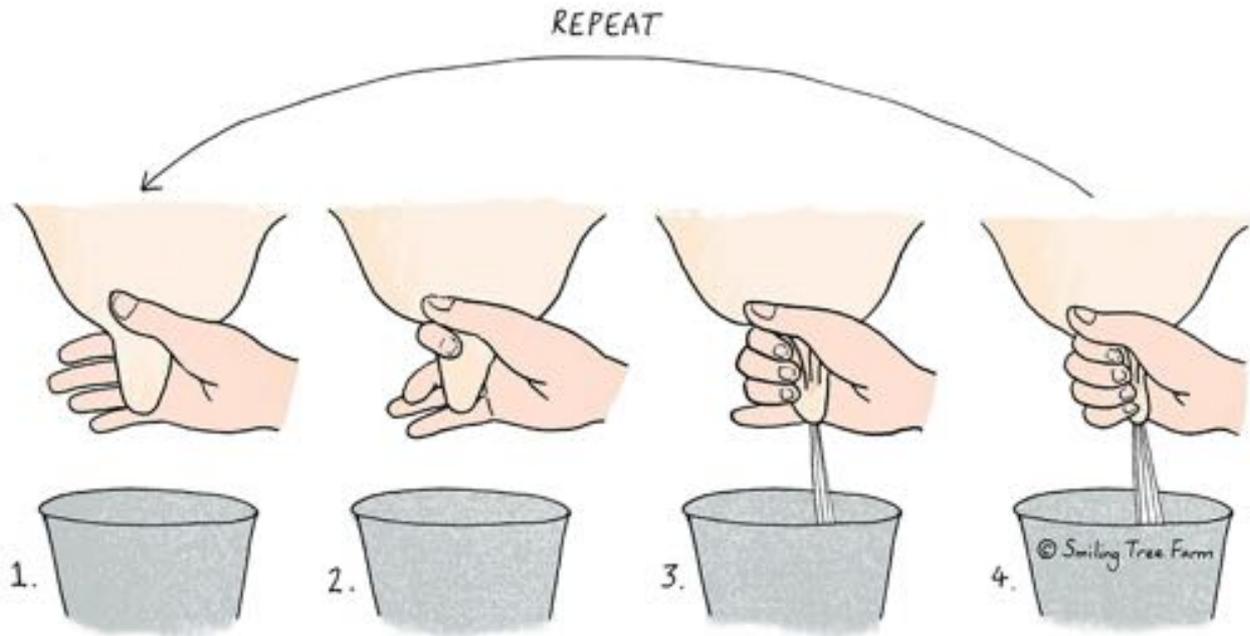
HAND VERSUS MACHINE MILKING

One squirt from a hand-milked teat might yield somewhere between 3-5ml of milk, which is approximately 200-350 squirts per litre. Depending on the breed, feed, age, stage of lactation, season,

how much her calf has drunk, as well as her general health and level of contentedness, a cow's daily yield could be anywhere between 2-12ltr on a once-a-day milking routine. That is a fair few squirts.

Hand milking will always take longer than milking by machine, not just because even the most proficient hands can only milk two quarters at a time but, unless the yield is very small, much of the hand milking is still being done well past the brief oxytocin rush.

A milking machine will match a calf in emptying the udder in under five minutes, taking full advantage of



the oxytocin. However, a milking machine needs to be cleaned. This requires the use of a specialist dairy cleaning chemical and involves heating at least 20ltr of water to over 85°C, which is a high-energy use for anyone living off-grid.

In all, milking a cow by machine and then cleaning it takes about 20 minutes. This is about the same amount of time as sitting on a stool and milking by hand with only a milk pail to wash up afterwards.

A milking machine is also a major investment. Cheap battery-run pumps can be acquired for less than £200, but they are not powerful enough to be of much use. To milk a cow effectively requires a professional milking machine. The Milkline portable milker from Dairy Spares will set you back over £1,000, but it will last 20 years, is easy to maintain and milks beautifully, with good suction and the correct pulsation.

Milking by hand is unquestionably part of the house cow dream for many. However, even for the machine milkers, knowing how to milk by hand is essential for those times when the power goes off or the machine breaks down.

