Bovine/Small Ruminant/Camelid Abortion Kit

This kit has been assembled to facilitate proper collection and submission of bovine abortion samples when it is not possible to deliver the entire fetus and placenta to a necropsy service. If the fetus has a crown-rump length of 10 inches or less, it is best to send the entire fetus intact along with the placenta. If it is larger, collect and submit samples as described below. Everything needed is included except a strong knife used for the original incision, and 2 needles (18 G 1 ½ in.). It is critical to obtain as many of the samples as possible in the prescribed manner. Maternal serum (clot tube) and whole blood (EDTA tube) should also be submitted in all cases, as well as serum from other aborting and normal cows in the herd if possible.

Note that we are requesting fresh tissues rather than having them submitted in a transport medium; this allows us to culture more organisms. However, because the samples are not in a transport medium, it is imperative that they be chilled immediately and sent (with ice packs) to the Animal Health Diagnostic Center as soon as possible, as described at the end of this form.

A thorough history is important. Fill out the general submission form AND the entire accompanying abortion history form; include as much information as possible.

If you have any questions regarding this kit, please call Dr. Belinda Thompson at the Animal Health Diagnostic Center (607-253-3900); for ordering contact the AHDC Shipping Department (607-253-3935).
# Test & Fee Schedule

<table>
<thead>
<tr>
<th>Samples</th>
<th>Tests Performed</th>
<th>Fees to Submitting Veterinarians</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fresh Tissues</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung, placenta</td>
<td>Aerobic culture (2)</td>
<td>$40.00 per tissue</td>
</tr>
<tr>
<td>Abomasal contents</td>
<td>Leptospira real-time PCR</td>
<td>$36.75 per tissue</td>
</tr>
<tr>
<td>Abomasal contents</td>
<td>Campy fetus FA</td>
<td>$16.00</td>
</tr>
<tr>
<td>Lung, kidney, adrenal, and placenta</td>
<td>Composite FA test for BVD</td>
<td>$25.00</td>
</tr>
<tr>
<td></td>
<td>Composite FA test for IBR</td>
<td>$25.00</td>
</tr>
<tr>
<td></td>
<td>Chlamydia FA (camelids, small ruminants)</td>
<td>$25.00</td>
</tr>
<tr>
<td></td>
<td>Toxoplasma FA (camelids, small ruminants)</td>
<td>$25.00</td>
</tr>
<tr>
<td></td>
<td>EHV-1 FA (camelids)</td>
<td>$25.00</td>
</tr>
<tr>
<td></td>
<td>If history indicates a herd problem, Viral FA replaced by virus isolation</td>
<td>$70.00</td>
</tr>
<tr>
<td>Skin</td>
<td>BVD ACE</td>
<td>$5.50</td>
</tr>
<tr>
<td>Heart Blood</td>
<td>BVD SN</td>
<td>$14.50</td>
</tr>
<tr>
<td></td>
<td>Neospora IFA</td>
<td>$16.50</td>
</tr>
<tr>
<td>Placenta, liver, lung, brain, adrenal, heart, thymus, small intestine, kidney, and fetal skin</td>
<td>Histopathology</td>
<td>1-2 slides $66.50</td>
</tr>
<tr>
<td></td>
<td>Field Necropsy Surcharge</td>
<td>$56.00</td>
</tr>
<tr>
<td>Brain</td>
<td>Immunoperoxidase for neospora (if indicated by histopathology)</td>
<td>$27.00</td>
</tr>
<tr>
<td><strong>Maternal Sera</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leptospira (5 serotypes)</td>
<td>$16.00</td>
</tr>
<tr>
<td></td>
<td>Brucellosis – card test</td>
<td>$3.50</td>
</tr>
<tr>
<td></td>
<td>BVD-SN</td>
<td>$14.50</td>
</tr>
<tr>
<td></td>
<td>IBR-ELISA</td>
<td>$11.00</td>
</tr>
<tr>
<td></td>
<td>Neospora IFA</td>
<td>$16.50</td>
</tr>
<tr>
<td></td>
<td>Toxoplasma gondii IgG ELISA</td>
<td>$17.00</td>
</tr>
<tr>
<td><strong>Maternal EDTA Blood</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Selenium</td>
<td>$28.00</td>
</tr>
<tr>
<td><strong>Approximate Fee</strong></td>
<td></td>
<td>$494.25 - $620.25</td>
</tr>
<tr>
<td><strong>Abortion Kit</strong></td>
<td></td>
<td>$34.00 each</td>
</tr>
</tbody>
</table>

For New York State contract eligible submissions, please include [NYS Contract Subsidy Submission form](#) as cover sheet
Instructions
Procedure for Collecting, Packaging, and Submitting Samples

Collecting Samples
1. Collect dam blood into both a red-top and a purple-top (EDTA) blood collection tube. (Dispose of blood collection needle; do not return it with the kit.)

