

MONITORING HEALTH FOR PERFORMANCE

Bruce Richards BVSc DBR MRCVS of Paragon Veterinary Group, member of XLVets, discusses the importance of monitoring your herd's health



Every herd will have an element of compromised health which will be affecting productivity and herd performance. The overarching challenge is to minimise the influence these conditions, which are very often inter-related, have on the profitability of your business. The most obvious are infectious diseases such as Bovine Viral Diarrhoea

(BVD) or Infectious Rhinotracheitis (IBR) but it is important not to neglect others such as lameness, mastitis and somatic cell count. Some conditions are physical, managerial or nutritional and too frequently are accepted as normal performance. Understanding where your herd is in relation to the achievable norm or industry average will be helpful, if only to know if more can be done or enough is already being done.

Common Infectious Diseases

Many endemic infectious diseases (see Table 1) can be monitored fairly easily and cheaply. Obviously if the status is not already known there are multiple ways the herd status can be assessed; - using blood samples from key cohort groups and ages of animals or specific milk tests, either from individual animals or the bulk tank. Antibodies, for example, will demonstrate exposure (or vaccination) and the presence or history of disease. Your veterinary advisor should be able to quickly develop an assessment or monitoring protocol using a combination of tests. Critically

Table 1

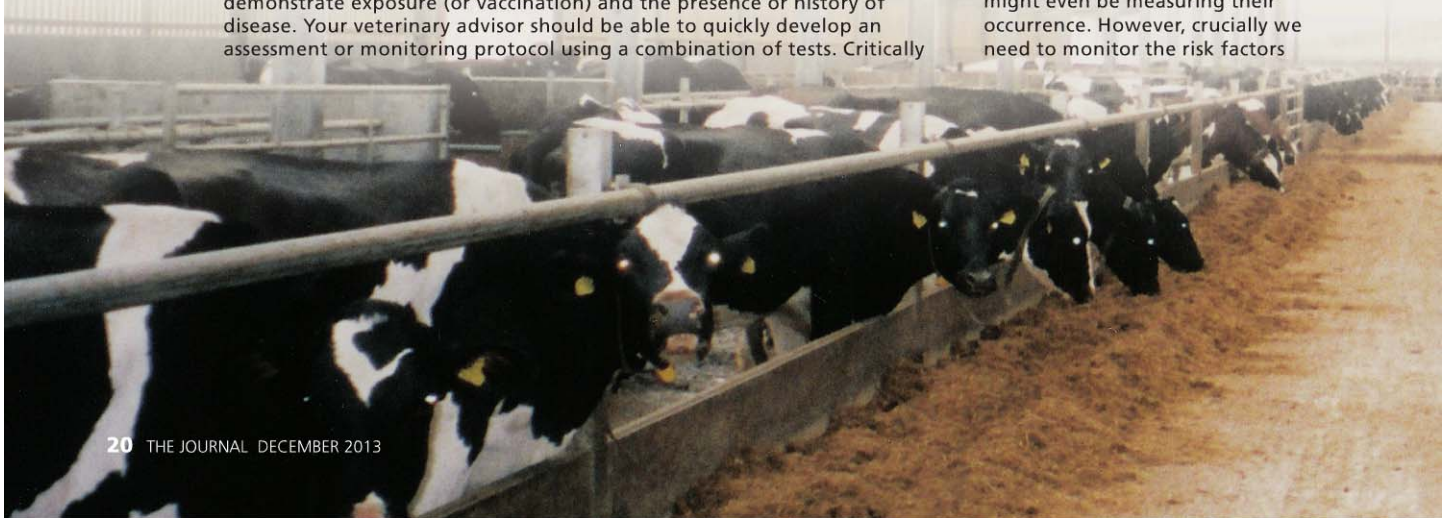
Common Infectious Diseases

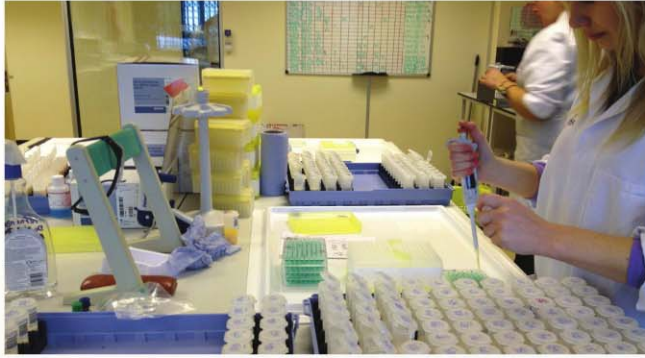
Bovine Viral Diarrhoea (BVD)
Infectious Rhinotracheitis (IBR)
Leptospirosis
Johne's Disease

