

Everything you need to know about cows

BIBI DUMON TAK

Het koeienboek

The Cow Book

Anyone who starts off her book with a chapter about headstrong cows who make a run for it in order to escape from the slaughterhouse, must really love her subject. Thanks to this genuine love, *The Cow Book* is much more than just an informative book on the national symbol of the Netherlands.

Dumon Tak not only tells us how cows are put together, how they make milk, how calves are conceived and born and how they meet their end. We also hear how an inspector judges cows and learn what makes a fine-looking dairy cow, in the opinion of the farmer. Inspectors talk about udders as if they were expensive handbags. But first and foremost Dumon

Tak solemnly crowns the cow the queen of the countryside.

The high point is the chapter on breeding. You almost feel sorry for studs like Sunny Boy, who has to “do it” with a fake cow. Dryly and with a wink, the writer shows what it is like in the chilly world of frozen super sperm.

Dumon Tak combines a journalistic approach with flowery and humorous sentences, which makes *The Cow Book* more a highly personal, literary account than just a run-of-the-mill non-fiction book that only aims to inform. It is almost as if the cows tell their own story. The writer lets everyone who has anything to do with them have their say. We not only hear from the owner of the “retirement farm” for elderly cows, but also the slaughterer, who may just care a lot about cows after all.

Nobody who has read this book will ever look the same at a cow again; the reader will fall in love with her too. Every cow gets its own character and we have no choice but to admire all the things they can do. Dumon Tak lets her cows live in language and they have earned that.

PJOTR VAN LENTEREN



Bibi Dumon Tak (1964) has a degree in Dutch. *The Cow Book* is her first children's book. In addition to being a writer, Bibi is also a publicist. Interviews of hers regularly appear in the *BoekieBoekie-krant*, a periodical about children's literature for children. She also writes about travel for adults. When she was young, she often visited a farm, where her love for cows began. She currently lives in the big city (Rotterdam), but regularly spends time in the Belgian countryside, with a view of the pastures.

Het koeienboek contains just about everything the ordinary interested person would want to know about cows.

NRC HANDELSBLAD

All those personal observations and conversations with people who have a lot to do with cows, make this a very lively book. Dumon Tak not only writes about how things ought to be, but she also describes how they are. She does not duck a single question and she is not sentimental. But she is obviously crazy about cows.

NRC HANDELSBLAD

Every sentence tells the reader how much Bibi Dumon Tak loves cows. And because she writes in such an animated way about the life and times of the sisters of Annie 65, Berta 5 and Gree 21, you soon find yourself thinking: fascinating, just like people.

PZC

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Translated by Sally Miedema

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Factories on hoofs

ALL ABOUT THE INSIDE OF THE COW

The cow is a real work of art. You just can't imagine what she can do with that bulky frame of hers. She can put on a swift sprint, jump over fences, cover long distances, and even swim. We gasp in admiration when we read in the newspaper how a cow has crossed a swirling river rather than be loaded into a cattle truck. But a cow can do lots more. Things that never get into the newspaper, but are more difficult than swimming, jumping and sprinting all put together.

For instance, one cow can provide enough milk for a whole school class, till every child is fit to burst. Thirty to forty litres flow from her udder each day, and some cows give as much as fifty to sixty litres. And she does that nearly all year long. How she manages it is a matter of constant hard work.

In order to produce milk a cow needs plenty to eat and drink each day. On some days she'll swallow up to a hundred and fifty litres of water. That's quite something. She herself only weighs five times as much, about seven hundred kilos. Some milk cows weigh a bit more, some a bit less. But they're not heavy, they have little fat to spare. That's why some people call them walking coat hangers, because you could hang up your hat and coat on all those jutting bones.

But these skinny creatures eat a tremendous amount. Grass in summer and hay in winter, supplemented with silage (a kind of sauerkraut, but made of grass) and concentrates (dry food). Cows are real guzzlers; they just keep on stuffing

themselves. They wrap their long, rough tongues round the grass and then slice it up with their bottom teeth. A horse eats much more meticulously, biting off small tufts of grass, at the same time checking for rubbish with its soft, mobile lips. A cow has no top teeth, nor does she have such mobile and sensitive lips, so she just rips it up any old how, a new mouthful every second, and hopefully with no bits of paper or plastic, or, worse still, a nail.