Field Necropsy
2. Observe fetus for abnormalities (e.g., distortion of limbs, head, etc.) and record on the Abortion History sheet. Carefully examine the skin, especially around the head and eyelids.
3. Using a clean knife, open abdomen and thorax of the fetus. Note any lesions – especially in the liver and lungs.
4. Collect the following fresh fetal specimens:
   a. **Skin:** 1/4 – 1/2" piece of ear skin. Place into plastic snap-top vial.
   b. **Lung:** obtain a sample 2” x 3”, if possible. Place in labeled ziploc bag.
   c. **Adrenal:** submit one entire adrenal. Place in labeled ziploc bag.
   d. **Kidney:** submit entire kidney if not too big, otherwise a large portion (1” x 2”) is sufficient. Place in labeled ziploc bag.
   e. **Placenta:** obtain a 2” x 3” piece that has not been exposed to the environment if possible. Place in labeled ziploc bag.
5. Obtain heart blood. Using a 5 ml syringe with an 18 G 1 ½ in. needle, attempt to secure 3 to 10 ml of fetal heart blood. It may be necessary to carefully incise the left ventricle and aspirate blood from the surface. (Pleural and Peritoneal fluids may be used if blood is not available). Express blood into a red-top blood collection tube. (Dispose of syringe and needle; do not return them with the kit.)
6. Obtain stomach contents. Disinfect surface of stomach using a swab soaked in alcohol. Collect abomasal contents using 5cc syringe and needle. Express into a red-top blood collection tube. (Dispose of syringe and needle; do not return them with the kit.)

Assemble Fresh Specimens: Place blood collection tubes, stomach contents, and skin sample vial into slots in absorbent pouch. Roll up. Place in labeled zip-lock bag. Place fresh tissue bags into second, larger, labeled zip-lock bag. Place inside a 95kPa Specimen Pouch. Seal pouch according to printed instructions. Place inside insulated pouch with 2 frozen ice packs and zip shut.

**Fixed specimens**
7. For histopathology, cut ¼” (1cm) thick sections of each of the following tissues and place in the small aircraft-rated jar of formalin:
   a. Placenta (cotyledons from 3 sites and any areas of gross abnormality)
   b. Liver
   c. Lung
   d. Second adrenal gland
Animal Health Diagnostic Center  
Ruminant Abortion Kit

e. Heart  
f. Thymus  
g. Small intestine  
h. Kidney  
i. Skin  
j. Any other tissue you wish to include

8. Remove the entire brain, even if it appears autolyzed, and place in the large aircraft-rated jar of formalin. Fixed brain is the tissue of choice when diagnosing protozoal (neospora) abortions.

Assemble Fixed Specimens: Place both formalin jars, with absorbent sheet, inside heavy zip-lock bag.

PACKING AND SHIPPING SAMPLES
1. Place both the insulated specimen pouch and the bag containing formalin jars inside the kit box.
2. Complete both the General Submission form and the Abortion History form; return the forms to their ziploc bag; place them back inside the box.
3. Close box and tape shut.
4. Put mailing label on outside of box.
5. Return the specimens for testing.

For some areas of NYS and contiguous areas, ground shipment by FedEx or UPS will arrive next day at the AHDC. Otherwise ship by air for next-day delivery.

The AHDC has prepaid FedEx or UPS ground and air shipping labels available for discount shipping rates. These must be purchased in advance, prior to the day of shipping. Call 607-253-3935 or see http://www.diaglab.vet.cornell.edu/test/feeman/specialCourier.pdf

FOLLOW-UP
Fourteen (14) days later, collect a second maternal serum sample (clotted blood sample only) and submit this separately. On the submission form, be sure to identify the sample as a “second serum sample – abortion kit.” Please note, there are additional charges for testing convalescent samples.