this monitoring should be on-going and even if control or eradication measures have been implemented, such as vaccination, the monitoring should be continued to ensure the measures are working and the influence of the disease is diminishing – in other words health and performance are improving!

Post calving production diseases

Everyone can readily associate with the common post calving production diseases such as milk fever, metritis, retained foetal membranes, ketosis and displaced abomasum and some might even be measuring their occurrence. However, crucially we need to monitor the risk factors





‘The fat: protein ratio can be an early indicator of a change in energy status’

that predispose many of the said diseases – dry matter intake, ration formulation, dry and fresh calved cow management, body condition score – very often the early warning outcomes of these are energy levels and fat mobilisation before and after calving. Energy deficiency and subsequent excessive fat mobilisation, both before and after calving, are *directly* linked to numerous post-calving diseases so if these are closely monitored, early changes can be implemented before clinical consequences are excessive. Individual blood monitoring is accurate, as are individual milk tests, but using individual milk records, specifically protein, fat and the fat: protein ratio, can be an early indicator of a change in energy status. If more than 15% of early lactation cows have protein levels <3.05 or a fat: protein >1.5, then excess negative energy balance is to be suspected. Coupled with protein 3.2% intercept, which suggests what yield is currently being supported by the diet, these tools can aid monitoring and help reduce the risks.

Similarly, sub-acute ruminal acidosis (SARA) is dietary and intake induced can be easily corrected by managerial and nutritional changes. Consequences of SARA, especially if on-going, are severe so it is well worth minimising. Often a proportion of cows will clearly exhibit signs of SARA (poor intakes,

also leads to development of laminitis, which predisposes to lameness so monitoring lameness and the causes of lameness is important. Carrying out and recording regular mobility scoring of the herd will not only benchmark the foot health and mobility of the herd, but provide early warning when changes are afoot. Many managerial and housing influences are directly implicated in the development of lameness so knowing the causes and incidence of lameness will help target remedial action.

Somatic Cell Counts

Somatic Cell Counts are a measure of udder infection so monitoring not only the bulk SCC but also individual SCC is crucial. Interpreting the SCC dynamics at a herd level can tell you a great deal about the challenges to udder health. Dry period infection risk, success of infection prevention and dry period cure rates, for example, are easily monitored by assessing the Low to High, Low to Low and High to Low SCC trends. Using these, the influences of dry period management policies and changes can be tracked. There are numerous analysis tools, some provided by recording companies that will help measure and monitor SCC trends in the herd from which much can be deduced when considering improvement changes.

Fertility

Fertility is a key driver of dairy productivity and should be closely and regularly monitored to detect causes of reducing health and performance. First to ease off when an early lactation animal is under pressure is fertility and by regularly monitoring these performance indicators, changes that will improve fertility can be put in place. Heat detection rate and conception rate, which combined result in the Fertility Efficiency or Pregnancy Rate, must be high on the list. Pregnancy rate is a measure of the number of cows getting served (heat detection) and pregnant (conception) out of those eligible to be served and pregnant – many UK herds barely manage 13%! This can be measured in three week blocks so it and its contributing measures (i.e. Heat Detection) are a great early indicator of dropping performance. Conception is essential for pregnancy so it is vital Conception Rate is closely monitored to, together with causes of poor conception, be it nutrition, disease or management. Other fertility monitoring indicators are included in Table 2.

Table 2

Key Fertility Performance Indicators

Pregnancy Rate (HDR x CR) = target >16%
 Heat Detection Rate (HDR) = target >50%
 Conception Rate (CR) = target >35%
 % served by 80 day = target >65%
 100 day in calf rate = target >35%
 Calving to 1st Service = target <80 days