How much water does a cow drink per day? That depends on how much milk she produces:

Lots of milk: 100-200 litres

Less milk: 30-100 litres

No milk: 30-60 litres

Yearling: 15-25 litres

Calf: 5-15 litres

Everything the cow eats ends up in the rumen. The rumen is the first compartment of the cow's stomach, but it is not the cow's real stomach. The food which she has swallowed is far too coarse for the the real stomach. First it has to be broken down, which is done by the rumen. This looks like a grey space hopper: just as big and round and smooth. All that grass which the cow has gobbled up so quickly fits inside. When it's full, the cow looks for a nice quiet spot where she can lie down. Not to sleep, but to ruminate, or chew the cud, because there's lots to be done before the grass is ready to proceed to the real stomach.

To ruminate means to chew all over again. One by one, little balls of grass are regurgitated from the rumen into the mouth. These have to be broken down into pulp. The cow does this with the help of her strong back teeth, which look rather like millstones. The grass is pulverised between them. She chews each ball at least fifty times. Then she swallows it again, and the next ball comes up from the rumen. Then rumen itself keeps working too. It pushes up the cud for chewing and keeps the chewed cud on hold until it is ready to be sent on.

The grass's journey continues from the rumen on into the second stomach, reticulum or honeycomb bag, and then into the third stomach, or manyplies.

These are the two other rumens. In the second and third stomachs the grass gets broken down even further.

In the old days, when farmers didn't have refrigerated tanks, milk used to be collected in milk churns. If there was some important event in the village, like a fete, some farmers would put out extra milk churns for collection, so it would look as though they had more milk than their neighbours. But you only had to take off the lid to see that the churn was only half full.



Several times a week, a milk truck calls to collect the milk from the farmer. The milk is pumped through a thick hose from the refrigerated tank into the milk truck. It is then taken straight to the dairy factory.

The second stomach is known as the honeycomb, because that is exactly what it looks like inside. The grass gets pushed through the holes of the honeycomb into the third stomach, known as the manyplies because of its large number of plies, or folds. Here the grass is broken down once more between these plies and mixed with juices from the rumen. Now it can enter the fourth stomach, the rennet stomach or true stomach. You can compare the true stomach with the stomach of other animals. The walls produce hydrochloric acid which kills the germs and breaks down the grass so it can enter the intestines in pulp form. In the intestines it all gets neatly separated: what can be used is absorbed into the blood, and what the cow doesn't need comes out as dung. This blood gives her energy; it flows through her body so the dairy can keep on working.

Cows eat frightfully fast, a mouthful per second. This dates back to prehistoric times, when her ancestors roamed the forests. They grazed on the open plains, where they

were easy prey for wolves. They would quickly fill their rumens, then seek safety amongst the trees to chew the cud.

In order to chew the cud, a cow needs around a hundred and fifty litres of saliva, a full rumen, a good set of teeth, and she has to be in the right mood. If a cow isn't in the right mood because she's not feeling well, or if the grass is soaked with rain, or if she has swallowed some sharp object, like a nail, then she won't chew the cud properly, and it'll be a real mess in all those stomachs. When this happens, the farmer will need to find out what is the matter with his cow. She is like a dairy factory with electricity failure. The farmer is the manager of all these little dairy factories; he has to keep a careful eye on each one of them and make sure they all run well.

That's why the farmer gives his cows plenty of good, healthy food. That is what they need to produce lots of milk. The milk is made in the udder, and four hundred litres of blood must flow through it to produce one litre of milk. A calf needs around one thousand litres of milk to become a healthy yearling, which means a couple of litres per day. But this isn't nearly enough to satisfy the farmer. He wants more, much more, at least ten times more, and the cow does her best to quench the farmer's mighty thirst. And because the farmer's thirst is never satisfied, the cow goes on producing milk for three hundred days. After that she's had enough and takes a two-month rest. At the end of two months she has another calf, and it's back to square one.

The cow's "dairy factory" is a fiendish piece of machinery: food and water go in, milk, dung, and urine come out. And, just like any other factory, this one isn't always good for the environment, even if it is on hoofs. The farmer is delighted with the milk, but rather less so with the dung and urine. He uses it to fertilise his land, so the grass will grow better, but there is so much that this can sometimes cause problems for the countryside. That's hardly surprising, with around twenty litres of urine and thirty kilos of dung per factory per day. You can't just pop that back into the ground. But the cow couldn't care less. That's a

problem for the factory manager. The cow simply has to carry on, her factory never shuts down. Never? Well, now and again, just when she retires for a little snooze, but never for longer than half an hour a day, or else her whole system will go haywire.