Thank you!
Contents of Kit

*Note:* You must provide a knife for necropsy and two syringe needles (18 G 1 ½ in.)

Kit Box
1 Insulated Pouch
2 Freezer Packs
1 95kPa-rated specimen pouch
2 95kPa-rated Plastic Jars Formalin (1 small, 1 large)
4 medium sized ziploc bags
Absorbent material (6-slot pouch, 1 small sheet, 1 larger sheet)
3 Red-top blood collection tubes
1 Purple-top (EDTA) blood collection tube
1 Blood collection needle (20 G 1 ½ in.)
1 Plastic snap-top vial containing Phosphate Buffered Saline
2 Syringes-5cc (needles not provided)
1 Scalpel
2 Alcohol swabs
4 small zip-lock bags for lung, adrenal, kidney, placenta
1 10” X 12” ziplock bag (for paperwork)

**Paperwork**
- General Submission form
- Instruction sheet
- Bovine Abortion Kit Test Fee Schedule
- Contents of Kit checklist
- Abortion/Reproduction History Form
- Supply Order form
- Mailing label UN3373 Biological Substance Category B
Abortion History

Today’s Date ________________  County __________________________
Farm Name/Owner _____________________________________________
Address ______________________________________________________

City State Zip Code

Veterinarian Name ____________________________________________  Diag. Ctr. Acct # __________
Telephone __________________________________________________

Animal History

Animal Identification:

<table>
<thead>
<tr>
<th>Name / Number</th>
<th>Age</th>
<th>Breed</th>
</tr>
</thead>
</table>

Date aborted: ________________  Estimated due date: ________________
Crown-rump length of aborted fetus: ________________
List and describe any abnormalities found on gross examination of the aborted fetus:

List and describe any abnormalities found on gross examination of the placenta:

Number of services: ________________  Date of last service: ________________
Type of breeding for this animal (circle one):

<table>
<thead>
<tr>
<th>AI</th>
<th>Natural</th>
<th>Both AI &amp; Natural</th>
<th>Embryo Transfer</th>
<th>Clone</th>
</tr>
</thead>
</table>

Date of last normal parturition: ________________

Has this animal aborted previously?  No  Yes  If so, when? ________________
Were any of these aborted fetuses submitted for a diagnostic workup?  No  Yes
If so, please provide the date and accession #: ________________
What were the results? ________________
Dam’s Relevant Vaccination History:

- **Neospora**
  - No
  - Yes

<table>
<thead>
<tr>
<th>Last (date)</th>
<th>Previous (date)</th>
<th>Previous (date)</th>
</tr>
</thead>
</table>

- **BVD**
  - No
  - Yes

<table>
<thead>
<tr>
<th>MLV</th>
<th>Killed</th>
</tr>
</thead>
</table>

  | Last (date) | Previous (date) | Previous (date) |

- **IBR**
  - No
  - Yes

<table>
<thead>
<tr>
<th>MLV</th>
<th>Killed</th>
</tr>
</thead>
</table>

  | Last (date) | Previous (date) | Previous (date) |

- **Lepto 5**
  - No
  - Yes

<table>
<thead>
<tr>
<th>MLV</th>
<th>Killed</th>
</tr>
</thead>
</table>

  | Last (date) | Previous (date) | Previous (date) |

- **Lepto hardjobovis**
  - No
  - Yes

<table>
<thead>
<tr>
<th>MLV</th>
<th>Killed</th>
</tr>
</thead>
</table>

  | Last (date) | Previous (date) | Previous (date) |

- **Trichomoniasis**
  - No
  - Yes

  | Last (date) | Previous (date) | Previous (date) |

- **Vibrio (Campy fetus)**
  - No
  - Yes

  | Last (date) | Previous (date) | Previous (date) |

- **Chlamydia**
  - No
  - Yes

  | Last (date) | Previous (date) | Previous (date) |

Has there been any evidence of clinical illness in this animal?  
**No**  **Yes**

If so, was it within the previous … (circle all that apply):

<table>
<thead>
<tr>
<th>Week</th>
<th>Month</th>
<th>3 Months</th>
<th>6 Months</th>
</tr>
</thead>
</table>

What symptoms (circle all that apply):
Animal Health Diagnostic Center
Ruminant Abortion Kit

