

**Submission about the Johne’s Disease Discussion Paper (3), with a Special Emphasis on Australia’s Goat Industries - June 2015**

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I support the move mentioned in the latest discussion paper to consideration of Johne’s disease (JD) as one disease rather than concentrating on strains. Goats are especially vulnerable to any spread of Johne’s disease as they can get either bovine Johne’s disease (most commonly) but also ovine Johne’s disease.. In addition, goats do not show the severe diarrhoea that is a feature of this disease in cattle. Instead they just suffer from wasting, making Johne’s disease easily missed or put down to poor nutrition, worms or other goat diseases that cause wasting, such as CAE or CLA. A recent study of Johne’s disease in goats in Saudi Arabia found that the only consistent clinical sign was “weight loss despite apparently normal food intake” in adult goats.<sup>i</sup> The visible signs on post-mortem can also easily be missed in goats as was demonstrated in a study in a large US goat herd with a high incidence of Johne’s disease.<sup>ii</sup>

Goat farmers ability to identify Johne’s disease in their own goats has been found wanting. In a study of goat herds in Norway, PCR tests for Johne’s disease were performed on bulk goat milk samples. It was found that 3.3% of herds which had previous Johne’s disease cases had positive PCRs, but for herds with no history of Johne’s disease there was a 9.1% positive rate for PCRs.<sup>iii</sup> This higher level in supposedly “normal” herds indicated that the diagnosis of Johne’s disease had been missed in these herds. Norway then did something about JD and eradicated it from all commercial goat dairy herds. This was a much better approach than the one in this latest discussion paper of just saying the existing diagnostic tests aren’t good enough.

Johne’s disease in goats also occurs in younger animals that is the case with cattle i.e. as early as 12 months.<sup>iv</sup> Often after the stress of first kidding can cause Johne’s disease but it can also cause Caprine Arthritis Encephalitis (CAE) which is also a cause of wasting in goats. One complication is that goats with Johne’s disease and therefore in poor condition, are more prone to other diseases such as pneumonia, parasitic gastro-enteritis, and digestive disorders. Thomas (1983)<sup>v</sup> reported two years of post-mortems of 67 goats from a large UK goat herd in the first two years of Johne’s disease control, which are summarized in the table below:

<b>Diagnosis</b>	<b>Number of goats affected</b>	<b>Percentage (%)</b>
Johne’s disease	19	28
Johne’s + another disease	8	12
Pneumonia	8	12
Digestive disorders e.g. entero-toxaemia, acidosis, bloat	8	12
Parasitic gastro-enteritis	6	8
Gut torsion	3	4
Miscellaneous	10	16

No diagnosis	5	8
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These characteristics of Johne's disease in goats, make the goat industries more susceptible to any increase in Johne's disease spread in the cattle industries. Also it make cattle Johne's disease control at risk if it does not also promote Johne's disease control in goats. Any spread into feral goat populations would be especially dangerous due to their ability to travel large distances, often despite fences. There is already a pathway into rangeland goats e.g. dairy goats to Boer goats to rangeland goats via matings, leasing bucks and sales.

The amount of Johne's disease in Australian goats currently is unknown, although both WA and Qld have done surveys in the past. The only real current data for goats is the number in the current Market Assurance Program- i.e. 24 as at 12/6/15. The technology exists for surveys to be done using milk from bulk milk tanks. When this was done in Switzerland on goat and sheep dairy farms *Mycobacterium avium* ssp. *paratuberculosis* (MAP) was found in 23% and 24% of farms respectively. Similar tests should also be done on goat & cow dairies in Australia to get a clearer picture of the incidence of Johne's disease.

The current Market Assurance Program for goats, the Goat Health Statement and the National Kid Rearing Plan need to be strongly supported and all parties (industry & government) need to promote awareness of these systems. However many goats are sold without even an NVD, let alone a Goat Health Statement. Many goat owners e.g. miniature goat owners, lack the basic knowledge about Johne's disease and hence any lightening of current restrictions on cattle movements will put the goat industry at severe risk of increased spread. Goats attend shows and other events where cattle and cattle manure are a source of infection. Even in commercial herds spread is likely to be wide due to difficulties in diagnosis e.g. in France a serological survey of 105 goat herds (over 1100 goats) in 2010 found apparent herd prevalence and estimated true prevalence were 55.2% and 62.9 % respectively.<sup>vi</sup> France is a country noted for its goats' cheese with a substantial dairy goat industry and hence producers would have been expected to have been aware of Johne's disease.