In 1959, Clazina 48 was the first cow to produce a record-breaking one hundred thousand litres of milk. She was a real hit, and all the farmers wanted a cow like her. Now, each year, several hundred cows manage this record performance in their lifetime, and there are even cows which produce more than one hundred and fifty thousand litres.

Cows give milk for about ten months a year, but they don't produce the same amount each day. They reach their maximum five weeks after the birth of a calf, as much as sixty litres a day. They can keep this up for a while, but after a couple of months it goes down again.

If a cow accidentally swallows something which can't be broken down, like plastic, it will stay in her rumen for the rest of her life. That doesn't matter, as a bit of plastic needn't get in the way. But what happens if she swallows a nail which the farmer has dropped while repairing his fence? A nail will pierce holes in her rumen, and that hurts. Then a cow won't eat, because she can't ruminate properly. The vet knows what to do. He gets a kind of pistol and loads it with a magnet just big enough to fit into your hand. He shoots the magnet down the cow's throat and it lands down at the bottom of the rumen, where the nail lies. If all goes according to plan, the nail sticks to the magnet and won't pierce any more holes in the rumen wall.. The whole thing just stays where it is. It's far too big and heavy to pass into the other stomachs. The cow has to live with a magnet in her tummy, but as long as she never has to go through the scanner gate at the airport, it doesn't matter.

On Show

ABOUT HOW THE COW LIVES

Everybody's excited. It's the end of April and the door of the cowshed is open. Outside the sun has finally come out of hiding. The cows moo like mad, the dog runs, panting, back and forth, and the farmer and his wife have their arms full of straw. They throw it down along the floor, behind the cows. The soggy meadows are dry again, and tender, juicy grass waits for the first tongues. The cows know what is in store. They are impatient, and can't wait another minute now they've felt the fresh air in their nostrils.

Out in the yard, the ropes that were used to tie up the bales of straw, now have another task to perform. Today they'll be used to stop the cows going the wrong way. The farmer has gathered them up and knotted them together. They are stretched across the drive that leads to the vegetable garden. It's almost time - the gate to the meadow across the yard is open. The farmer signals to his wife: 'Ready?' he asks. 'Ready!' she answers. And the farmer turns loose the first few cows. He gives them a good wallop on the rump, and out they go, one by one, into the spring.

After six months of standing still in their stalls, they have to get used to walking again. Carefully the cows put one hoof down in front of the other. Their legs are stiff, and it's as if their hoofs have forgotten how to walk. But not for long. Once the cows feel the sun on their backs they start skipping and leaping about. Their full udders swing from side to side. The farmer's wife tells them to quieten down, but they take no notice. Instead, they go thundering out into the meadow.

Then the other side of the cowshed is opened, the side where the heifers are kept. Heifers are the young cows that have had their first calf this year. Their udders aren't so big yet, and they are wilder than their neighbours on the other

side of the shed. They start running and bucking in their pens, where they've spent all winter. Then they stampede up the narrow gangway, crash bang, crash bang. That's why the farmer and his wife have laid down straw, so that these tempestuous creatures won't fall on the slippery floor. 'Hup, hup, out you go!' says the farmer. 'Come on, get a move on!' the farmer's wife shouts from the yard.

You often see a number after the cow's name, like "Anna 35". Usually this means that the farmer also has an Anna 34 and 33. Often they're from the same family. Calves are given their mother's name, plus the next number up. Sometimes you see an Anna 377. This might mean that the farmer's father had Anna's too, and his father before him. Or else it could mean that Anna had lots of daughters, who also had lots more daughters, who had even more daughters. This way the number after the name gets bigger pretty fast.

Some of the cows are afraid of the bright light outside, which suddenly shines in their eyes. One cow lingers in the doorway of the cowshed, takes a deep breath, changes her mind, then turns back. It's Gretel, the most skittish cow in the herd. There she goes, in the opposite direction, back into her pen. It's a real crush in that narrow gangway, but if a cow really wants to go back, there's no stopping her. Gretel squeezes her way through the throng, then stands there placidly, back in her old familiar patch in the stall. Nothing can make her take one step in the direction of that nasty bright light.

In the meantime, out in the farmyard, the first skirmishes have begun. Horns to horns, or, if they don't have any, head to head. The cows push and shove as hard as they can, because they want to know which of them is the strongest. Last year, it was Bertha 5, but this time she could easily be beaten by Annie 65, or the new Cowslip 21. The fight never lasts long. The loser just walks away if she sees that her opponent can push harder. The pushing and shoving goes on until every cow knows her place in the herd. It happens every year, all over again, because after six months in the stall, they forget their place in the hierarchy. Only after the first battles have been fought, do the cows even notice the grass. They rip it out of

the ground, as if they haven't eaten a thing for the last half year.

