Herdsure® Disease Information Sheet
Neosporosis

Introduction

Neosporosis is a disease caused by a protozoan parasite, *Neospora caninum*. It is the most frequently diagnosed cause of abortion in cattle in the UK. Cattle can be infected without showing clinical signs and infection can enter the herd either through environmental contamination from infected dog faeces or through the purchase of infected animals. Cattle that are already infected can pass the parasite onto their unborn offspring through the placenta – 'vertical transmission'. These infected calves may be aborted or born with no abnormal signs, but they may then carry the infection until they themselves become pregnant, when they either abort or produce congenitally infected calves. Calves infected in this way remain infected for life.

Protocols

Below are details of each protocol and the actions required. The Herdsure Management System is designed to ensure that this is a simple and clear process to follow by providing automatically generated sampling prompts and submission forms. Samples are returned to the laboratory using business reply labels, supplied by Herdsure. All blood samples should be collected in red top blood tubes.

■ **Entry** - The Herdsure Neosporosis protocol enables an animal to be classed as free of the disease once it has achieved two negative tests. The calves of such animals are also classed as negative without the need for further testing.

■ Beef and dairy herds

Level 1 - **Establishing health status**
An initial snapshot bleed is carried out. This is a statistical sample to gain insight into the likely prevalence on the farm which can be used to inform management decisions. This should be a specified proportion of cows over 2 yrs age in the breeding herd and it is preferable that these tests are performed during a single visit. Testing is carried out on animals 4 to 10 weeks before they are due to calve.

If milking and suckler herds are on the farm and under the same management they are treated as one group. The best time to test is when as many cattle as possible are due to calve at the same time and in the period 4 to 10 weeks before they are due to calve. A negative result at Level 1 for an individual animal will count as one of the two negative tests needed to confirm that it is clear of the disease. Once a snapshot bleed has been carried out the herd progresses to Level 2.

Level 2 - Improving health status through disease reduction strategies
A herd can bypass Level 1 if there is prior evidence of the disease or if herds have protracted calving periods. All abortions must be investigated by the local laboratory by submission of foetus, placenta and dam blood. The minimum requirement is dam blood from aborting cows for Neospora serology.

The herd then has a progressive bleed. Cows which are 4 to 10 weeks pre-calving are sampled. Positive animals are not to be used for breeding but may be removed from the herd at a time that suits their management e.g. at the end of lactation. The aim over time is for all breeding females to achieve 2 clear antibody tests.

Level 3 - Monitoring and maintaining health status
All abortions must be investigated by the local laboratory by submission of foetus, placenta and dam blood. The minimum requirement is dam blood from aborting cows for Neospora serology.

Biosecurity

The farmer and veterinary surgeon should work together to ensure good biosecurity.

■ **Dogs** - All dogs must be prevented from having access to calving areas, carcase material and placentas. In addition access to pasture used for grazing and the production of forage should be kept to a minimum. This includes farm dogs, visitors' dogs, members of the public's dogs and fox hounds.

■ **Placentas** - Placentas from still born calves and carcases of dead and aborted calves should be removed from the calving accommodation and paddocks as soon as possible to a secure location ready for removal by fallen stock contractors. This location should be inaccessible to vermin such as foxes, badgers, rats and mice. Dogs must be prevented from gaining access to potentially infected material.

■ **The public** - The public, and their dogs, must not have access to paddocks used for calving.

■ **Feed storage facilities** - Storage facilities including 'straights' and forage, must be dog-proof to prevent contamination by faeces. They should also be vermin-proof to prevent contamination by foxes, badgers, rats and mice.

■ **Feed supplies** - Suppliers of feed should provide assurances that measures are in place to prevent contamination of feed by faecal material from dogs.

■ **Added animals** - If possible, only buy animals which have been confirmed negative according to the Herdsure protocol. These animals can be added without testing. Added animals should preferably be sampled at the farm of origin and sero-positive animals should not be purchased. If this is not possible added animals should be tested on arrival and if sero-positive should be removed from the herd. Under no circumstances should any offspring be retained from the added animals to introduce into the breeding herd.

Animals cannot be regarded as free of infection on the basis of only one negative blood test. Sero-negative animals should be regarded as potentially infected until they have achieved two negative blood tests taken between 10 and 4 weeks before two calvings. This could include the pre-purchase blood sample if taken in the period of gestation. Although sero-negative cattle can enter the herd, they will be recorded on the Herdsure Management System (HMS) as only having attained one clear test and thus Level 3 herds will revert to Level 2 status. Only when all breeding cattle in the herd have achieved two clear blood tests at the appropriate stage of pregnancy can Level 3 status of the herd be reinstated. Embryos must only be implanted into sero-negative recipients.