

The following tests for *Mycobacterium avium* subspecies *paratuberculosis*, the cause of Johne's disease, are available at the Animal Disease Diagnostic Laboratory of the ODA at Reynoldsburg, Ohio. Please discuss with your veterinarian how these might be used in your Johne's disease management plan.

Test Available	Potential Uses	Advantages	Disadvantages
Fecal culture (individual animal)	<ul style="list-style-type: none"> • Confirmation of infection in a clinical animal • Herd screening to identify infected animals where eradication of infection is the ultimate goal 	<ul style="list-style-type: none"> • Most sensitive test to identify the infected cow 	<ul style="list-style-type: none"> • High per test cost • May not reliably grow sheep strains
Pooled fecal culture (pools of five individual cows)	<ul style="list-style-type: none"> • Herd assessment (infected or non-infected) in herds with unknown history • Prevalence estimation in herds with unknown prevalence • Identification of pools containing heavy shedding cows 	<ul style="list-style-type: none"> • Sufficient sensitivity to assess prevalence and identify most infected herds • Sufficient sensitivity to identify most pools with heavy shedder cows • Reduced cost over individual fecal cultures • Potential for sample collection by owner 	<ul style="list-style-type: none"> • Requires sample collection from individual animals • Requires additional testing to identify infected individuals from the pool
Environmental sample culture	<ul style="list-style-type: none"> • Herd assessment (infected or non-infected) in dairy herds with an unknown history • Surveillance of selected areas on infected farms for management decisions • Entry into level one of the Test Negative Status Program for dairy herds 	<ul style="list-style-type: none"> • Reduced labor/cost over individual animal blood or fecal samples • Sufficient sensitivity to identify most infected dairy herds • A "report card" for use in management decision making by the producer and veterinarian 	<ul style="list-style-type: none"> • Does not identify infected animals • Insufficient research data to estimate herd prevalence
Serum ELISA	<ul style="list-style-type: none"> • Herd assessment (infected or non-infected) in herds with unknown history • Herd prevalence estimation • Identification of heavy shedder cows • In combination with follow-up fecal culture, is used in Test Negative Status Program 	<ul style="list-style-type: none"> • Less expensive than culture • Rapid availability of test results 	<ul style="list-style-type: none"> • Limited sensitivity <ul style="list-style-type: none"> ○ detects only 70-80% of heavy shedders that would be detected by fecal culture ○ detects 5-25% of light and moderate shedders
Serum AGID – agar gel immunodiffusion	<ul style="list-style-type: none"> • Aid in diagnosis of a clinical case of Johne's disease – especially in sheep and goats 	<ul style="list-style-type: none"> • Rapid availability of results • Highly correlated with heavy shedding of MAP 	<ul style="list-style-type: none"> • Low sensitivity in detecting non-clinical animals
Histopathology	<ul style="list-style-type: none"> • Confirmation of Johne's disease (MAP infection) • Available for appeals of positive tests in the Test Negative Status Program 	<ul style="list-style-type: none"> • Useful where culture is difficult or impossible (sheep; archived samples) 	<ul style="list-style-type: none"> • Tissue specimens may be difficult to get • Not completely specific for MAP
Direct fecal PCR (<i>not available at this time but being evaluated</i>)	<ul style="list-style-type: none"> • Aid in diagnosis of a clinical case of Johne's disease – especially in sheep and goats • Identify heavily infected cows • Identify pools with heavy shedders • Pre-purchase testing? 	<ul style="list-style-type: none"> • Rapid availability of results • Less costly than fecal culture • Identifies dead organisms as well as living 	<ul style="list-style-type: none"> • Lower sensitivity than fecal culture (at this time) • False positive results?? • Identifies dead organisms as well as living