<table>
<thead>
<tr>
<th>Fever</th>
<th>Respiratory disease</th>
<th>Retained placenta</th>
<th>Ocular discharge</th>
<th>Enteric disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastitis</td>
<td>Other (describe signs): _______________________________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List and describe any recent changes in this animal’s feeding program:

__________________________________________________________________________________________________________________________________________________________
__________________________________________________________________________________________________________________________________________________________

Herd History

Total number of adults in herd: ________________
Total number of immature: ________________
Number of animals purchased within the previous:
4 months ________________ Year ________________
Date of last purchase: _____________________________________________________________________________

What is the health status of new additions?
______________________________________________________________________________________________
______________________________________________________________________________________________

Reproduction

How many abortions in the past …
Week? ____________ Month? ____________ 6 Months? ____________
At what stages of pregnancy? __________________________________________________________________________

Was material submitted to the Diagnostic Center from any of these fetuses?   No   Yes
If so, please provide the date(s) and accession number(s):
______________________________________________________________________________________________
______________________________________________________________________________________________

What were the results?
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Have there been problems in *term* newborns born on this farm (circle all that apply)?

<table>
<thead>
<tr>
<th>Stillborn</th>
<th>Deformed</th>
<th>Weak</th>
<th>Ataxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (describe): _______________________________</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average days to 1st service (dairy cows): ________________
Calving interval (dairy cows): __________________________________________________________________________
Breedings per conception (dairy cows): ____________________________________________________________________
Are postpartum exams performed regularly?   No   Yes
How soon after calving? ________________________________________________________________________________
Animal Health Diagnostic Center
Ruminant Abortion Kit

Are pregnancy exams performed?  No  Yes
Have there been breeding problems on the farm?  No  Yes  What %?  

Herd reproductive problems (circle all that apply):

<table>
<thead>
<tr>
<th>Anestrus</th>
<th>Irregular cycles</th>
<th>Metritis</th>
<th>Repeat breedings</th>
<th>Retained placenta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cystic ovaries</td>
<td>Other (please describe):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Health

Have there been other clinical illnesses in the herd in the last 6 months?

No  Yes

If “Yes,” please indicate which problems (circle all that apply):

<table>
<thead>
<tr>
<th>Respiratory</th>
<th>Ocular</th>
<th>Enteric</th>
<th>Fever</th>
<th>Mastitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (describe and give approximate numbers):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Herd vaccination program:

<table>
<thead>
<tr>
<th>BVD</th>
<th>IBR</th>
<th>Lepto (5way)</th>
<th>Lepto hardjobovis</th>
<th>Neospora</th>
<th>Trichomoniasis</th>
<th>Vibrio (Campy fetus)</th>
<th>Chlamydia</th>
<th>Other (please describe):</th>
</tr>
</thead>
</table>

Housing (circle all that apply):

<table>
<thead>
<tr>
<th>Stanchion</th>
<th>Tie stalls</th>
<th>Freestall</th>
<th>Pasture only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (describe):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nutrition

Forages (circle all that apply):
### Ruminant Abortion Kit

<table>
<thead>
<tr>
<th>Legume hay</th>
<th>Grass hay</th>
<th>Pasture</th>
<th>Haylage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Other (please list):</td>
<td></td>
</tr>
<tr>
<td>Corn silage</td>
<td>Baleage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Concentrates (please list):

Commercial grain mixes (please list):

Commodities (circle all that apply):

- **Corn**
- **Oats**
- **Soybeans**
- **Cottonseed**
- **Brewers Grains**
- **Other** (please list):

Minerals (circle all that apply):

- Commercial mix
- Add own minerals to TMR
- Free choice selection

General description of the feeding program (circle all that apply):

- Individually fed
- Group fed
- Feed individual forages and concentrates
- Exclusive TMR
- Unsupplemented pasture
- Supplemented pasture
- TMR plus hay fed separately
- Dry cows in one group
- Close-up and far away dry groups
- No dry group

**Additional Comments:**

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**Are any feeds moldy?**  
**Yes**

**Are selenium supplements being used?**  
**No**

**If so, by which method?**  
**Injection**

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**ADDITIONAL RELEVANT HISTORY OR COMMENTS** (attach additional pages if necessary):

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Ruminant Abortion Kit Submission Form

