

VETERINARY QUALITY MANAGEMENT: THE DUTCH TOTAL TOUCH

Jos.P.Noordhuizen, Jan J. Lievaart

Dept. of Farm Animal Health, Faculty of Veterinary Medicine, Utrecht University, Utrecht, The Netherlands

Introduction

The Dutch dairy quality assurance program KKM was initiated in 1998 as a voluntary program, instigated by Dutch dairy industries, NZO, and the Dutch LTO, the farmers' association. It comprises 6 modules: health & welfare, hygiene & disinfection, milk harvesting & storage, medicinal drugs, water & waste management, nutrition. In 2000, KKM became compulsory for dairy farmers. Non-compliance meant that the milk was collected but at a price of 10 eurocent/l. Between 1998 and 2000 emphasis was on the formation of a certain quality attitude and mentality, Good Farming Practice. The veterinarian had to comply by issuing a statement of functioning according to Good Veterinary Practice; moreover, he had to be formally certified to have access to KKM-approved dairy farms. In 2002, a compulsory clinical herd health inspection was introduced. Inspections have to be conducted 4 times per year and following a pre-set protocol. The protocol originates from the legal requirements regarding the delivery of milk for human consumption. There are 7 categories of disorders distinguished in this protocol:

1. Zoonoses by agents that are transferred by milk
2. Disorders causing organoleptic changes in milk
3. Diseases with generalized signs and weight loss
4. Diarrhoea with fever and intestinal disease
5. Disorders of the genital tract; vaginal discharge
6. Udder and teat skin lesions
7. Highly contagious (list A) notifiable diseases

In this presentation, the outlines of the KKM program are addressed, as well as the results of the 6 herd health inspection rounds. Furthermore it is discussed how this KKM program can be integrated with veterinary herd health and production management programs and how the developments will be, given the recent EU policy.

KKM, Dutch dairy quality assurance at farm level

The 6 basic modules of KKM refer to the "do's and don'ts" on the dairy farm. It is e.g. stated what is and what is not allowed in the bulk tank room. The farmer conducts a self-evaluation to find out to which extent he complies with the rules. In principle the modules regard elements of a good farming practice code. KKM-inspectors conduct unannounced audits on the 25.000 dairy farms regularly. The clinical herd health inspection is performed 4 times yearly by certified cattle veterinarians. The veterinary profession has been involved from scratch in preparing this inspection, the dairy industry being their client.

Basically, one looks for disease prevalences, meaning that chronic cases will be found together with prevalent cases and accidental incidents. Veterinarians had to follow a compulsory course to do the herd inspections.

KKM, results of the herd health inspections

The first 6 rounds of herd health inspections were performed between the end of 2002 and in 2003. More than 125.000 farm inspection records were available for statistical analyses (24.295 farms). About 99% of the herd inspections with cows listed as attention cows referred to less than 6% of cows; and 1% of all visits showed numbers of attention cows higher than 6% (= about 200 farms). About 25 farms had the highest numbers of attention cows, up to 15% of the cows on conventional farms (50-200 cows per herd) and up to 45% on small farms (< 15 cows per herd). The median percentage of attention cows per visit is 1.25% (skewed distribution). The number of farms with repeatedly high numbers of attention cows was about 120. The median number of attention cows per category per visit was from 1% (cat. 7) to 1.56% (cat.3). One visit showed more than 10 attention cows; no repetition occurred. On 752 farms more than 5 attention cows were listed during at least one visit. Highest ranking categories were 2, 3 and 4. Statistically considered, is the role of the veterinarian in the outcome of the analysis relevant in categories 2 (15% variation attributed) in category 3 (10%) and category 4 (7%). There is no effect of herd size or season on the outcomes.

The forenamed results point to the fact that relative few dairy farms can be classified as showing an excessive number of attention cows or showing high numbers repeatedly.

So, it should be feasible to identify criteria for a further classification of farms in classes Green (only a few attention cows), Orange (increased number) or Red (too high number). The last class could lead to withdrawal of the license to sell milk to the market.

This procedure is currently under study and will be installed in 2005 probably.

Next phases in KKM

First of all it should be stated that prevalences give less reliable pictures of the herd health situation than a continuous monitoring of incidences would. In a pilot-study it was found that the incidence figure between successive inspection visits was 5 to 10 times higher than the prevalence figures. But the herd inspection is the first step; more steps will follow.

One of these is the monitoring of cow welfare. Based on the Five Freedoms (Webster, 2001) and the derived Biological Needs (Bracke et al., 1999) a clinical welfare scoring tool was designed.

