



# Premium Sheep and Goat Health Scheme Rules for Johne's Disease



**Johne's Disease Risk-Level Certification Programme Objectives:** To provide an assessment of the risk of Johne's disease being present in the flock/herd; to provide a control programme that achieves a reduction in the risk of Johne's disease within the flock/herd and to allow the marketing of sheep/goats with an accredited risk level for Johne's disease.

**Method:** Flock/herds may progress from level 5 to level 1 as they progress in controlling the disease. In addition to adhering to the rules there are mandatory requirements that support the control and prevention of Johne's disease within this programme (detailed below). Flock/herds will be accredited for the four risk levels (risk level 4 through to risk level 1) within the programme. Flocks/herds that do not adhere to the programme or do not participate in the programme are assigned risk level 5, the highest risk of being a source of Johne's disease. This programme of risk accreditation can be used in both pedigree and commercial flock/herds.

## **Definition of levels within the Johne's Disease Risk-Level Certification Programme:**

**Level 1:** Flock/herds must have had three consecutive clear flock/herd tests at annual intervals. Level 1 will be further defined by stating the year in which the flock/herd achieved level 1 status. This is associated with the lowest risk of Johne's disease in relation to buying breeding stock from participating flock/herds.

**Level 2:** This applies to all flock/herds that have had an initial, or two consecutive clear tests at annual intervals, but are yet to achieve level 1 status. Level 2 will be further qualified by the number of consecutive clear flock/herd tests that have been achieved (e.g. Level 2, one year clear; Level 2, two years clear).

**Level 3:** These are flock/herds that have test positive animals identified within the flock/herd, but the number of test positive animals does not exceed 3% of the flock/herd eligible for testing in the Johne's programme at the most recent test.

**Level 4:** These flock/herds have more than 3% of eligible animals identified as test positive animals at the most recent test.

**Level 5:** These flock/herds may be carrying out a testing programme, but are not adhering to the mandatory requirements of the programme.

**1. The instructions contained within 1.1 to 1.10 apply to flock/herds participating in the Johne's Disease Risk-Level Certification Programme. Participating members must adhere to these in order to participate in the programme. Failure to abide by these instructions will disqualify members from the programme.**

**1.1 Samples:** Blood samples should be clotted samples. Individual milk samples provide an alternative sample. Advice on this can be obtained from the Premium Sheep and Goat Health Scheme. Faeces samples should weigh at least 5g and be submitted in a sample pot designed for the purpose.

**1.2 Definition of a test positive animal:** Any animal that tests positive for antibodies to Johne's disease by a milk or blood ELISA is defined as a test positive animal if no further testing is done. Further testing (1.3) may not be appropriate in flock/herds where more than 2% of the flock/herd is positive for antibody.

### **1.3 Retest of Positives**

a. Where animals test positive for antibody in a milk sample, or positive close to the cut-off threshold with a blood sample, then retesting after one month may be carried out at the laboratory's discretion using blood antibody ELISA test or by faecal culture/PCR. If it is negative on that occasion then it should be considered not to be a test positive animal.

b. In herds or flocks that have previously had clear tests or where the percentage of test positives is no more than one to two percent positives may be retested at the discretion of the PSGHS vet consultant.

c. Where a flock/herd has vaccinated against Johne's disease, it is likely that a significant proportion of the flock/herd will test positive using the antibody ELISA. In vaccinated animals retest or using faecal culture as the first test may be advisable:

**1.4 Further tests that may be used on antibody test positive animals:** If an animal is retested and found to be positive in any of the following tests it has been confirmed as a test positive animal.

a. Examination for the infective organism, *Mycobacterium avium* subspecies *paratuberculosis* (Map) in faeces by culture or direct PCR.

b. If the animal concerned is sent for slaughter, is culled or dies on farm, tissues from the gut may be examined for Map by culture or PCR or by histological assessment of the ileo-caecal junction and draining lymph node.