Of all the submissions, I support Professor Whittington's as the most sound in logic and scientific evidence. I particularly support his comments i.e. *"There is particular emphasis on needs of producers who may already have the disease in their herd, and relatively less emphasis on needs of producers who do not already have the disease in their herd."* I note that in his submission he has countered all the points for change that have been put forward in the discussion paper.

The discussion paper states that any link with Crohn's disease should NOT be considered. However while the lack of definitive scientific proof is unfortunate, it should not be thought that educated consumers will not make this link. Indeed any simple internet sites will come up with many scientific authoritative webpages full of scientific information on the possible link e.g. [www.johnes.org](http://www.johnes.org), which has a whole section called "Zoonotic Potential". Indeed there is a Youtube video from a Crohn's disease sufferer already that towards the end demands the right for consumers to be able to purchase Johne's disease free dairy products and meat – see <https://www.youtube.com/watch?v=4CELZLY2X9c>. A search using "johne's disease crohn's disease" resulted in 27,300 hits on 12/6/15, with many from websites owned by government departments and Universities. Ignoring the link to Crohn's disease is an approach that risks further alienating consumers from scientists as happened after the BSE situation in the UK. Consumers are already making the link and they won't listen to governments or industry representatives, who just say - "not proven".

It is highly possible that consumers will eventually demand products from Johne's disease free herds and goats will be affected as well as cattle. Consumer demand for better health & welfare for farm animals and fear of negative health effects are both strong long term global trends. This pressure will increase as countries like Norway eradicate Johne's disease from their goat herds. I support the Qld Dairy-farmers' Organisation's submission comments on this – we need to be pro-actively eradicating JD so we can say to consumers we are working on this problem. The discussion paper makes no plans for if a connection is proven between Crohn's disease and JD in the future. At a very minimum, a response plan should be written and tested annually. Just holding a watching brief about Crohn's disease is not good enough risk minimisation strategy.

Animal welfare and the suffering caused to animals from Johne's disease (JD) has not been adequately considered in any of the discussion papers to date. While it could be argued that cattle with JD are approaching the end of their productive life, this is not the case in goats where JD occurs much earlier. Research has shown that in goats, the effects from JD start within months of infection with reduced kid growth rates.<sup>vii</sup> Also some goats are companion animals and expected to live out a long life; similarly with alpacas. New companion goat and alpaca owners may not even know what a health statement or a PIC is, let alone be educated enough to purchase from only MAP accredited herds. JD has no cure so JD infected companion goats will suffer a long slow wasting death with subsequent distress to goat owners.

The research section of the discussion paper does not consider any investigations into why current JD infected herds are not eradicating the disease nor why those not in the Market Assurance Scheme (MAP) or who have dropped out of MAP, have done so. Current levels are very low for goats and alpaca herds- only 23 alpaca herds are in MAP and only 24 goat herds with dropping numbers in recent years. We need to know what the barriers are e.g. if it is lack of accredited vets than maybe the annual fee for vets to be JD accredited needs to be dropped (just leaving the online course as a method of ensuring vets have the knowledge needed). Putting the responsibility of JD onto industry and industry assurance schemes should only be done once improvements to their uptake and barriers to taking part, have been identified and improvements actioned.

Australia needs to take a proactive stance and progress along the path of eradication. The road to eradication will not be easy, but is essential that steps continue to be made in the right direction. These discussion papers have not even looked at other options, only the loosening up regulations. They have not examined the possibility of compulsory vaccinations (as was used successfully for *Brucellosis abortus* eradication). While it does not prevent JD, it does reduce shedding, making positive herds a lower risk to others. Another option is to only allow herds with JD out of quarantine once they have entered into an agreement to manage JD on their property so that there is minimal risk to other herds and neighbours.

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