

The fate of IBR seropositive cows I

Cows found after blood testing: purchase from non-free herds

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Objective of the study?

When a control programme is in place, ideally every herd maximizes its possibilities to reach the goal of the cattle industry to eradicate Bovine herpesvirus 1 (BoHV1), the causative agent of Infectious Bovine Rhinotracheitis (IBR). The implicit assumption in the design of the programme was that farmers who were obliged to cull an antibody positive cow would send it to slaughter. An analysis was done to trace known infected cows and look for characteristics. Are they kept? Are they traded?

Background

Since April 2018, mandatory control programmes for IBR for dairy herds were introduced by the dairy industry and are carried out by Royal GD. On dairy farms with an IBR-free or IBR-unsuspected status, in addition to the monthly bulk milk surveillance, other risk-based monitoring tools are applied to secure the status. After purchase, every cow bought in from a non-free herd is automatically noted and directed for mandatory testing for IBRgE-antibodies. Seropositive cows have to be culled. Failure to do so results in definite loss of status and the obligation to vaccinate the herd twice a year for IBR.

Methods

Data of the results of IBRgE-antibody blood testing after purchase was analysed for the fourth quarter of 2019. A total of 3,261 cows from 744 herds were tested since they were purchased from a non-IBR-free herd. See Table 1.

Results

From 3,261 cows that were purchased from non-free herds, 155 cows (5%) were seropositive. For a summary of their fate after testing, see Table 2. The 155 seropositive cows were bought into 70 different herds, 23 of these herds had the IBR-free status and 47 were IBR-unsuspected. Only 16 cows (10%) were directly sent to slaughter after the test result and 4 (3%) died at the farm shortly after testing.

On average, the result of serology of the 155 cows was known 29.6 days after arrival (min. 6 – max. 64). Farmers are requested to do diagnostics within 56 days. When seropositive cows are culled this on average happens 15.4 days after the test result became available (min. 0 – max. 169). Farmers are requested to do so within 7 days.

Twenty-eight of the 155 seropositive cows were 6 years or older when purchased and originated from 9 vaccinating dairy herds and 3 herds without an IBR status. The buyers should have known that these cows had a high chance of being infected.

Table 1. Mandatory blood testing of purchased cows originating from Dutch non-IBR-free herds in the fourth quarter of 2019 (domestic purchases; imports excluded)

	# IBR-free and IBR-unsuspected herds	# herds with non-free purchase	# cows from non-free herd tested	# IBR seropositive cows
Oct/Nov/Dec 2019	12,344	744	3,261	155

Table 2. Fate of 155 IBR seropositive cows that were purchased in 70 IBR-free or IBR-unsuspected Dutch dairy herds in the fourth quarter of 2019

The fate of the cows	# cows	%
Dead after arrival	4	3
Kept after arrival	29	19
Culled for slaughter	16	10
Culled to other herds	106	68
Total	155	100

On 10 farms in total 29 seropositive cows (19%) were kept, one farm was previously IBR-free, the other nine were IBR-unsuspected. All these farms had to continue in the vaccination route, thereby stepping one or two levels back in IBR control.

The remaining 106 seropositive cows (68%) were culled and sold again into 53 different herds. Twelve of these cows were sent back to their farm of origin. Half of the 53 herds buying known seropositive cows were other dairy herds, typically vaccinating herds, but also two IBR-unsuspected herds (where the cows had to be culled again).

Conclusions

This analysis showed that a lot of known IBR seropositive cows are either kept or traded for live. Only 10% is sent directly to slaughter, which would be most favourable for IBR control. Keeping seropositive cows throws back the herd status for a number of years and is a risk for outbreaks on

the farm through reactivation. Trading of seropositive cows to other farms is an even greater risk for outbreaks of BoHV1 because mingling of cattle is a known risk factor, even in vaccinated herds. In addition, seropositive cows should be culled much faster in order to minimize the risk for the IBR-free or IBR-unsuspected herd that accidentally purchased the infected cow.

Veterinary practitioners can play an important role in persuading the farmer to (quickly) cull a seropositive cow. The removal should be permanent (i.e. slaughter), and selling into other herds should be averted. Also a shorter period of the seropositive cow in the herd reduces the risk. The veterinary practitioners can proactively consult the farmer when a seropositive result is obtained. Their advice is hugely important as farmers have great confidence in them and supports the aim of the Dutch dairy cattle industry to get rid of IBR. Yet persuading farmers to buy cows from IBR-free herds only, would be even more helpful towards that goal.



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