**1.5 Any animal that tests positive for antibody to Johne's disease by blood or milk ELISA and negative for infective organism by culture or PCR should nevertheless be considered as high risk and must not be sold for breeding.** It is also advised that these

animals should not be retained for breeding. These animals do not affect the flock/herd risk level.

**1.6 Whole Flock/herd Faecal Screen:** The option exists for flock/herds to test the whole flock/herd by faecal culture or PCR instead of the blood test. This is particularly appropriate for herds that may have vaccinated against Johne's disease. Faecal samples may be pooled in the laboratory and tested in batches of up to five.

**1.7 Clinical Disease:** Any disease condition in an animal six months of age or older that might be attributable to Johne's disease must be investigated by the flock/herd's Veterinary Surgeon. This includes all animals that may have diarrhoea, or weight loss or both. If the Veterinary Surgeon is satisfied that the condition is not Johne's disease, then no further action need be taken. If the Veterinary Surgeon cannot rule out Johne's disease, then a blood sample and faeces sample should be collected from each affected animal and tested. The affected animals must be isolated from the flock/herd until the results of the laboratory tests are known. Animals that die before blood or faeces samples are collected must be examined as in 1.2b above.

**1.8 Added Animals – Non-accredited:** These animals constitute an unquantifiable risk of introducing infection and if at all possible should not be added to the flock/herd. Lambs/kids, in particular, can be incubating infection but test negative. When this risk is taken, it is preferable to blood sample and test animals for antibody to Johne's disease, and also to test faeces, while they are on the farm of origin. If positive, the animals cannot enter the flock/herd and there will be considerable savings in time and expense.

On entry to the flock/herd, added animals must be placed in isolation. The animals must be tested for Johne's disease using both blood and faeces samples irrespective of the age of the animal. Only when the results are negative can the animals be introduced to the flock/herd. Note that the time required for completion of Johne's disease faecal culture and confirmatory PCR can be up to eight weeks and these animals must be isolated until the results are known. Where a group of animals has been purchased from a single source and one or more of them tests positive, the remainder of the animals in the group should also be viewed as high risk animals.

**1.9 Selling on animals that have been purchased from another flock/herd:** When an animal is purchased from a flock/herd with an inferior Johne's disease risk level than the flock/herd to which it is added, the purchased animal retains the risk level of the flock/herd of origin should it be sold on. For example it cannot be sold as risk level 1 if purchased as risk level 2, 3, 4 or 5. Animals that are purchased from a flock/herd with a superior risk level can be sold only at the risk level that applies to the purchasers flock/herd at the time of

subsequent sale. For example, an animal purchased as risk level 1 into a risk level 4 flock/herd can only be sold at the risk level that applies to the level 4 receiving flock/herd at the time of subsequent sale.

**1.10 Where a purchased animal from a flock/herd with a certified risk level is found within six months of purchase to test positive by faecal culture or PCR then the purchaser must inform the vendor of the result.** The vendor must in turn inform his health scheme provider. The result will then be taken into consideration in relation to the number of positives that were found in the most recent flock/herd test that has been completed for the vendor's flock/herd at the time the animal was found to be positive. The risk level of the flock/herd will be re-assigned as per the rules of the scheme. Therefore a flock/herd that was risk level 1 or 2 will become risk level 3 or 4 depending on the total number of positives and the number of eligible animals in the flock/herd. If the test positive animal had been too young to be included in the flock/herd test or had already left the flock/herd then it should be added both to the number of test positives and the number of eligible animals in order to determine the exact percentage of the flock/herd that tested positive and whether the risk level is now 3 or 4.

In cases of dispute the following protocol should be followed. Animals may be re-tested after one month using sequential faecal screening. Animals must be placed in an isolation pen free of faecal contamination from other animals and with no nose to nose contact with other animals. Faecal samples should be collected on day 7, 14, 21 and 28 of isolation for PCR testing or culture. Faecal samples must be collected per rectum by a vet. If an animal tests positive on any one of the four occasions it is confirmed as a test positive animal.