There's lots to be done that first day: a place in the herd to be secured, a whole meadow to be explored (they need to know exactly where their own field begins and ends, and every kind of juicy titbit it has to offer). Also, they must get to know the cows in the next meadow, their new neighbours, which means a lot of mooing back and forth. Some of them are so over the moon that for a while they just trot criss-cross over the meadow, their tails in the air. They chafe their heads over the grass, rub up against the gate, and lick each other on the bits they couldn't reach themselves all winter. The cows on heat look for a bull, but since there isn't one, they mount each other. There's no letting up, that first day in the meadow.

And while tufts of grass are flying right, left and centre over the meadow, there's work to be done for the farmer and his wife. The stalls have to be washed down. That's a huge job because there's cow dung all over the place. Not just on the floor, but all over the walls, too. Some farmers whitewash them every year, since it's impossible to get them really clean with just soap and water. And it really has to be spic and span for when the cows return to the cowshed in the autumn.



Above: fighting cows

In the Alps in Switzerland and France, there is a breed of cows called the herens. These are kept not only for milk, but also for fighting. Among this breed, the fight for leadership is such a beautiful sight that the whole village turns out to see who will be leader of the

herd that summer. They are fiercer and stronger than other breeds, but they never hurt each other. The winner gets the biggest bell hung round her neck.

If a cow could choose between inside or outside, then she'd nearly always opt for outside. Nearly always, because it musn't be raining too hard, and she's not keen on wind either. When there's a shower, you'll see them standing with their heads in the bushes - that is if there are any - and their rumps to the wind. But they don't mind the cold, and they're not afraid of a bit of snow or night frost. So why do cows spend the whole winter inside the cowshed? Maybe the farmer was thinking of himself when he built the shed, so his fingers wouldn't freeze when he was doing the milking. If you look at old paintings you'll see the whole family sitting among the cows, because the cowshed was always nice and warm. They'd sit there, playing cards and drinking, fifteen cow-stoves standing around them.



Barbed wire was invented in America in 1874. Before that our cows were kept in with ditches and hedges. They could only get out through the gate on the dam.

Those cowsheds looked very different from the ones you see today. They were dark, dank, small and narrow. Very little light or fresh air came in through the tiny windows. Modern cowsheds are large and airy. They are no longer part of the farmhouse where the family lives, and are sometimes built quite far away, as there's not enough space in the farmyard. A farmer has to think carefully, before he starts building a new cowshed, whether he wants the cows to stand in bays,

tethered to the wall, or whether he wants them in loose housing. There's a big difference.

If he wants his cows in bays for the whole winter, he will have to build a gully. The cows stand in a row on a raised surface with the food trough under their noses, and the gully under their bottoms. The urine and dung drop into the gully, and the farmer cleans it out each day. The good thing about cow-bays is that the cows can keep their horns. On the other hand, they can only see their immediate neighbours, for six months long. At milking time the farmer comes along with a milking machine, their food is served up, but other than that, there is little for them to do.

Most farmers choose loose housing. The cow has more freedom and the farmer has less fetching and carrying to do. Loose housing has a feeding area and a lying area, with a barrier between, but with free access. The cows can choose a quiet spot for themselves to chew their cud. Often they'll go and lie down next to a special friend, a cow they trust, and, who knows, might be good company as well. At milking time, twice a day, they go to the milking area, and if they want to eat, they walk over to the food trough. They can sniff and lick each other to their hearts content, and there are rough brushes attached to the wall if they want a good scratch.

There's only one disadvantage: all horns have to be removed. There's just not enough space for a fair fight. The loser can't just walk away like she can in the meadow, because the walking-area is too narrow. Also the floor gets slippery with all the dung, so she might slip. The cows can easily wound each other with those spikes on top of their head. That's why the stumps are burnt off when the calves are still small, so they won't grow horns.

But there's another kind of shed, one which is even more "cow-friendly" than loose housing. It looks a bit like a field in winter, but then with a roof. This is called a stockyard. It's very old-fashioned and some farmers find it simply filthy. But the stockyard is gradually finding its way back into advertising brochures for farming. You see pictures of cows with horns, grubbing around

contentedly in the straw. Next to them is the happy farmer, leaning on his hay fork and saying: 'Well, yes, it means more work, but the cows don't slip, and their hoofs stay healthy.'

