TB TESTING for Interstate Movement

When moving cattle interstate, planning a dairy sale, or testing a herd for tuberculosis (TB), advanced planning is critical. Veterinarians can expect 1 to 5% of cattle tested to respond to the caudal fold test (CFT) and be identified as suspects. The reaction may range from a palpable skin thickening to a visible lump in the caudal fold. The CFT acts as a “primer” for the secondary test and the two tests must be completed within strict time intervals. WSDA or USDA field veterinarians can determine if suspects are true or false positives using the comparative cervical test (CCT) or bovine gamma interferon assay (Bovigam™ blood test).

The CCT
A CCT must be conducted within 10 days of the initial CFT injection. If the window for testing is missed, the CFT must be repeated after 60 days. The CCT requires animals to be restrained properly because the procedure involves clipping two spots on the animal's neck, measuring baseline skin thickness with calipers, and separately injecting bovine and avian tuberculin reagents. Three days later (72 +/- 6 hours), skin thickness at the two sites is compared, measured, and plotted to conclude if the status is suspect, reactor, or negative.

The gamma interferon blood test
The gamma interferon blood test is another way to conduct confirmatory TB testing. In some ways it is simpler because it involves one trip to a farm, a single blood draw, and minimal animal restraint. However, the National Veterinary Services Laboratory (NVSL) is the only lab approved to run the test. NVSL only runs the test Mondays through Wednesdays, requires advanced notice, and the turnaround time ranges from 3 to 5 days.

Planning in advance critical for shipping on time
If suspects are identified by an accredited veterinarian, he/she notifies state or federal veterinary officials about test results. The regional WSDA field veterinarian will place a hold order on the farm to restrict animal movement and contain possible spread of disease until suspect cases are investigated. Other cattle in the herd may continue to move into slaughter channels, however.

The gamma interferon blood test paired with the CFT improves TB test sensitivity and specificity. This improves the ability to identify true positive and true negative animals, thereby reducing TB’s threat to the cattle industry.
If a suspect or reactor is found on a secondary test, those animals will require euthanasia, necropsy, and histopathology +/- culture. Both the CCT and gamma interferon tests occasionally yield false positives. If a TB case is confirmed, high priority will be placed on whole herd testing and follow-up testing at 6 month intervals thereafter.

**Avoiding problems in the TB testing process**

1. When scheduling bovine TB testing, allow at least 2 to 3 weeks for any follow-up testing of suspects (Table 1). If a TB suspect is identified via the CFT, no animals will be allowed to leave the premise until herd status can be determined; movement restrictions include dairy bull calves. A common mistake is to have cattle transport trucks arrive at the conclusion of initial testing. This can be very costly and frustrating for producers if cattle are not permitted to be shipped because of a TB suspect.

2. Veterinarians should contact their regional WSDA or USDA field veterinarian as soon as TB testing is scheduled because confirmatory testing may be required. A list of WSDA field veterinarians, their regions, and contact information can be found at [https://agr.wa.gov/departments/animals-livestock-and-pets/animal-health/contact-us](https://agr.wa.gov/departments/animals-livestock-and-pets/animal-health/contact-us).

3. Anticipate TB suspects when conducting herd testing. Indeed, accredited veterinarians conducting CFTs properly should have a 3% average suspect rate annually. Accredited veterinarians are at risk of losing their accreditation status with USDA if they fail to meet performance standards.

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Action</th>
<th>Timeline</th>
<th>Veterinarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial CFT</td>
<td>All negative</td>
<td>Ship cattle</td>
<td>3+ days after initial CFT</td>
<td>Private</td>
</tr>
<tr>
<td>Initial CFT</td>
<td>1+ suspect</td>
<td>1. Notify WSDA field veterinarian</td>
<td>ASAP after suspect identified</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. CCT</td>
<td>Less than 10 days after initial CFT</td>
<td>WSDA or USDA field veterinarian</td>
</tr>
<tr>
<td>Initial CFT</td>
<td>1+ suspect</td>
<td>1. Notify WSDA field veterinarian</td>
<td>ASAP after suspect identified</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Gamma interferon test</td>
<td>3 to 30 days after initial CFT</td>
<td>WSDA field veterinarian</td>
</tr>
<tr>
<td>CCT or gamma interferon</td>
<td>CCT suspect or reactor, or two positive gamma</td>
<td>Cull and necropsy at WSU WADDL; indemnity request to USDA</td>
<td>ASAP after identified</td>
<td>WSDA field veterinarian</td>
</tr>
<tr>
<td>interferon assay</td>
<td>interferon tests in one animal</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Whole herd test</td>
<td>Identify negatives and positives</td>
<td>Test and cull</td>
<td>6 mo. testing intervals until negative status achieved</td>
<td>WSDA or USDA field veterinarian</td>
</tr>
</tbody>
</table>

Table 1. TB testing for cattle.
**Requirements to export cattle to Canada**

Canada requires negative CFT and gamma interferon tests for certain classes of imported cattle. Check with the Canadian Food Inspection Agency for import requirements for breeding, rodeo, or feeder cattle from the U.S.

**For veterinarians: collecting and shipping gamma interferon samples for Canada**

- For routine export to Canada when both CFT and gamma interferon testing is required, the WSDA or USDA veterinarian in charge must approve the blood draw and lab submission.
- As a secondary test after a suspect CFT response, collect a 10 mL heparinized (green-top, sodium, or lithium) specimen of whole blood for a gamma interferon test 3 to 30 days after the CFT.
- Specimens submitted in expired tubes will not be acceptable for official program purposes.
- Only submit blood from good clean draws. Clots or cell lysis can cause inconclusive results.
- Ice packs should not be in direct contact with samples. Put sufficient material between ice packs and samples to prevent samples from being damaged by freezing.
- The test must be submitted to the NVSL in Ames, IA and the lab notified in advance of a sample for testing.
- Samples must be drawn on Monday, Tuesday or Wednesday and shipped overnight to NVSL the same day.
- Use VS Form 10-4 for submissions. On the form, enter “gamma TB testing” in the EXAMINATIONS REQUESTED box.
- On the day of shipping, send the FedEx or UPS tracking number and scanned copies of form 10-4 and the overnight shipping label to Dr. Luci T. Dimick at Luci.T.Dimick@usda.gov.

Do you have more questions? Please contact the Animal Health Program at (360) 902-1878, or your WSDA field veterinarian for further assistance.

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