

TB Testing Information for Cattle Producers

Overview

Bovine tuberculosis (TB) testing is a time consuming, multi-step process requiring planning and coordination. California licensed accredited veterinarians perform a TB screening test, the caudal fold tuberculin (CFT) test. Cattle responding to this test require confirmatory tests performed by regulatory veterinarians of the California Department of Food and Agriculture or United States Department of Agriculture (USDA). Confirmatory tests are the comparative cervical tuberculin (CCT) test and the gamma interferon blood test. Animals positive to either of these tests are examined for lesions at post-mortem. All cattle on the premises are under quarantine until all tests are complete.

Caudal Fold Tuberculin Test

The CFT is the primary screening test to identify cattle potentially infected with bovine TB. The test measures the immune response to *Mycobacterium bovis*, the causative agent of bovine TB. The test involves the intradermal injection of a bovine protein, Purified Protein Derivative (PPD) tuberculin, in the skin of the caudal fold (the fold of skin at the base of the tail). If the animal has been exposed to mycobacteria, the immune system responds with inflammatory cells at the injection site to cause swelling and/or discoloration of the skin. The veterinarian who performed the CFT injection inspects and palpates the injection site 72 hours later to evaluate for a response. Any abnormality at the injection site classifies the animal as a responder. Veterinarians must report the results to the CDFA Animal Health Branch within 5 days. Regulatory veterinarians will follow up with confirmatory tests for CFT responders.

Not all CFT responders have bovine TB. Animals exposed to or infected with other closely related bacteria, such as *Mycobacterium avium* (avian tuberculosis), *Mycobacterium paratuberculosis* (Johne's Disease), human TB and soil mycobacteria, may develop a false-positive response to the CFT test. False-positive CFT test responses occur in normal herds approximately 1-5% of the time. A positive CFT test result is preliminary and the animal requires an additional diagnostic test to determine infection.

Gamma Interferon Test

The gamma interferon test is a confirmatory blood test for CFT responder animals. CDFA or USDA regulatory veterinarians draw blood from the CFT responder. The test relies on live blood cells, and must start within 24 hours of collection. The test quantifies the amount of cytokine gamma interferon for tuberculin produced in the sample. Test results are used to classify the animal as TB negative, suspect or reactor. Reactor animals are examined for lesions at post mortem.

Comparative Cervical Test

The comparative cervical tuberculin (CCT) test is a confirmatory skin test to determine if a responder's positive CFT test is more likely due to *M. bovis* or *M. avium*. Only certified state and federal regulatory veterinarians conduct the CCT test. A CCT test must be conducted within 10 days or after 60 days of the initial CFT test.

The veterinarian clips two areas of the neck, measures the skin thickness with calipers, and intradermally injects bovine PPD and avian PPD. Responses at the injection site are evaluated and measured 72 hours after the injections. The differences in pre and post test skin thickness determine the test result.

The CCT test is used to classify cattle as negative, suspect or reactors. CCT suspect animals either remain under quarantine for retest in 60 days, or are examined for lesions at postmortem. CCT test reactor animals are examined for lesions at post mortem.

TB Testing Summary

1. Caudal Fold Tuberculin Test:
 - a. Screening test
 - b. One injection in the caudal fold
 - c. Read 72 +/- 6 hours later
 - d. If negative, no further action is required
 - e. If positive, the animal is classified as a responder and requires further testing.
2. Comparative Cervical Tuberculin Test or Gamma Interferon Test:
 - a. Confirmatory tests
 - b. CCT test - injections in the skin of the neck with bovine PPD and avian PPD, and read 72 hours later. Gamma Interferon Test is a blood test.
 - o If negative – no further action
 - o If reactor – euthanize, necropsy and post mortem testing
 - o If suspect – option of euthanize, necropsy and post mortem testing or remain under herd quarantine for repeat confirmatory testing.

CDFA Animal Health Branch Offices	
Sacramento (HQ)	916-654-1447
Modesto	209-491-9350
Ontario	909-947-4462
Redding	530-225-2140
Tulare	559-685-3500
Fresno – TB Task Force	559-271-3600
USDA/APHIS/VS 916-854-3950 or 877-741-3690	