In the stockyard the cows walk around freely and can lie down where they like. Each day they get a fresh layer of straw. This is thrown down over the old straw. Many farmers think this is dirty, because the dung just stays where it is. In loose housing, or cow bays, this is removed, or else it drops through holes of a specially constructed grid. But in a stockyard the dung piles up. By the end of the winter the cows are standing quite a bit higher than when they started out in the autumn. But if the farmer uses enough straw, it will be perfectly clean. The cows don't fall on the slippery floor, and they can tussle and fight as much as they like. A stockyard is by far the nicest kind of shed for cows. It just means a bit more trouble for the farmer, especially in the spring, when the cows are put out to pasture, and that great mountain of dung and straw has to be cleared in one go.

On organic farms, farmers treat their cows differently:

- They can keep their horns
- They go to the slaughterhouse later than other cows
- They get beets, potatoes, and herb-filled meadows
- They are kept in stockyards
- The calves are never given powdered milk
- There is no artificial insemination
- So the bulls are not related to Sunny Boy
- Each cow takes care of her own calf the first week

Young cattle, the yearlings and the calves, are kept in a separate area of the shed. New-born calves from dairy cows each go into their own stall, where they just fit. The bull calves, and also the cow calves the farmer doesn't want to keep, are taken away after a week. The cow calves that are allowed to stay, grow up together in a pen filled with straw. Until they produce their first calf, their life is like one long holiday.

For the little bull calves and the cow calves that leave the farm after a week,

it's hard luck. They go on to the fattening unit, where they stay for a couple of months till they are filled to bursting. Up until quite recently, these calves were kept in crates, where they couldn't even move. Calves that stand still get fat a lot faster than calves that jump and skip. They were kept completely inactive and were bored to tears. By the time they were ready for the slaughterhouse, they could hardly stand.

In 2004 it will be illegal to keep calves alone in small pens, and even now, the situation is changing. More and more, calves will be kept in groups of five or six, but the pens are still small, with too little space for them to rummage around. That's why they suck on each other's ears, as there's little else for them to do.

The calves of beef cows are better off. They spend the first summer with their mother in the meadow. The farmer wouldn't dream of sending them off to the fattening unit, because when they're bigger, there's plenty of fat on their ribs, and that's how the farmer earns his money. They are slaughtered at eighteen months, while a calf from the fattening unit only gets to live for six months.

There are also adult cows, which, just like boxed calves, never feel the green fields under their hoofs. They live on super-mega-farms, where everything is automatic. There's a robot for milking and another for feeding. There's a machine for cleaning the floor, and a computer which says when a cow isn't feeling well. The farmer has helpers made of steel. They are never off sick, and they never get backache.

When the cows want to be milked, they walk over to the milk stall. There, a transmitter seeks out the udder, and four sucking mouths lock themselves onto the teats. The milk is conveyed via thick rubber tubes to the refrigerated tank. The cow is given dry food in a trough, and the computer sees exactly how much milk she produces. From this milk the computer can also see if the cow has a temperature, because, then the milk is warmer than usual. In that case she may have an infection in her udder or stomach. The farmer regularly checks all the computer reports on his cows. This way, he knows exactly how his animals are getting on.

