New Johne's Fecal Culture System and Fees Starting May 1, 2001

NYS Diagnostic Laboratory, Cornell University

New Johne's Test Fees
May 1, 2001

	NY	non-NY
NY Fecal Culture	12.00	***33.00***
For NYSCHAP*	7.00	
K – ELISA	4.00	***4.00***
For NYSCHAP*	3.00	

* NYS Ag and Markets funded added discount (~30%) for herds enrolled in NYSCHAP.

Note: Out of State Johne's Culture Testing fees have increased to $33.00. *The Diagnostic Laboratory receives subsidies from the NYS Department of Agriculture and Markets to support the Johne's Laboratory and Johne's culture for NY producers.* ***The real cost of Johne's fecal culture without the NYS subsidy is $33.00***.

The Diagnostic Laboratory has implemented a new liquid culture system (ESP Culture System II) for Johne's fecal culture starting May 1. Based on initial results on cattle samples, the new system offers the advantage of faster turn around time for a Johne's fecal culture result with an added benefit of improved sensitivity for detecting low fecal shedders. The traditional Johne's solid media methods require up to 12 weeks for a final result. The new liquid media system offers a final result on low shedders in approximately 42-49 days. Test results on field samples from cattle are presented in Table 1.

The new culture method detected most positive samples (> 93%) by 3 weeks for heavy shedders (mean days of 13.8); 4 weeks for moderate shedders (mean days of 21.4); 6 weeks for low shedders (mean days of 30.8). The liquid media system detected organisms after 42 days of culture that were not detected on solid media in 12 weeks and thus provides a more sensitive method for detecting low shedders.

Sample contamination increased from 4% on solid media to an average of 10% in the new system and appeared to be more of a problem on some farms than others. Contamination might be linked to feeds or environment of particular farms. To minimize contamination, fecal samples should be taken and shipped promptly (with cold packs). If possible, avoid feeding forage with gross mold contamination for 3-4 days prior to sampling. If samples must be held prior to shipping, keep at room temperature or ~ 70 °F. Do not freeze or refrigerate samples and ship promptly. Laboratory methods are being developed to reduce contamination; however, please note that contaminated samples are charged a regular fee.

The Johne's fecal culture **result format** will change. Colony forming units will no longer be available. Semi-quantitative results will be reported in categories of negative or not detected, few, moderate or many based on days to detection. Days to detection will be provided for comparison to information provided in Table 1.

Procedures for submitting fecal samples for Johne's culture are otherwise unchanged. **We still request that fecal cultures be scheduled in advance** for herds on a regular testing schedule, and for submissions of over 10-25 fecal samples. Advanced scheduling is especially important when submitting large numbers of samples. Johne's fecal culture requires a three day setup procedure. The laboratory processes samples for Johne's culture Monday through Wednesday. Unscheduled samples, or samples arriving after Wednesday of each week will be frozen and set in the order that they are received, starting the following Monday. Please keep these considerations in mind when calculating expected turnaround time and allow a 1-2 week buffer.

In conclusion, the (ESP Culture System II) liquid media culture system was more sensitive (with 13% more positivity) and faster (detection within 2-6 weeks) than the solid media method for detection of Johne's in bovine feces. Research is continuing for application in other ruminants, such as sheep, goats, farm deer and camelids. We expect to finalize these studies by the end of 2001. Please call the Diagnostic Laboratory with questions or to schedule testing (607-253-3836).

Table 1. Detection days of M. paratuberculosis by Liquid Media Detection System based on preliminary results from cattle (300 field cases)

Fecal Shedding Level	Mean days to detection (Range)	S.D.*	% Detection by day						
			7 d	14 d	21 d	28 d	35 d	42 d	49 d
Heavy >300 CFU	13.81 (3.4 – 23.06)	3.49	4	65	97	100			
Moderate 31-300 CFU	21.17 (15.99-37.03)	5.06			7	93		100	
Few 1-30 CFU	30.84 (19.99-49.71)	6.93			3	39	73	94	100

*Standard Deviation

Quantity based on days to detection: = Many <21 days; Moderate 22-28 days; Few 29-42 days