**1.11 Shows, Sales etc.:** If Johne's disease accredited sheep/goats have been away from the flock/herd at a show for a period not exceeding seven days and have been prevented from having contact with other sheep/goats, particularly their manure and soiled bedding, the accredited sheep/goats can re-join their flock/herd of origin without the need for isolation or testing.

## **2. Johne's Disease Risk-Level Certification Programme**

**2.1 Ear Number:** The animals must be uniquely identified. The unique ear number must be listed at every test to allow the individual animals' test results to be accurately tracked during their time in the flock/herd.

**2.2 Annual Flock/herd blood tests:** These are carried out on all animals one year of age or older at an interval of 12 months. An annual flock/herd test can only count as clear providing

12 months have passed since there was a flock/herd test with any test positive animal and providing no other test positive animal has been identified in the flock/herd in those 12 months.

**2.3 Quarterly individual milk samples:** For milking flocks and herds this can be used in place of a flock/herd test as described in 2.1. A clear cycle of testing is achieved when four quarterly tests have been carried out and all rams/billies and other eligible non-milking sheep/goats have been blood tested and no test positive animal has been identified in the flock/herd over a 12 month period.

**2.4. Accreditation of flock/herd for levels 1- 4:** The date the flock/herd first achieved a particular level will be included on the Certificate of Accreditation. Should a flock/herd, having reached a particular level, fail to meet the standard and drop down a level, but subsequently regain the original level, the date on the certificate will be when the particular level was regained.

**2.5 Definition of a clear test:** For a flock/herd test to be clear any animal with positive antibody results must have further testing carried out, as in section 1.3 to 1.4, with negative results. If further testing is not carried out, animals with positive antibody results are considered to be test positive animals by default and the flock/herd will drop down a level or levels depending on the number of test positive animals.

### **3. Mandatory Control Elements of the Johne's Disease Risk-Level**

#### **Certification Programme**

**3.1. Antibody positive animals:** All seropositive animals must be placed in isolation (see 1.2) with any follow up testing, if appropriate, being carried out as soon as is practical.

**3.2. Cull all test positive animals:** Notwithstanding the requirements for separation of test positive animals in 3.1, all test positive animals (as defined in 1.3 and 1.4) must be removed from the breeding flock/herd as soon as is practical. Where ewes/nannies are in late pregnancy or rearing lambs/kids, they may be retained until the lambs/kids can be weaned but must be separated from other breeding animals or animals intended for breeding. If the test positive animal is kept at pasture no breeding animal or animal intended for breeding can graze that pasture for 12 months following the removal of the test positive animal. The faeces from test positive sheep/goats must be kept away from other sheep/goats.

**3.3. Offspring of female test positive animals:** Any lamb/kid that has been reared by a ewe/nanny since the time the ewe/nanny was recognised as a test positive animal must not be retained for breeding or sold as a breeding animal. See also 4.7.

**3.4. Health Plan:** A health plan covering the control of Johne's disease must be in place. It must be signed off by both the flock/herd's Veterinary Surgeon and by the flock/herd owner or manager using the PSGHS Johne's disease health plan declaration  The full health plan must be available to the health scheme provider on request. The health plan must cover the four mandatory control elements (3.1 to 3.4) and the seven advisory measures listed (.4.1-4.7)

**3.5 Failure to adhere to mandatory requirements:** Should a flock/herd fail to adhere to any of the points 3.1 to 3.4 then it will immediately lose status and be categorised as level 5. Furthermore failure to provide a current and signed off health plan within one month of it being requested by the health scheme provider will result in the immediate loss of status and the flock/herd will be categorised as level 5.

**3.6 Re-accreditation:** Flock/herds that have lost status as detailed in 3.5 can only regain their previous status following all mandatory requirements being satisfied and after the next flock/herd test.

