

COLORADO STATE UNIVERSITY
Veterinary Diagnostic Laboratories
Fort Collins – Rocky Ford – Western Slope

PARASITOLOGY

IMPORTANT: Time required for testing, as shown in the test schedule below, is **ONLY** an estimate. We make very effort to adhere to these schedules, however, unexpected sample volumes, poor sample quality, equipment failure or other factors beyond our control may impact our ability to meet these timelines. Always collect and submit samples well in advance of YOUR deadline to provide us with ample time should problems arise.

<i>TESTS</i>	<i>SUBMISSION</i>	<i>CONTAINER</i>	<i>COOLANT</i>	<i>DEAD-LINE</i>	<i>TIME REQUIRED</i>	<i>SPECIAL COMMENTS</i>
PARASITOLOGY						
Blood Parasites	Blood smears from unclotted, whole blood. Make two slides immediately from fresh blood.	Slides. Can send blood in EDTA tube along with slides.	Refrigerate blood.	M-F by 12:00 p.m.	Same day	Identifies parasites.
<i>Cryptosporidium</i> Acid-Fast stain	Minimum 1 gm feces	Whirlpak	Refrigerate	M-F by 2:00 pm	Same day	Most useful for young ruminants (<1 mo); not generally recommended for other animals; consult with Parasitology to assess needs; reported as organisms detected or not detected
External Parasite Identification	Parasite		None	M-F by 2:00 p.m.	1 + day; depends on requirements for identification	May require consult with additional experts. Genus and/or species of parasite will be reported whenever possible.
Fecal Flotation	Minimum 3 g fresh feces	Whirlpak	Refrigerate	M-F by 12:00 p.m.	Same day	Procedure recovers parasite eggs and cysts. Quantitation on large animal samples only; Quantitation on all others by request. Prior arrangement required for large submissions.
Fecal Parasite Exam	6 gm feces	Whirlpak	Refrigerate	M-F by 12:00 p.m.	Float and direct smear reported on same day; IFA reported next day	Exam includes direct smear, fecal flotation and Merifluor IFA for <i>Cryptosporidium</i> and <i>Giardia</i>
Fluke Sedimentation	5 gm feces	Whirlpak	Refrigerate	M-F by 12:00 p.m.	Same day	Results reported as eggs detected or not detected. Quantitation by request only.
<i>Giardia</i> ELISA	1 gm fresh feces	Glass or plastic container, well sealed.	Pack on ice.	M-F by 2:00 p.m.	Same day	For dogs and cats only. Results reported as antigen detected or not detected
Heartworm Serology Canine – Antigen Feline – Antigen & Antibody	0.5 ml serum. (Serum preferred but can use plasma. Hemolysis can affect test. Knott's and Serology combo would require 3 ml blood in EDTA tube)	Can send whole blood in EDTA tube.	Refrigerate	M-F by 2:00 p.m.	Same day	Tests results are reported as antigen/antibody detected or not detected.

COLORADO STATE UNIVERSITY
Veterinary Diagnostic Laboratories
Fort Collins – Rocky Ford – Western Slope

PARASITOLOGY

TESTS	SUBMISSION	CONTAINER	COOLANT	DEAD-LINE	TIME REQUIRED	SPECIAL COMMENTS
Immunofluorescent Antibody (IFA) for <i>Cryptosporidium/Giardia</i>	3 gm fresh feces	Whirlpak	Overnight on ice.	M-F by 12:00 p.m.	Same day	Detects both <i>Cryptosporidium</i> and <i>Giardia</i> . Reported as <i>Giardia</i> and/or <i>Cryptosporidium</i> detected or not detected.
Internal Parasite Identification	Parasite	Sample dependent	None if fixed; refrigerate if unfixed	M-F by 2:00 p.m.	1 + day; depends on requirements for identification	May require consult with additional experts. Genus and/or species of parasite will be reported whenever possible.
Knotts (microfilaria)	1 ml blood minimum	Whole blood (PTT)	Refrigerate	M-F by 2:00 p.m.	Same day	Detects microfilariae; complementary to and should be done in tandem with heartworm antigen testing in dogs
<i>Neospora caninum</i> IFA (canine)	0.5 ml serum	Serum or clotted blood (red top tube)	Refrigerate	M-F by 2:00 p.m.	1-2 days	Detects antibodies to <i>Neospora caninum</i> . Results are reported as antibodies detected or not detected.
<i>Neospora caninum</i> ELISA (bovine)	0.5 ml serum	Serum or clotted blood (red top tube)	Refrigerate	F-Th by 5:00 p.m.	Tests batched once a week (usually Friday).	Detects antibodies to <i>Neospora caninum</i> . Results are reported as antibodies detected or not detected.
<i>Neospora caninum</i> - fecal PCR	1 gm feces	Whirlpak or other steril container	Refrigerate	M-F by 2:00 p.m.	3 days	Reported as organisms detected or not detected
Occult Blood	1 gm feces	Whirlpak	None	M-F by 12:00 p.m.	Same day	Identifies blood present in feces. Results reported as blood detected or not detected.
Pinworm	Cellophane tape lift	Cellophane tape on slide	None	M-F by 12:00 p.m.	Same day	Results reported as eggs detected or not detected
Skin Scraping	Hair and skin	Whirlpak	None	M-F by 12:00 p.m.	Usually same day	Genus and/or species of parasite will be reported.
Soil Analysis	50 grams soil/sludge or other sample to test for presence of helminth parasites.	Glass or plastic container, well sealed	Refrigerate if shipping	M-F by 12:00 p.m.	Reported out in 1-2 days.	For protozoan parasites, contact Parasitology.
Tick panel/Heartworm - <i>Anaplasma phagocytophilum</i> serology	0.5 ml serum preferred; can use whole blood or plasma	serum tube, EDTA tube	Refrigerate	M-F by 2:00 p.m.	Same day	Dog only; detects antibodies to <i>A. phagocytophilum</i> , <i>Ehrlichia canis</i> and <i>Borrelia burgdorferi</i> ; detects antigens of <i>Dirofilaria immitis</i> ; reported as antibody/antigen detected or not detected.
Tick panel/Heartworm - <i>Ehrlichia canis</i> serology	0.5 ml serum preferred; can use whole blood or plasma	serum tube, EDTA tube, heparin tube	Refrigerate	M-F by 2:00 p.m.	Same day	
Tick panel/Heartworm - Lyme antibody serology	0.5 ml serum preferred; can use whole blood or plasma	serum tube, EDTA tube, heparin tube	Refrigerate	M-F by 2:00 p.m.	Same day	
Tick panel/Heartworm – Heartworm serology	0.5 ml serum preferred; can use whole blood or plasma	serum tube, EDTA tube, heparin tube	Refrigerate	M-F by 2:00 p.m.	Same day	

