

# THE DUTCH WAY OF REDUCING ANTIBIOTIC USE

## Proactive and sector-driven

There are increasing concerns in society about the use of antibiotics and the development of antibiotics resistance in livestock farming. Resistance arises when bacteria become insensitive to antibiotics, posing problems for disease control. Therefore, responsible and transparent antibiotic use by dairy farmers is of great importance. The Dutch dairy sector has proactively and successfully reduced the use of antibiotics in dairy farming.

Between 2009 and 2016, usage decreased by 48%. The use of critical 2nd and 3rd choice antibiotics has also been greatly reduced, and third choice resources are now rarely used.

Since 2012, it is compulsory to register the use of antibiotics on every cattle farm in the national database MediRund. This data, in combination with the number of cattle, allows to calculate the antibiotics use on a

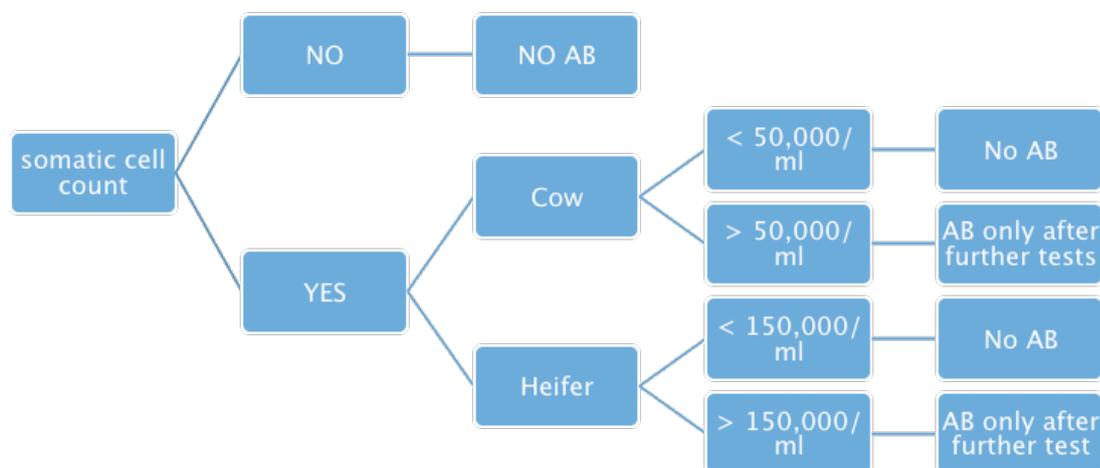
particular farm, which is expressed in terms of Defined Daily Dose Animal (DDDA) per animal per year (DD/DJ) at farm level.

For example, a DD/DJ of 2 means that, on average, animals at the livestock farm concerned were treated with antibiotics for two days a year.

The farm levels are used for benchmarking and – if exceeding threshold values – indicate when corrective action is necessary. For the thresholds a traffic light color coding is implemented, with green (DD/DJ < 4), orange (4-6), indicative of a high use requiring attention, and red (>6), requiring immediate action.

If no action is undertaken and DD/DJ remains too high, milk will no longer be collected as agreed in the milk purchasing conditions of the milk buyers/dairies.

## Antibiotics usage at drying off



## Dry off period without preventive use of antibiotics

Selective drying off has made an important contribution to a decreased antibiotic use.

Preventive use of antibiotics for drying off dairy cattle is no longer allowed. Veterinarians may prescribe the use of antibiotics only if an udder infection is assumed after diagnostic examination.

The protocol uses the somatic cell count per animal up to 6 weeks prior to drying off. If the cell count number

is below 50,000 (cows) or 150,000 (heifers) per ml, no antibiotics may be used.

If the cell number is higher, only a first choice antibiotic may be used in accordance with the farm health plan. The use of 2nd and 3rd choice antibiotics follows strict regulations, and is only allowed after additional testing.



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### FARMER CASE

#### A farmer's experience with omitting the dry off period

Arnold and Brenda van Dee, living in the village of Yzendoorn (The Netherlands), milk 98 Red Holsteins with 56 young stock. Average annual milk production per cow is 10,363 kg with 4.61% fat and 3.81% protein and a somatic cell count of 90,000 per ml.

Arnold and Brenda have stopped drying off cows since 5 years and they are very satisfied with the results. They chose this strategy to bring down their DD/DJ. They did identify some drawbacks to this approach, such as a slightly lower quality of colostrum and lower production of the second calf cows.

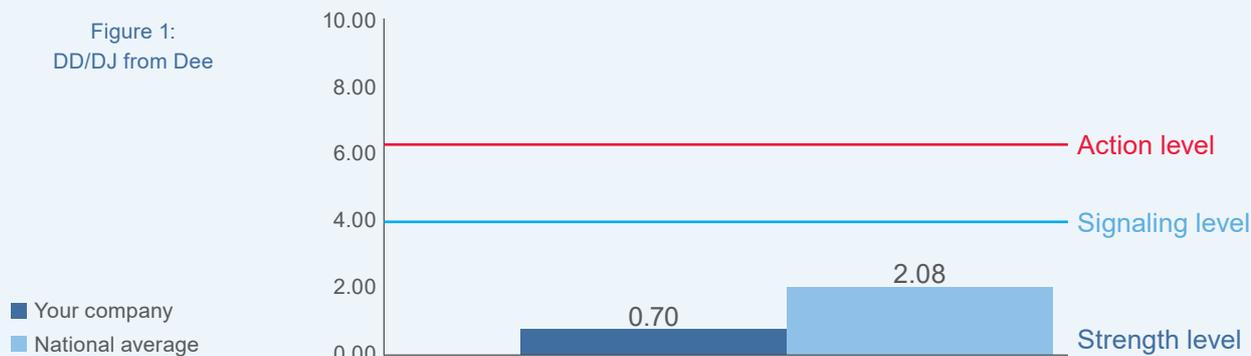
However, for the rest of the dairy cows milk production is on average higher and the calving interval is 30 days lower than the national average. An advantage of omitting the dry off period is the higher age of culled cows. "Cows get older because their udders suffer less" Arnold says. The average age of the cows at his farm is 4 years and 7 months year (4.07) and by culling 6.03 with a lifetime yield of 37,624 kg.

Arnold and Brenda's farm has a DD/DJ of only 0.70 (see Figure 1). Antibiotics are still used to treat some calves, cows with retained placenta, interdigital dermatitis and occasional mastitis. The farm has a very high herd health status, it is free from BVD and IBR.

In addition, the farm is not suspected for Salmonella and Neospora and has the highest status (10) for Johne's disease. Everything is certified and animals are not vaccinated.



Figure 1:  
DD/DJ from Dee



Arnold also has a number of **tips for dairy farmers** who think about omitting the dry off period "No drying off helps in my business because I now have a low DD/DJ and a shorter calving interval of 380 days". In addition, problems like the reduced colostrum quality are well understood. They measure the colostrum so the good quality colostrum is can be frozen

and stocked. Also, there is no need to be afraid of mastitis, as the incidence on their farm is not higher compared to dairy farmers who dry off their cows. Arnold and Brenda do not intend to go back to drying off the cows "unless major problems arise, it will be of course different," Arnold adds.

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