#### **4.0 Discretionary Guidelines for the Johne's Disease Risk-Level Certification programme health plan**

**4.1 Hygiene programme:** Detailed flock/herd specific instructions should be in place to reduce the amount of faecal contamination that stock are exposed to. The main focus for this is to keep ewes/nannies in the immediate pre-lambing/kidding period as clean as possible and to ensure that faecal contamination of any lambing/kidding area, post lambing/kidding housing and for young lambs/kids sucking their dams is minimised. It should include guidelines on manure management.

**4.2 Feed and water delivery systems:** Procedures should be in place to keep all feed and water delivery systems as free of faecal contamination as possible.

**4.3 Water provision at grass:** Where ever possible mains water should be provided. Flock/herds in extensive grazing which are at least 50 hectares are exempt from this requirement, but note that enclosed grazings (in-bye) are not exempt.

**4.4 Natural water sources:** Ponds and other areas that allow sheep/goats to defecate into them and then drink from them should be fenced off. Extensive grazing is exempt from this requirement.

**4.5 Co-grazing with other ruminant species:** Other ruminants can be a source of infection for sheep/goats and should not co-graze with cattle. This applies to all but extensive hill grazings.

**4.6 Rabbits:** Rabbit populations can become infected with Map and should be considered as a potential source of environmental Map contamination.

**4.7 Offspring of female test positive animals:** The mandatory requirement of 3.3 that, any lambs/kids that have been reared by a ewe/nanny since the time the ewe/nanny was recognised as a test positive animal must not be retained for breeding or sold as a breeding animal should be extended to include her previous lambs/kids.

**5.0 Managing test positive animals and their offspring in herds or flocks using quarterly milk samples:** In the case of quarterly individual ewe/nanny milk testing, a management strategy for high and medium risk ewes/nannies should be agreed between the vet and the farmer. Where possible, no high risk ewes/nannies should remain in the flock/herd at lambing/kidding. Medium risk ewes/nannies should be isolated at lambing/kidding to avoid risk of infecting lambs/kids.

**5.1 Definition of High Risk Ewe/Nanny:** A ewe/nanny is identified as high risk if she has tested positive on two consecutive quarterly milk antibody tests or on one blood antibody test.

**5.2 Definition of Medium risk Ewe/Nanny:** A ewe/nanny is identified as medium risk if she has tested positive on one occasion in a quarterly milk sample during her current lactation. Ewes/nannies that have been identified as medium risk on the last milk sample of their current lactation should be further blood sampled after one month and before the animal lambs/kids. Should she test positive on blood she will be categorised as high risk.

**5.3 Definition of Low Risk Ewe/Nanny:** A ewe/nanny is low risk if she has had more than two consecutive milk antibody tests or a single blood antibody test in the negative zone, including the most recent result, irrespective of previous testing results.

**5.4. Routine flock/herd test:** Routine annual testing (testing all eligible animals over one year old) and/or quarterly individual ewe/nanny milk testing (testing all eligible animals in milk over one year old at each test) continues and management procedures to reduce the exposure of sheep/goats to infection are implemented.

**6 Vaccination:** If the number of positive animals at a flock/herd test is such that a culling policy cannot be pursued, flock/herd vaccination may be considered. There is no licensed Johne's disease vaccine available in the UK, but the use of an imported vaccine may be authorised and the flock/herd's Veterinary Surgeon can advise on this. Antibody tests cannot distinguish between vaccinated uninfected and infected animals; therefore discussion should be had with your health scheme provider before enrolling a vaccinated flock/herd on a disease reduction programme. Vaccination will not prevent infection but may delay the onset

and reduce the severity of clinical disease signs. Management procedures to reduce the exposure of sheep/goats to infection should be implemented. Vaccination continues until no clinical Johne's disease occurs for a period of at least two years. At this point, vaccination can cease and progression towards Johne's disease risk level assessed status can begin