

Precision Management On Two Dutch Dairy Farms By Use Of Herd Navigator®

Nico Vreeburg¹
¹Vetvice, the Netherlands

Introduction

The Danish development company Lattec I/S has built an automated sampling and measurement system and software that includes biological models developed at Biosens, a collaborative R&D effort, started in 2001. The system monitors reproduction, mastitis, ketosis and urea levels on a daily basis. The system is currently being further tested at a number of dairy farms in Denmark, and the system is now on the market in Denmark, The Netherlands and Sweden.

The company Delaval Benelux have asked Vetvice to help with the practical introduction of the Herd Navigator® on the first farms in the Netherlands. The data translation to daily work routines asks for a farm management support. Vetvice provides the veterinary and farm management knowledge to implement results into standard operation procedures (SOP's) for the farmers. The different settings in the system have been made up according the goals of the individual farmers. The farmers and their advisors (veterinarian and feed advisor) are accompanied by Vetvice and DeLaval for maximum efficiency of the system.

After 6 months working with the Herd Navigator the Dutch farmers and their advisors rely on the system for reproduction and ketosis totally. The confidence in mastitis monitoring is growing. Urea is still not widely used.

Materials and methods

The test results reported here came from two Dutch commercial herds. Both herds have Dutch bred Holstein cows. Herd Navigator Specific data were extracted from the Herd Navigator databases in the farms. The data presented covers the period March 15, 2009 to Oct 20, 2009. All cows with abnormal milk or mastitis alarms are sampled by the farmers. Milk samples have regularly been cultured by the Central Animal Health Service, Deventer (GDvD).

Results and discussion

Table 1 shows the results of the commercial farms. The heat detection rate of farm 4 and 5 are 98 and 99 %. The Danish farms learned that the interval from heat alarm to insemination could be farm related. So at Farm 4 the SOP tells to inseminate after 24 – 36 hours after a heat alarm, at farm 5 the interval is 36 – 48 hours. The pregnancy rate at farm 4 so far has increased from 39 to 42 %. This farm had 183 open days before start up and 53 % had 147 open days or more. So a lot of cows were bred in very late lactation. The first reproduction results even in these late breeders are good. The farmer did not see these cows in heat anymore but the results showed that they were cyclic. Both farm 4 and 5 rely on the reproduction results, heats but also pregnancy and cysts. Farm 4 already stopped the regularly ultrasonic pregnancy checks.

Table 2 shows the amount of ketosis alarms in the indicated period. Farm 4 stated that ketosis was not a problem at all. Now all cows with a ketosis alarm are directly separated and treated according the SOP. For farm 4 to treat ketosis cows in a very early stage had a big impact on milk production curve of fresh cows. Improvement on the long term on reproduction, body condition, health and replacement rates can be even more interesting.

Table 1 Reproductive performance in the commercial herds:

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Country	DK	DK	DK	NL	NL
Installation	Parlour	Parlour	Parlour	Parlour	Parlour
Installation date	10/3 2009	15/4 2009	15/4 2009	4/3 2009	4/6 2009
# cows	238	233	152	131	155
Heat Detection Rate	99	100	97	98	99
Pregnancy Rate before	36	Na*	25	39	37
Pregnancy rate now	52	Na*	32	42	46
% heats becoming follicular cysts	14	14	10	14	4
% cows with ≥ 1 follicular cyst	38	49	25	46	15
% Early Embryonic Loss	12	4	17	16	3

*) Has used bull for breeding in 2009

Table 2 Amount of ketosis alarms on farm 4 and 5, the Dutch farms:

Ketosis alarms:
Farm 4. (1/6-1/11) 14 ~ Annual incidence of 34, = Incidence rate of 25,6 %
Farm 5. (1/7-1/11) 24 ~ Na*

*) Annual incidence is difficult to assess, as they have experienced no alarm cows for a long time (end September).

Reviewing a number of cases of mastitis alarms and abnormal milk in the parlour. We found that there are several cases of a mastitis alarm, no treatment and positive culture in the sample. Should these cases have been treated?

There are also cases of abnormal milk and no alarm where the cow has been treated and negative culturing. Are these cows treated unnecessary? Experience so far has yielded an interesting SOP. Using a CMT-test in the parlour together with the alarms more subclinical cases can be treated in an early stage of infection without getting chronic infected quarters. More data are needed to speak from a breakthrough in mastitis management, but results so far are promising. The sensitivity at farm 5 is 82 % and the specificity Biosens estimates say 98 % (Chagunda et al. 2007).

Over all the farmers are very satisfied with this system. More data analysis is welcome and the introduction of the Herd Navigator on Automatic Milking Systems will change a lot of farmers live in a positive way. And, if well managed, the life of the cows will be better as well.

Happy cows, happy farmers.