DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

Newsletter 2014, Q4 November 2014

Five key factors in transition cow management

At this year's British Cattle Veterinary Association (BCVA) Congress, Professor Ken Nordlund from Wisconsin gave an excellent summary of their work looking at what makes for a successful transition at calving. In his view, which diet you feed is not important, it is how it is managed.

1) Feeding space and trough management. "Sufficient space at the feeding fence for all transition cows to eat simultaneously appears to be the most important determinant of transition cow performance in our current industry". His words, not ours! Minimum 76 cm trough space (based on US headlock width), but ideally 90 cm trough space per transition cow is recommended from Canadian studies. The other common recommendation is to have a maximum of eight transition cows per 10 head yokes.

2) Minimise social stress, by reducing movements of cows between groups and pens. Because cows are social animals with well-developed hierarchies, when cows are moved into new groups, the stress caused by the change in environment and social order will result in a decrease in feeding time and bullying out of the feed trough. Therefore any steps to reduce movement and social upsets will improve transition cow performance.

In larger units, an "all-in" stable social group can be formed for the "close up" dry cows at 3 weeks prior to their predicted calving date, with no subsequent additions to the group. Even if this is not possible, do not move cows between groups within 10 days of their predicted calving date. The over-riding principle should be the less movement of cows between groups, the better.

3) Increasing cow comfort by avoiding hard surfaces. "Any deep, loose surface will be an improvement over a hard surface". Deep clean straw bedding, or deep sand-bedded cubicles would be considered the ideal in this regard.

4) Ample space for "close up" transition dry cows. Given that the majority of herds will house the precalvers on straw yards, then a minimum of 10 m^2 per cow bedding area is required. This figure is similar to that of 1.25 m^2 per cow per 1,000 litres of lactation quoted by the DairyCo Mastitis Control Plan (10m^2 for an 8,000 litre cow). If housing precalvers in cubicles and moving them at calving, then the cubicles need to be big enough for heavily pregnant cows.

The other factor to take into account is predicted calvings, and coping with peaks of high numbers of calvings. If you base figures on predicted calvings per month, then by definition such pens will be over-stocked for 50% of the time. The Wisconsin recommendations are to size "close up" dry cow and fresh cow pens for 140% of the average number of calvings per month, which will mean that they are only over-stocked for 10% of the time.

5) Effective monitoring program for quick identification of problem cows. Quickly and easily screening cows for problems is key, and this is a combination of cow management and facilities. An assessment of appetite is one area to focus on (does the cow readily come forward to eat, what is her rumen fill like?). More formal assessments such as rectal temperature, vaginal discharge, ketosis testing etc. can help, but must not interfere excessively with lying or feeding time for the cow. Ideally perform any cow checks whilst they are feeding in head yokes.

Dry cow management survey

Dry cow management could affect not only the health and production of adult cows, but might also affect the health and welfare of their calves for months and maybe even years ahead. Please help researchers investigate this further, by visiting the website below to help us understand typical dry cow and pre-weaning calf management on UK dairy farms www.sruc.ac.uk/drycow Each entry will be entered into a prize draw for £100.

Dairy Herd Health and Productivity Service, Division of Veterinary Clinical Sciences, Royal (Dick) School of Veterinary Studies, University of Edinburgh, EBVC, Easter Bush, Roslin, Midlothian EH25 9RG

Tel: 0131 651 7474 Fax: 0131 651 7473 E-mail: DHHPS@ed.ac.uk
www.ed.ac.uk/vet/dhhps

Infectious Bovine Rhinotracheitis IBR

IBR is a highly contagious infectious disease affecting cattle of **all** ages. The disease is caused by Bovine Herpes Virus – 1, and typically results in inflammation of the upper airway. In recent years IBR has been implicated in some dairy herds that are not milking to expectation or that have had "milk drop" in individual cows. Abortion may also occur after infection.

Being a herpes virus (related to the cold sore virus), infection can persist in cattle populations long-term as a result of latency. Therefore latently infected cattle are always considered a potential source of infection within the herd.

Why should we be worried about IBR?

- Control of IBR at farm level will improve the health status of the herd
- Eradication of IBR in 6 European countries has been achieved
- International trade. There is an increasing demand for cattle, semen and embryos from counties free from BHV-1(IBR)

IBR Farm Case Study

For the last 2 years, the farm department at the University of Edinburgh Vet School have been following the progress of a dairy herd that had an acute IBR breakdown in the Spring of 2012. This outbreak was strongly suspected to have occurred as a result of an older cow latently infected with IBR starting to shed virus, presumably after a period of stress.

Previously in 2002, this herd had an IBR breakdown due to a "one-off" import of infected cattle. After this initial outbreak, for two years (2002 and 2003) all adult cows and youngstock were IBR vaccinated. From 2004 to 2007, only youngstock were IBR vaccinated.

After 2007 all IBR vaccination was stopped, and the assumption was that the herd was well on the way to getting rid of IBR, with no clinical disease seen. Bulk tank IBR antibody levels were low, thought to be linked with the previous use of non-marker vaccine. Herd biosecurity was good.

Following the IBR breakdown in 2012 from one latently infected cow, comprehensive individual animal antibody testing was performed using milk samples in the adult milking herd in June 2012. It was established that nearly all of the adult herd (99%) had seroconverted, and had been exposed to wild type IBR virus.

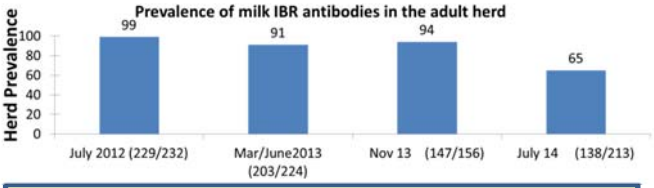
A robust vaccination regime (using live and inactivated IBR marker vaccines) was then put in place from June 2012 onwards for the adult herd and youngstock. The long-term plan for this farm is to try to gain IBR-free status.

The use of IBR marker vaccines makes it possible to differentiate A) animals infected by wild-type virus and B) vaccinated animals. This is based on antibodies produced against **glycoproteins (gE) which are not present in the vaccine,** but which are present in the wild type virus.

On this farm, the youngstock are housed and grazed separately from adult cows until late pregnancy. For the last 2 years, we have been tracking the IBR status of the youngstock as they join the adult herd. The aim is to keep the youngstock protected from IBR virus using the vaccine, and eventually replace all of the latently IBR infected older cows with protected heifers.

Findings to date

The vast majority of heifers that were IBR seronegative prior to entry into the milking herd have stayed seronegative to wild-type IBR virus as shown by subsequent individual milk testing. The IBR vaccination programme appears to protect naïve animals from wild type IBR infection in the face of a high herd prevalence, as shown by the graph below following the number of IBR antibody positive cows in the herd.



Agriscot 2014

As usual, we will have a stand at Agriscot 2014 at Ingliston on Wednesday the 19th November. We are located at Stand 107 in the Highland Hall. If you are coming, please pop in and say hello.

Dairy Herd Health and Productivity Service, Division of Veterinary Clinical Sciences, Royal (Dick) School of Veterinary Studies, University of Edinburgh, EBVC, Easter Bush, Roslin, Midlothian EH25 9RG

Tel: 0131 651 7474 Fax: 0131 651 7473 E-mail: DHHPS@ed.ac.uk
www.ed.ac.uk/vet/dhhps