Animal Health Diagnostic Center

College of Veterinary Medicine, Cornell University
In Partnership with the NYS Dept of Ag & Markets
US Postal Service Address:  PO Box 5786
Ithaca, NY 14852-5786

AHDC Contacts
Phone: 607-253-3900
Fax: 607-253-3943
Web: diagcenter.vet.cornell.edu
E-mail: diagcenter@cornell.edu

PLEASE COMPLETE ALL FIELDS, PRINT LEGIBLY, AND ENTER ONLY ONE OWNER PER FORM

Enter Your Cornell AHDC Acct No. ____________________________
Your Internal Case/Reference No.* ____________________________

Veterinarian ____________________________
Clinic Name ____________________________
Address ____________________________
City, State, Zip _________________________
Phone Number (_______ ) ____________________________
Fax Number (_______ ) ____________________________

ATTENTION: Additional Instructions:

ABORTION □ Single abortion or □ Herd Problem

General History: An adequate history must accompany submissions in order to qualify for NY State Contract charges (see AHDC Test & Fee Schedule). Date of onset of abortions in herd ________ Age of animals aborting ________
Herd size ________ No. aborted ________ Gestation stage of animals aborting ________

Please use history questionnaire provided with kit instructions for detailed history including vaccines

For previous related submissions, please enter Accession numbers and Dates here: ____________________________

Check if related material has been submitted previously for this animal(s): □ Y □ N □ Unknown for this herd: □ Y □ N □ Unknown

Cross out any test names not desired ____________________________

Date Samples Taken: ____________________________

NAME/NO. Species BREED SEX AGE/DOB

1 Fetus of (dam name) ____________________________
2 (Dam ID, if dam blood included) ____________________________
3 Fetus of (dam name) ____________________________
4 Dam ID, if dam blood included) ____________________________
5 (Fetus of (dam name) ____________________________
6 (Dam ID, if dam blood included) ____________________________

DO NOT use this form for more than (3) fetuses and/or dam blood tests. Please note if you DO NOT want complete testing on each item if more than one fetus or blood sample are included. Use separate general submission form for herdmate testing. Dam blood can be retained and submitted separately, paired with convalescent sample.

All tests listed at the right are appropriate for the species. Samples will be tested according to lab protocols and associated fees per test/sample charged unless test names are crossed out.

One antimicrobial sensitivity test will be added/fetus if significant aerobic bacteria isolated.

The submitting veterinarian is responsible for the requested tests, fees associated with this submission, and to notify the owner of test results.

LAB USE ONLY
opened by: ____________________________

<table>
<thead>
<tr>
<th>COURIER RECORD:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Mail</td>
<td>DATE REC'D:</td>
</tr>
<tr>
<td>FX</td>
<td>Pri Mail</td>
<td>TIME REC'D:</td>
</tr>
<tr>
<td>UPS-Gnd</td>
<td>Exp Mail</td>
<td>DATE SHIP'D:</td>
</tr>
<tr>
<td>UPS-ND</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

SAMPLES SUBMITTED FOR TESTING BECOME THE PROPERTY OF THE ANIMAL HEALTH DIAGNOSTIC CENTER.

* If your Internal Reference No. is entered on this form, it will be used to identify this case on the test result form and on the billing statement (max. 17 character fields).

VSS-WEB-066-V01 12/16
**Please note: Owner information, clinical history and differential diagnosis must be completed in full on submission form, as well as herd data and signature field below to qualify for contract pricing.**

*** HERD DATA ***

**Date**: onset of illness: _____________  In animals submitted: _____________  
**Herd size**: Adult_____ Young_____  No. dead:_________  No. affected:_______  
☐ Check here if add’l history is on back or attached.

I certify that this submission is for an animal located in NYS that is being raised for food or fiber production or it is a horse. In addition, I have listed in the differential diagnosis one or more conditions or contagious infectious diseases that is/are consistent with the clinical presentation for this animal or herd and that would threaten other animals or people. I also certify that this testing is not routine surveillance testing or testing to help eradicate a disease or condition already diagnosed in this herd or flock. Also, this submission includes samples and requests for testing or assistance from the lab to attempt to make a definitive diagnosis. This is not an insurance or legal case.

Signature NYS licensed veterinarian_______________________________________________________

I have attached the ☐ Contract subsidy submission continuation page or ☐ Other forms or pages