COLORADO STATE UNIVERSITY
Veterinary Diagnostic Laboratories
Fort Collins – Rocky Ford – Western Slope

PARASITOLOGY

<i>TESTS</i>	<i>SUBMISSION</i>	<i>CONTAINER</i>	<i>COOLANT</i>	<i>DEAD-LINE</i>	<i>TIME REQUIRED</i>	<i>SPECIAL COMMENTS</i>
<i>Toxoplasma gondii</i> (all animals except canine and feline; see Special comments)	1/2 ml serum	Serum tube	Refrigerate	Monday-Thursday by 2:00 p.m.	Next day by 11:00 a.m.	Paired sera recommended (2-fold increase in titer). Positive/negative cutoff is 1:50; titer reported if \geq 1:50. Indirect hemagglutination microtiter method. Modified agglutination test available upon request
<i>Trichinella</i> digest	Tissue – minimum of 100 gm (pools of up to 10 animals may be included – 10 gm each)	Whirlpak or other appropriate container	Refrigerate	M-F by 2:00 pm	1-3 days	Samples may be pooled from different animals; if pooling is desired, so note on the submission form.
<i>T. foetus</i> - Bovine Culture	1) Preputial wash 2) Vaginal wash	In Pouch TF media preferred; Lactated ringers solution accepted per notes under Special Comments.	NONE	Results for samples submitted Monday, Tuesday, or Friday will be reported by 5 p.m. on Thursday, Friday and Monday respectively. Samples received anytime Wednesday or Thursday will be read Saturday or Sunday but will not be reported until the following Monday.	3 days incubation in lab.	Identifies trichomonad organism. Samples taken in LRS must reach the lab within 24 hours of collection. Samples taken in InPouch TF must reach the lab within 48 hours after collection. DO NOT REFRIGERATE SAMPLES. InPouch TF pouches available at nominal charge. *Coordinate your sample collection and delivery with sample submission deadlines or your samples will not be accepted. Contact Parasitology PRIOR to collection if your submission will exceed 30 samples (to ensure adequate media supplies) or if you have any questions on deadlines.
<i>T. foetus</i> - Bovine PCR	Culture	In Pouch TF	None	PCR is performed on Tuesday & Thursday; In Pouch TF samples must be received by noon Monday or Wednesday to be included in the batch for the following day; samples in LRS must be incubated in media 24 hrs PCR prep; therefore, use of LRS is discouraged.	3 days	All culture-positive Colorado bovine samples are submitted for PCR confirmation of species.
<i>T. foetus</i> – Small Animal PCR	1 gm fresh feces	Sterile, closed container.	Refrigerate	Monday and Wednesday by noon to be run on Tuesday or Thursday.	3 days	Can run concurrently with culture/In-Pouch; used to verify culture results or as a “stand alone” test.
<i>T. foetus</i> – Small Animal Diamond’s Culture	1 gm fresh feces	Feces can be diluted with normal saline by mixing 2 parts feces with 3 parts normal saline	None	M-F by 12:00 p.m.	Reported out after 72 hours (3 days)	If feces are turned in for other testing, it must be split before shipment so that other part of the feces can be shipped on ice. Remove as much litter from feces as possible.

COLORADO STATE UNIVERSITY
Veterinary Diagnostic Laboratories
Fort Collins – Rocky Ford – Western Slope

PARASITOLOGY

<i>TESTS</i>	<i>SUBMISSION</i>	<i>CONTAINER</i>	<i>COOLANT</i>	<i>DEAD-LINE</i>	<i>TIME REQUIRED</i>	<i>SPECIAL COMMENTS</i>
<i>T. foetus</i> - Small Animal In-Pouch Culture	Sample inoculated In-Pouch system (use approximately 0.05 gm)	In-Pouch TF Feline	None	M-F by 5:00 p.m.	Read every other day for 12 days with final results reported out after 12 days.	