

## Leptospirosis Factsheet

The Cattle Information Service (CIS) recommend that you discuss the best testing options for your herd with your vet, prior to taking samples.

### What is Leptospirosis?

- Leptospirosis (Lepto) is an acute bacterial infection, the most common strain in the UK is L. Hardjo which is found in cattle and sheep but can transmit to humans.
- L. Hardjo tends to localise in the kidneys and reproductive tract of cattle. Because of this, it is thought to have a negative effect on the fertility.
- The infection can be shed in urine; this is the primary route of infection to humans. Farmers are obliged to do their utmost to protect individuals from infection under COSHH regulations.
- Lepto not only affects the fertility of cows but can also cause a dramatic drop in milk yield with milk appearing thick and yellow, mastitis and raised temperature.

### Diagnosis

- Test bulk milk sample in order to gauge the level of antibodies in a herd and this can be done regularly as part of a herd health scheme.
- Individual animals can be tested for evidence of infection however some cows may only test positive for a short period following infection.
- Other forms of Lepto can also exist within cattle, thereby producing a positive result. However, these may not carry disease.

### Monitor

- Test bulk tank sample, or
- Individual cow samples, collected at routine CIS herd recording.

### Interpretation

- The test is a rapid screening method that detects the presence of antibodies in milk specific to *Leptospira interrogans* Serovar Hardjo. The intensity of the resulting solution during the test is measured and is known as the optical density (OD) and is a measure of the antibody concentration specific to *Leptospira* Hardjo in the milk sample.
- The results are expressed as 'percent positivity' (PP), which is the ratio between the OD of the test sample and the OD of the positive control.

### **Leptospirosis Bulk Milk:**

- A result equal to or less than 0.03 is considered to be Naive and/or unvaccinated.
- A result between 0.04 and 0.10 is considered as a low positive with a few seropositive cows.
- A result between 0.10 and 0.50 is considered as a medium positive with a mix of infected and susceptible animals.
- A result greater than 0.50 is considered as a high positive which is heavily infected/vaccinated.

### **Leptospirosis Individual Milk:**

- A result equal to or less than 0.03 is considered to be for *Leptospira serovar Hardjo* antibodies.
- A result between 0.04 and 0.10 is considered inconclusive and a second sample from the animal would be required to confirm its status.
- A result greater than 0.10 is considered positive for *Leptospira serovar Hardjo* antibodies.

### **Treatment**

- A test and cull scheme may be used, however there can be uncertainties around a positive test result due to sporadic persistence of the bacteria and other, non-threatening forms of Lepto. If herd testing indicates an absence of the disease, Disease Free Status Accreditation may be sought, and these animals may be bought and sold safely.
- An effective vaccine is licensed for use in the UK. Immunisation of cattle reduces the amount of infection shed in a cow's urine and can therefore help to protect people from the disease.
- It is recommended that all results are discussed with your veterinary surgeon before any action is taken.

### **Leptospirosis Testing Protocol**

- Analysis of milk samples taken as part of routine recording can be used to identify individual cow disease status.
- The milk recorder will need to be advised on the day of recording if the whole herd is to be tested or the line numbers of individual cows if part herd testing is required.
- The milk recorder will complete a submission form highlighting the line numbers and corresponding barcodes of the cows that require disease analysis.