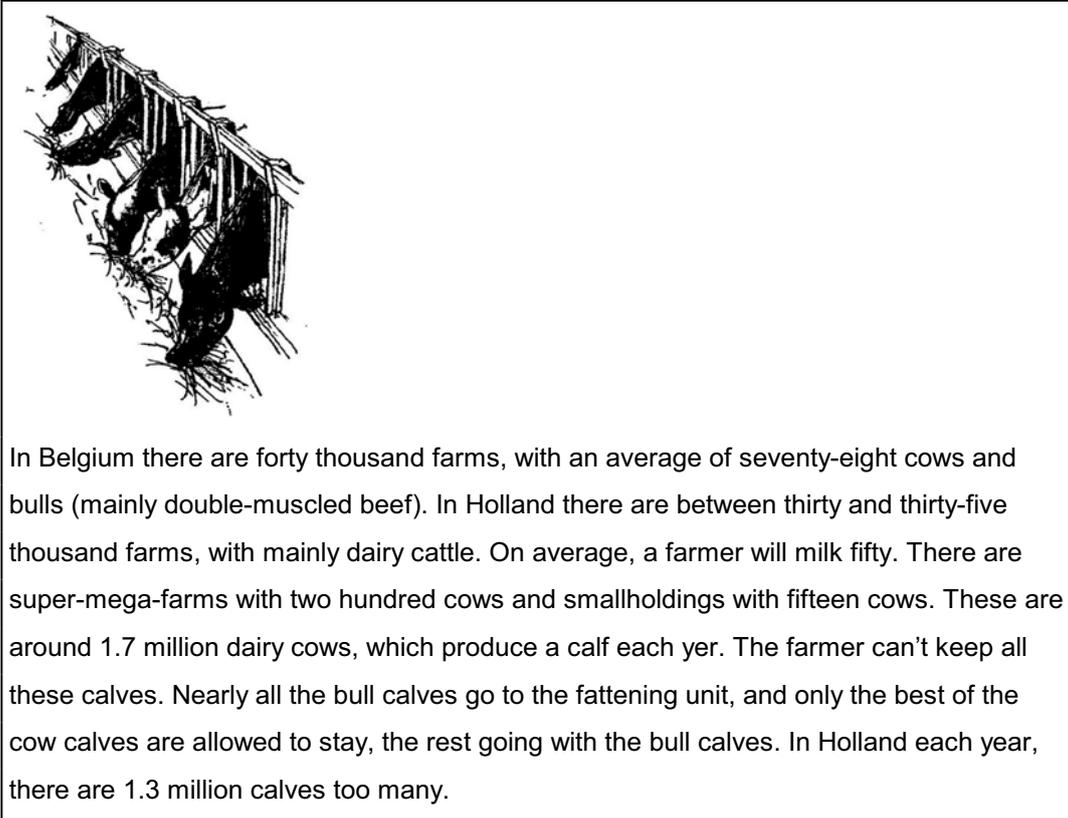
The cows know the milking machine better than they do the farmer, and the farmer knows his computer better than he does his cows.

The good thing about the milking machine is that the cows never have to wait too long to be milked. Normally the farmer will milk them twice a day, but with a robot, they can get milked more often. The udder never gets too full, and with a tasty trough of food under their noses each time, their milk flows more easily. They give more milk than cows that have to wait twice a day to be milked by the farmer. A clever cow that has already been milked four times, but comes back for a fifth so she can get at that dish, can't fool the computer. It recognises her straightaway. The sender on her neck betrays her, and the gate to the milk stall stays firmly shut.

These super-mega-farm cows are extremely independent and difficult to stroke, as they are unused to being touched. They only get to see the farmer when there's something wrong with them. There's nothing wrong with that, they can do without the farmer. But if it also means they have to miss the grass under their hoofs, then there isn't much left of the cow that once started out as the mighty, primeval buffalo.

In summer, all cows belong in the meadow - even Gretel, the cow that was scared of the bright sunlight. Each time she was taken outside, she managed to get back in again. The farmer and his wife thought they had finally succeeded and could get a good night's sleep, but when the farmer's wife came down next morning, she heard a moo coming from the cowshed. And there was scaredy-cow Gretel, right back in her own stall. 'Where's the hay, then?' she seemed to be asking. That night she'd jumped over the fence and pushed open the cowshed door with her nose. She wanted to be inside, because she just wasn't used to being outside. She preferred to stand alone on that scrubbed-down concrete, rather than with the others, knee-deep in grass. When the farmer's wife drove her out once more, and she saw the rest of the herd peacefully grazing in the meadow, she was over the

top. The meadow always wins in the end, even if not every cow understands this right away. The best roof over your head is no roof.



In Belgium there are forty thousand farms, with an average of seventy-eight cows and bulls (mainly double-muscled beef). In Holland there are between thirty and thirty-five thousand farms, with mainly dairy cattle. On average, a farmer will milk fifty. There are super-mega-farms with two hundred cows and smallholdings with fifteen cows. These are around 1.7 million dairy cows, which produce a calf each year. The farmer can't keep all these calves. Nearly all the bull calves go to the fattening unit, and only the best of the cow calves are allowed to stay, the rest going with the bull calves. In Holland each year, there are 1.3 million calves too many.

Cow by cow

ALL ABOUT THE SLAUGHTER HOUSE

Heads with heads, livers with livers, stomachs with stomachs and, willies with willies. All neat and tidy, no mess allowed in the slaughterhouse. The men work on in silence, they have to take good care while working with knives and saws and bullets. There's lots to do, with seventy-four whopping great bulls, nine cows, five sheep, two goats, a calf, and a pony all to be put down and nicely cut up into pieces. Anyone who dawdles over his work gets a good telling-off.

Nearly all cattle end up in the slaughterhouse, thousands per day, as if it's the most normal thing in the world. But even so, it's a place nobody really likes to go for a visit, and people prefer not to talk about it. We would rather not know about it because all the bulls, cows and calves are killed for us. We want their meat, their bones, their skin, and we want it every day.

