The clinical presentation of paratuberculosis and performance of diagnostic tests varies among ruminant species. In sheep, goats, South American Camelids (SAC), and farmed deer, weight loss is the primary clinical sign with end stage diarrhea in roughly 20% of cases. Age at clinical onset can be as young as 6 months to 1 year of age to 8+ years of age.

Both Johne’s culture and serologic test performance varies across species lines.

- The strains of *M. avium paratuberculosis* which infect sheep, and occasionally goats, differ from cattle strains in their culture requirements and cannot be cultured using routine bovine culture methods and Herrold’s Egg Yolk Media.
- There are no licensed or validated Johne’s ELISA assays for ruminants other than cattle in North America. In our experience, the AGID appears to be the most sensitive and specific serological test for Johne’s in sheep and goats.

These differences in diagnostic testing and clinical presentation must be taken into account when designing herd programs for ruminants other than cattle.

Selected References:

**All other ruminants:** Stehman SM. Paratuberculosis in small ruminants, deer, and South American camelids. Veterinary Clinics of North America, Food Animal Practice 1996;12:441-455

**Sheep:**

**Goats:**

**Farmed Deer:**


**Camelids:**

**Selected Websites:** For Johne's discussions in ruminants other than cattle:


Deer And Elk - http://www.usask.ca/wcvm/herdmed/specialstock/