HOW TO HAND MILK A COW

Pianists make wonderful hand milkers. The necessary rolling action to express milk by squeezing with each finger in turn from index to little one comes naturally to them. They also have the digital dexterity and strength to rapidly learn the technique.

For most, however, learning the correct way to milk a cow by hand and to become proficient takes some practice. Indeed, extensive practice

pulling down the teat, as if squeezing toothpaste out of a tube. This stripping action stretches the teat under pressure and can cause pain and internal laceration of the teat duct, which will lead to inflammation and mastitis, not to mention a disgruntled cow.

When hand milking the fingers do all the work as per the diagram:

Sitting comfortably on a low stool, place your hand where the teat joins the udder so that the teat is snug in the V created between

dragging on or sliding down the teat itself, just a clamp at the top and then a rolling squeeze down.

It is usual to milk with both hands, so that as the left hand squeezes the right hand releases and vice versa in a steady rhythm.

THAT FIRST MILKING

Learning and practicing the technique, or how to use your machine, is just a part of the preparation for that first milking. Becoming comfortable while up close and personal to your family cow is essential, and the best way to do that is to keep bringing her into wherever she will be milked, encouraging her to stand quietly with gentle words and perhaps a few treats. Go through the motions, including sitting on your stool stroking her udder, or turning on the milking machine so that she gets used to the noise. Do this daily for weeks before she calves, until it becomes completely routine and she feels safe and relaxed standing there.

The first time you come to milk her, approximately 24 hours after she has calved, repeat the routine, but this time you will actually sit next to her on your stool, or attach the cluster, and milk her. ▶

“Note that the hand position doesn’t move vertically and there is no dragging on or sliding down the teat itself, just a clamp at the top and then a rolling squeeze down”

is essential to build the necessary muscle strength and smooth rolling action well in advance of the first day of milking. Some ingenuity is required to find something suitable to practice on that replicates two teats hanging around a foot off the floor while sitting on a low milking stool.

Without practice, hands will soon tire and fall into the lazy action of ‘stripping’, whereby milk is dragged out of the teat by pinching at the top between finger and thumb and then

thumb and forefinger. Clamp the top of the teat so that the milk that is in the teat duct doesn’t go back up into the udder.

Use a smooth rolling action to close each finger in turn around the teat, from the index finger, to the middle finger, to the ring finger and, finally, the little finger, to push the milk down the teat.

With the final squeeze aim the milk into the bucket. Release and repeat.

Note that the hand position doesn’t move vertically and there is no

■ House Cow Husbandry

Milking methods



Some cows prefer to have their calf with them in the parlour

If coming into the milking area means that she loses sight of her calf she may be uneasy. If so, have a helper hold her calf close to her head so that she is reassured. Her udder will probably be engorged and tender and she may shift her position and shuffle uneasily. Don't worry; this is normal. She may pick a foot up towards her udder to say "ouch". Again, this is normal. Try to stay calm and relaxed and don't reprimand her.

Cows don't respond well to negative reinforcement and, for the aforementioned reasons about stress hormones preventing let down, it is vital that you don't cause her stress in the parlour.

There is a big difference between a cow picking her foot up towards her udder because she is confused or uncomfortable, which will be 95% of the time she lifts her foot, and the time she might genuinely aim a kick at you. It is incredibly easy to train a cow that every time she moves her foot or lifts it that you back off, or

the cluster is removed. You don't want that to happen.

Calmly and patiently, but persistently put into practice how you have learned to milk. Remember to breathe. If you are anxious, it can help to hum a tune as this will calm you, which will, in turn, calm the cow.

The aim of the first milking is not to try to milk her out, but to start the learned behaviour

of producing that lovely oxytocin rush in response to you milking. Therefore turn off the machine and remove the cluster as soon as you feel she is settled and relaxed enough to let down for a couple of minutes and you see the colostrum gush into the milk bucket, or after five minutes or so of relaxed hand milking, leaving the experience a reaffirming one for both you and her.

Getting that first milking done is a big milestone, and every day from then on it will get easier and your own and the cow's confidence will grow. ■

All about Christine Page

Christine Page owns and runs a small-scale, regenerative organic pastoral farm in south Shropshire. For more information visit www.smilingtreefarm.com



Attaching the cluster takes some practice