The primary Biological Needs refer to:

- Feed quality & availability
- Drinking water availability
- Safety & Resting place
- Health & Locomotion
- Grooming
- Social interactions

Furthermore, secondary needs have been listed: Respiration, reproduction, thermoregulation, excretion, orientation/exploration, pain experience related issues.

The clinical welfare scoring tool was tested on 100 farms in the south and the center of the country. Scoring was by giving 1 (poor), 3 (average) or 5 (good) points to the different items. Results were obtained at farm level, the level of clusters (eg housing) and items within clusters (eg bedding material). The results were as follows:

On average 77% of max score was achieved; while 14% of farms showed scores 1 in clusters or items. Scores 1 were most seen in Housing (maintenance, quality of slatted floor, manure removal, cubicle bedding, cow density), in Pasturing (absent, long paths, path quality) and in Health management (lameness, body condition, disease control planning, herd claw trimming).

Highest scores 5 were achieved in items like access to feed, feed availability, pasturing, general behaviour, herd health programs, cubicle beddings, light regimes, barn climate, lying and resting, space per cow, bacteria count in milk.

The advantage of this type of scores is that not only deviant cows are detected but the farmer can also show on which items he scores best (motivation). Moreover, next to scoring cows also cow surroundings are scored, meaning that one searches for risk conditions. The latter is paramount when one strives after risk identification and risk management (prevention) instead of disease combat and disease control. The step of continuous monitoring of health incidences, by eg the farmer is an issue of debate. Although it is accepted as a highly relevant issue it will not be implemented within 2 years time.

In the meantime it has been determined that the average duration of a herd health inspection takes 30 min on farms of between 50 and 150 cows; shorter and easier on farms where a routine veterinary herd health program is running. This might be relevant for implementation of EU directive 97-12 when veterinary herd inspections have to be executed. It is more valid to have an inspection report based on insight knowledge of farm obtained during monthly visits than based on a prevalence estimation of 4 times a year.

KKM is currently adapting the procedure documentation to work instructions and flow diagrams, not in the least to reduce the variation between observers. These KKM work sheets, diagrams, and audits can be considered elements of a HACCP-like approach of the dairy farm. Maybe that is the direction that developments of the KKM program will go. It would comply to the statements made in the EU regulation 178-2002 and in the discussion about the harmonisation of hygiene directives. It was stated that a HACCP-compatible program on dairy farms in the 4 areas of food safety, public health, animal health, animal welfare is indicated if the farmer has the responsibility and liability regarding the control of products/processes on his farm, and show that to third parties (authorities, retailers, consumers).

It has been evaluated earlier that HACCP-concept would be best applicable to dairy farms as compared to ISO systems or GFP (Noordhuizen & Welpelo, 1996; Cullor, 1997) but not as a panacea. This means that Critical Control Points have to be complemented with Critical Management Points both as part of a on-farm monitoring plan to detect risks in the production process and control them. Examples of this type of approach will be given at the meeting.

HACCP-concept is elaborated via 7 principles:

- make a production process diagram;
- identify the hazards on the farm;
- find the associated risk conditions;
- select CCPs and CMPs; standards; SDs;
- design an on-farm monitoring plan;
- determine the measures of control;
- set the documentation and validation.

It appears that structured, formal veterinary herd health programs and the HACCP-compatible plans can rather easily be merged; they have much in common. The most relevant issue in both regards the prevention of problems and failure costs via risk identification and risk management, thru preventive actions.

Concluding remarks

The main question for farmers these days is where we all are heading for. The EU policy, the retailer strategies, and the general public opinion all point to the farmer's need of safeguarding or providing best certainties. Certification of farms as first link in the dairy food quality assurance chain seems obvious in the near future, especially in exporting countries. It would be in the interest of the farmer when the legal requirements (EU 97-12; EU 178-2002) could be coupled to quality requirements (HACCP-like) and to operational issues (herd health programs).

This would be the best way to motivate the farmer and achieve all targets at the same time. The role of the veterinarian hence might also change in the near future: from a solely sick animal consulting to more advisory - consultant type.

References

- Bracke MBM et al. 1999 Overall welfare reviewed Neth.J. Agr. Sci.47: 307-322
- Cullor, J. 1997 HACCP: is it coming to the dairy? J. Dairy Sci. 80: 3449-3452
- Noordhuizen, JPTM, Welpelo HJ 1996. Sustainable improvement of animal health care by systematic quality risk management according to HACCP. Vet. Quarterly 18: 121-126
- Webster AFJ 2001. The Vet.Journal 161: 229-237