A milk cow is really just skin and bones. When she has been slaughtered, very little actually goes to the butcher. More than half disappears into the dustbin. With double-muscled beef cows, it's quite a different story. Seven hundred of the thousand kilograms end up on the dinner table.

Slaughtering means: using the meat from an animal as food. The slaughterer never speaks of killing, and certainly not of murder. Rather he uses the word 'stunning', or 'doping', as that sounds a bit nicer. It means that he makes the cow unconscious, and then puts it to sleep. Only, it's a sleep which lasts forever, and from which the cow never wakes up.

The slaughterhouse consists of two sections: the dirty area and the clean area. You would have said that the last part, where the slaughtered cows end up, is the dirty area, because that part's dripping with blood. But no, this is the clean

area. Here you have to wear a white coat and a cap. And not a spec of dirt on your boots, from the stall or from the street. It has to be germ-free, because meat goes bad in no time.

In the dirty area, the animals stand waiting in the stall. It's not really dirty at all, but here everybody walks in and out, without disinfecting themselves. The vet inspects all the animals, and when he pronounces them healthy, they can be slaughtered, not before. The meat of a sick animal is not allowed to be eaten. If the vet finds a cow with a temperature, she has to be put down, and brought straightaway to the incinerator, where she is burnt. Then the farmer can't say: 'Give me back my sick cow, I'll patch her up and bring her back again.' No, there's no way out of the slaughterhouse.

<p>Her skin is made into leather. Her bones are made into glue, gelatine and buttons. Her tail is made into brushes and carpets. Her stomachs are used for dog food. Her fat goes into the chip pan. And her meats goes straight onto the dinner table.</p>

Once a cow is approved by the vet, she joins the queue in the gangway leading to the cage where the slaughterer is waiting. Just one cow at a time fits into the cage. Once she's inside there's no turning back. A steel slide drops down and the slaughterer pulls the slaughtering mask straight over her head. This slaughtering mask is an iron rod, the size of a pocket lamp, fitted with one bullet at a time. All you hear is a 'plop'. The cow sinks at the knees, then thrashes and kicks about for a bit. These are death spasms, muscle movements which the cow doesn't feel. She has been stunned by the bullet through her head, but according to the vet, we shall never know for sure, because a cow can't speak.

When the spasms have stopped, she's dumped out of the cage onto the ground and hoisted up in the air by one of her back legs. Straightaway the next cow is standing in the cage, and then the next. Plop, plop, plop, one cow every three minutes. One after another they slide, upside down, and hanging from the

pulleys, out of the dirty area and into the clean area of the slaughterhouse. Here their throats are cut, so they can bleed dry over the gully.

Farmers who don't put identification ear tags on their cows, because they consider it to be cruelty to animals, are not allowed to have their animals slaughtered. There are few farmers who leave their cattle's ears intact. A cow with no ear tags has to be incinerated, and mustn't be eaten.

People don't choose to become a slaughterer just like that. When you leave school you would hardly say: for the rest of my life, I'm going to put down animals, then fillet them and saw them into pieces. But a slaughterer's child would, because being a slaughterer is a profession which is passed down from father to son. And you don't need to dislike animals to follow in your father's footsteps. In fact, according to slaughterers themselves, you have to rather like animals, as you're around them all day long. There are even those who say: I'm a real animal lover.

In a good slaughterhouse, the work is calm and relaxed, without stress. The animals should be able to die peacefully, because if they get upset this is bad for the meat. Most cows walk quite quietly along the gangway to the cage where the slaughterer does his work. They don't know what death is. At least, not like people do.

'They don't get frightened when they see each other topple over', says one slaughterer. 'You mustn't get the wrong idea, animals aren't people, just look at all those nature films. You see thousands of gnus crossing the river with all those crocodiles just waiting beneath the surface to pick them off. And still the gnus just keep jumping in. Splash, splash - one after the other.' And that's how it goes in the slaughterhouse, the cows just keep moving along, one after the other, plop, dead, plop, dead. It's rarely any different. The cow nearly always follows the herd, and as long as one doesn't run off in the opposite direction, then all is well.

After ten minutes the cows have bled dry, and the heads are chopped off, but not the ears. The slaughterer has to decapitate them so that the ears remain attached to the neck on a thin piece of skin. This is because the ear tag is attached to the ear, which is the passport of each cow. There is a number on this ear tag, and if this is thrown away then no-one will know which cow it is, because it's hard to recognise a cow without a head. And it's even more difficult when the legs, the tail and the hide is also removed. From then on they all look exactly the same: just a bare carcass with a pair of ears dangling off a patch of skin.

