What is Johne’s disease?
Johne’s disease (pronounced yo-knees), also known as paratuberculosis is an infectious, contagious bacterial disease that is characterized by gradual wasting away, weakness with or without diarrhoea, loss of production early culling and mortality losses. It affects all ruminant animals, including sheep, goats and cattle and has worldwide distribution. Although many animals in a herd may be infected, usually less than 5 percent of infected animals will develop visible signs of the disease. Under circumstances of stress, inadequate nutrition or parasitism, more of the infected animals may develop clinical disease. Once clinical disease develops, death is inevitable.

What causes Johne’s disease?
The disease is caused by *Mycobacterium paratuberculosis*, a bacterium related to the one that causes tuberculosis in humans, cattle and other species. The organism lives in the intestinal cells and lymph nodes, and passes out in the faeces. It can easily survive in manure and stagnant water for a year or more.

How is Johne’s disease transmitted?
Infected animals pass large numbers of infectious bacteria daily with faeces, contaminating pastures, pens and watering areas thereby exposing other animals to infection. Lambs/kids may also become infected by ingestion of faecal material contaminating the udder, by in utero transmission, or by ingestion of contaminated milk.

How do I know if my animals are infected with Johne’s disease?
The disease has a long incubation period and as a result, most infected animals do not begin to show signs of illness until after 2 years of age. In heavily infected flocks, clinical disease may be seen in animals as young as 10 months of age. Affected animals show persistent weight loss that is unresponsive to medical treatment or improved nutrition. Such animals continue to eat and drink normally until they are too weak to eat or graze, and eventually die. Chronic diarrhoea is not a common feature of the disease in sheep or goats. Laboratory tests can confirm the disease in animals at the clinical stage, although the presence of Johne’s disease in the early (subclinical) stages of infection can be difficult to detect.

Why is awareness of Johne’s disease important?
The World Organisation for Animal Health (OIE) classifies Johne’s disease as one of its ‘List B’ diseases, or those “transmissible diseases that are considered to be of socioeconomic and/or public health importance within countries and that are significant in the international trade of animals and animal products”. Preliminary testing has confirmed the presence of Johne’s disease regionally. This disease has implications for the small ruminant industry at both the national and international levels. Nationally, producers will be faced with production losses, additional management costs associated with culling and disposal of animals, loss of future genetic potential of stock, devaluation of stock and the social costs incurred directly to them as a result of loss of income. At the international level, there are implications especially with respect to the trade in small ruminant products. Having *M. paratuberculosis* positive herds can lead to a drop in demand and prices for small ruminant products, as well as to the increased imposition.
of regulations to address issues of food safety.

**Can Johne’s disease be transmitted to humans?**
There is concern that there may be a link between Johne’s disease and Crohn’s disease in humans because the clinical symptoms of Crohn’s disease are similar to those found in animals with Johne’s disease. *M. paratuberculosis*, has been identified in some patients suffering from Crohn’s disease. This association therefore heightens the importance of Johne’s disease not only with respect to the economics of animal productivity, but also as it relates to the direct implications for human welfare. As a result of the causal relationship between Crohn’s and *M. paratuberculosis* precautions should be taken in the slaughter of infected animals and efforts made to remove the organism from the food chain.

**How can control of Johne’s disease be effected?**
The practice of good farm management techniques is the most effective way of minimising the risk of Johne’s disease spread within and between farms. A good sanitation programme should be established in all areas of production. The success of such programmes requires a tremendous commitment of patience as well as resources, as it takes approximately 5 to 15 years to eradicate Johne’s disease from an infected farm. A number of specific actions are required to prevent the introduction and spread of Johne’s disease. These include:

1. Frequent and thorough removal of manure is the foundation of Johne’s control as it minimises faecal-oral transmission.
2. Pasture rotation and avoidance of overgrazing will decrease contact with faeces on pasture.
3. Identify heavy shedding animals and remove them from pasture to prevent environmental contamination.
4. Graze young animals on rested pastures (one dry season) ahead of adults.
5. Do not spread manure on pastures used for grazing.
6. Remove offspring immediately after birth and use only colostrum and milk preferably from negative or low risk dams.
7. Isolate young stock away from adults and away from contact with adult manure.
8. Lambs/kids from suspect/positive ewes can be raised for marketing to slaughter but should not be raised as breeding stock for the farm or for sale as replacement stock to other farms.
9. Annual farm testing of your flock/ herd should become a key part of your farm management biosecurity programme.
10. Purchase livestock replacements from herds known to be free of *M. paratuberculosis* (i.e. two consecutive years of test negative), and have in place good biosecurity practices.
11. If the status of the flock/ herd from which replacements are purchased is not known, animals should be quarantined and tested before entering the herd.
12. Animals with poor body condition should be considered at high risk of being infected with Johne’s disease or other common wasting diseases and should be tested accordingly.
13. Identify and isolate or eliminate animals that have tested positive and show clinical signs.
14. Consider culling test positive/high risk animals and lambs/kids from infected/suspect dams.
15. Supply a tap borne water source preferably with automatic nipples. Containers used for water and feed should be positioned high enough above the ground to avoid faecal contamination.
16. Evaluate other on-farm animal species for example cattle, that may be a source of *M. paratuberculosis*.
17. Avoid unnecessary stress and overcrowding of adult sheep and goats.
18. Discuss other disease possibilities and diagnostic tests with your Veterinarian/Animal Heath Officer.

*Photos courtesy CARDI*