

Bovine Leukemia Virus Assays

The USDA estimates that Bovine Leukemia Virus (BLV) has infected 38% of all beef herds and up to 94% of all dairy herds in the United States, with approximately 45% of all dairy cows infected. Taking action against BLV can improve overall herd health and profitability. Bovine leukosis, caused by BLV infection, is a complicated disease and eradication needs to be a multi-pronged approach.

While most animals show no outward signs or symptoms of BLV, cows with advanced disease can develop lymphomas that lead to death or condemnation at slaughter. Even before it reaches that stage, BLV is affecting herd performance and profitability.



BLV-positive cows with higher ELISA values:

- Have lower predicted 305-day mature equivalent milk yields
- Are less likely to stay in the herd
- Reside on farms with higher herd prevalence, which is strongly associated with:
 - ✓ Lower 12-month rolling herd average
 - ✓ Reduced likelihood of having 3+ lactation cows

Test purpose

- ELISA
Determine BLV infection status of animal by presence of specific antibodies.
- PCR
Determine proviral load (PVL) or relative concentration of BLV in animals, which identifies “super-shedders.”

Use on

- Dairy and beef cows, heifers, and calves.
ELISA – calves must be at least three months of age.
PCR – any age.

Sample types

- ELISA
Milk (fresh, frozen, preserved, or hand-stripped).
Serum (red top tube).
- PCR
Whole Blood ONLY (purple top tube).

Results

- ELISA
Available within five business days of sample receipt.
Reported as Positive, Negative, or Suspect.
- PCR
Available within 10 business days of sample receipt.
Reported as High, Moderate, Low, or Undetected with numeric value indicating the number of BLV copies per white blood cell.

BLV affects how the immune system works:

- Reduces ability to fight off other infections
- Influences ability to respond to routine vaccination
- Compromises ability to respond to new antigens not previously encountered

Testing strategy

- Start with a “Herd Profile” test.
 1. Collect milk samples from the 40 freshest cows (10 animals from 1st, 2nd, 3rd and 4+ lactations.)
 2. Ask DHI Specialist to collect samples during routine DHI test or submit samples direct to the lab.
 3. Within 10 days of sample submission receive a BLV herd index and recommendations followed by a phone consultation to discuss strategies.
- Not on DHI test, collect samples and send with submission form to:

*CentralStar Wisconsin Lab, 200 East Kelso
Road Kaukauna, WI 54130*

*CentralStar Michigan Lab, 1163 Comet Lane
- Suite 100 Grand Ledge, MI 48837*

Sample
Submission Form



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