After the belly has been cut open, and everything, from the stomach to the spleen, removed, then it's time for the great saw. The cow is divided exactly into two equal parts. A shrill cutting sound shrieks through the slaughterhouse and within ten seconds the cow is cut in two, with an ear on each side. The ears are only removed when the meat has been approved. There is a vet on the premises to give this approval. He checks to see if the inside of the carcass is healthy. Are there any swellings? Is there any infection? No worms crawling out? No? Then the ears can be cut off and the meat can be approved and stamped. The number on the ear tag is entered into the national computer, and the ears go into the freezer. These are kept for a while. This way everybody knows that cow number 7901170485 is no longer alive.

Some farmers used to give their meat cows special growth hormones, which led to quicker weight increase. Vets working in the slaughterhouse had to carry out inspections on the animals, because this practice was actually forbidden. A vet in Belgium, Karel van Noppen, declared cows unfit which had been treated with these hormones. The farmers wouldn't put up with this, they wanted to earn lots of money with their overweight cows. Karel van Noppen was murdered in 1995. But this didn't help the hormone mafia, because since then supervision on the use of hormones has become much stricter.

The seventy-four Belgian double-muscled cows standing in the waiting area of the slaughterhouse have nearly all been approved by the vet. They have been weighed, and led one by one to the gangway leading to the cage. Only the last two

bulls refuse to leave the cattle truck. They won't budge an inch. Even an electric current with a special gadget doesn't help. They weigh a thousand kilos apiece. One wave of the head, and the slaughterer will find himself lying, stunned, on the ground. Then you really need to watch out, because if a bull like that goes on the rampage, you'd better phone the emergency number double-quick. Nobody can stop him, and it wouldn't be the first time it hits the next day's headlines: 'Wild Bull Rams Cars'.

The vet suggests fetching one of the cows from the waiting area and putting her in front of the cattle truck. And that helps. As soon as the bulls realise she's there, they quieten down. They give a couple of loud sniffs, then follow her, like lambs, into the slaughterhouse. The cow is picked out just before she gets to the cage, since her turn is not till later, together with the other eight.



Belgian double-muscling beef cow

The Dutch are famous for their milk cows, and the Belgians for their meat cows. Nearly half of all Belgian cows are Belgian Blue, double-muscling beef cows. Their meat is top quality and is exported all over the whole world.

These great giants don't always go down with the first shot. Their skull is

thicker. But then, when these last two stubborn whoppers are hung up on their hooks, it's time for a rest. Time for coffee and sandwiches. The men wash their hands and whistle a tune. They discuss who is going to slaughter the pony. They point at each other: you, no you, because nobody wants to do it. They call in the director and he says: no nonsense, five minutes from now we begin with the cows. The director also has a knife in his hand, and has blood spatters on his chin. You won't often find him sitting behind his desk, because in the world of meat everyone joins in and no-one is scared of a bit of blood.

In a small room under the slaughterhouse, a man in a filthy apron stands behind a work top. He catches the stomach, intestines and bladder, which are sent down a chute. They land, under his nose, with a big splash. They are given separate treatment, because they musn't come into contact with the meat. They still contain dung and urine, and undigested grass, and it would be unhygienic if any of this was left lying around in the clean area of the slaughterhouse. They are thrown away, but not before the man has cut out the rumens, which are saved for dog food.

He takes a sharp knife and slices them open, one by one, rinsing out the half-digested grass. In a separate container, he collects any other bits and pieces which may turn up. Generally these consist of the magnets which the vet shot down the cow's gullet at some point, to secure a roving nail. Besides these, he unearths a metre of rubber garden hose in one of the rumens, which one of the large bulls had swallowed by accident. Sometimes he finds things like a potato peeler which the farmer left lying about in the hay, or a piece of material which may once have been a handkerchief.

Upstairs the coffee break is over. The nine cows are waiting. They look around in curiosity. They twitch their ears and try and understand what that plop-plop noise is. 'Come on, next one,' says the slaughterer to his mate. 'Let's get a move on, I want to get home.' The fourth cow gets a slap on her rump. Awkwardly she moves forward and places her hoofs on the iron surface of the cage. It

is a Scottish Highlander, with beautiful horns and long, curly locks on her forehead. The slaughterer gives the thumbs up: 'Top quality beef,' he says.



Above: Scottish Highlander