



## Housing

When Dutch cows are not grazing, they reside in a stable. Sufficient light, air and space, combined with proper hygiene, are important for health and well being of the cow. This is all incorporated in the stable design and as such much care is taken for the cows comfort.

### Which stables are there in the Netherlands?

There are several stables in the Netherlands, such as the cubicle stable and the free range stable.



#### Cubicle Stable

The largest part of the dairy farmers in the Netherlands keep their cows in cubicle stables. In these stables the cow can walk around freely, socialize and eat and drink at will. The cubicles are separated by tubes allowing for the cows to lay **comfortably on their own spot**. The subsoil of the cubicles varies per stable: litter (sawdust or straw fiber), rubber mats or a waterbed.



#### Free range stable

Just like the cubicle stable cows can walk around freely in a free range stable. There are no cubicles; the walking and laying area is combined to **one level floor**. This stable has a soft comfortable subsoil. There are several types of subsoil such as woodchips and straw.

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A **deep litter stable** is an example of a free range stable, where cows stand on straw and deposit their manure on the straw. The floor is frequently recovered with fresh straw. The manure and straw bottom of the stable increases in height and once or twice a year the stable is mucked and the distributed over the field.



The dairy sector is continuously working on **innovative stable systems**. An example of this is the cow garden. This concept is based on a free range stable where cows have a lot of space. The cow garden contains green such as trees and an innovative floor. The artificial floor is similar to a real meadow. Innovative techniques are used to **lower the ammonia remission**, which is better for the environment.

## What does the cow eat?



A cow mostly eats raw feed (**grass and corn**) supplemented with concentrate feed (chunks). This concentrate feed consist of corn wheat, citrus, rapeseed and a small percentage of soy. This soy is 100 % responsible (RTRS). During production of this soy, that meets with the requirements of the RTRS criteria, valuable nature is preserved and no human rights are violated.



Besides grass, corn and chunks cows sometimes receive byproducts from the food processing industry, such as potato starch. The General Food Law (GFL) prescribes what can be used for feed ingredients. According to the **demands of the dairy companies** Dutch dairy farmers are allowed to buy their feed only from companies who are a member of SecureFeed, the organization that guarantees feed safety of the feed companies.

## How are cows milked?

Most dairy companies have their cows milked twice a day. For milking the dairy farmer uses a milking machine or an automatic milking system also known as the milk robot.



### The milking machine

The milking stable consists of a space with a walking pit of an average depth of one meter. The farmer can hook up the milking machine while standing to the teats of the cow udder. The milk then is transported through pipes to the milk tank where the milk is cooled and stored. The mostly used type of milking stable is the **herring bone system**. The cows are set up slanted next to each other in a herring bone pattern. There are other systems such as a side to side milking stable and a carousel milking stable.

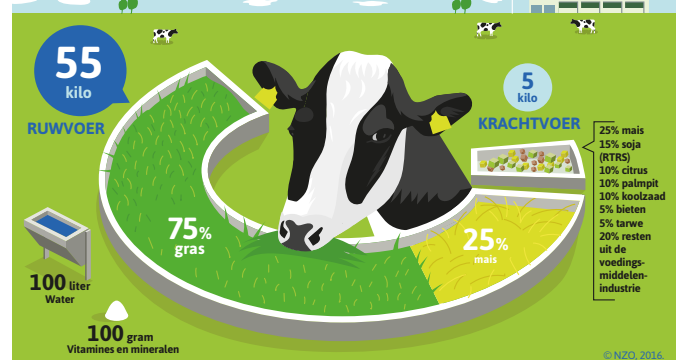


### The milk robot

A milk robot milks the cow automatically, without human interference. The cow steps into a cubicle by itself, after which the cow is **milked fully automatically**. As such the cow can decide by itself when it is milked and how frequently, contributing to its freedom of choice. The robot recognizes from a chip in the neck collar and connects the udder with a sensor system.

## Wat eet een Nederlandse melkkoe?

Gemiddeld per dag





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## What innovations are there on the farm?



Dairy farms are becoming more and more automated, with for example manure slides and **manure robots**. Both ensure the floor is free from manure automatically. The farmer no longer has to take care of this manually.



Another example is the **cow brush**, also often used in dairy farms. Cow brushes are large, slowly rotating round brushes. Cows rub against these brushes as they enjoy it, to soothe any itch and brush their skin extensively. Cow brushes contribute to the well being and hygiene of the cow.



Some farms use a **feeding robot**, which automatically feed the cows. Also the **pushing robot** is being used more and more by farmers. This robot moves through the aisles automatically and pushes the food, so that the cows always have fresh food available. The farmer no longer has to do this manually or using a tractor.



A cow's menu consists mainly from grass, supplemented with corn and chunks (concentrate feed). The concentrate feed is dispensed from the **contrite feed box**. This box is frequently used in Dutch dairy farming. The farmer enters into the computer how many chunks are to be dispensed to each cow and in how many portions distributed over the day. When the cow walks in the growth stimulants cubicle, she is recognized from the chip in her collar and is dispensed **the right amount** of chunks. Farms without a concentrate feed box distribute the chunks manually.



Manure robot



Cow brush



Pushing robot



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## Did you know ...

- ✓ ... a dairy farm has an average of 89 cows?
- ✓ ... in the Netherlands a lot of time and energy is invested into the comfort and well being of the cow? There are spacious stables where the cows have complete freedom to lie down and walk around freely.
- ✓ ... cows lie down over 18 hours a day? Good subsoil is therefore very important; the stables have comfortable beds and sometimes even water beds.
- ✓ ... a cow's freedom of choice has increased gradually over time? Formerly cows were fixed in their own place, now cows live in stables where they can walk around freely. With the introduction of the milk robot some cows are even free to choose when they are milked.