

Diagnostics Reference Guide

A Resource For Your Success



Armor Veterinary Services
800.255.1181 | pharmacy@armorah.com
armoranimalhealth.com

Your path to precision animal health testing, resources and treatment.



Right Tests

Get the information, tests and precise diagnosis to make the right treatment decisions.



Right Team

Access our team of experts that have extensive experience treating your herd's specific issue.



Right Treatment

Work with your Armor vet team to decide on the best treatment plan and REDUCE treatment costs!

A large, 3D graphic of a road that forms an upward-pointing arrow. The road is dark asphalt with a yellow dashed line down the center. The words 'THE RIGHT TRACK!' are written in large, white, 3D block letters across the bottom of the arrow.

THE RIGHT TRACK!

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Mastitis and Somatic Cell Count

On-Farm Testing Options



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Why Test? A simple culturing system for use on-farm allows you to make informed treatment decisions and reduce your treatment costs.

- Decrease antibiotic use
 - *Typically only 40% of cases benefit from antibiotic use
- Reduce treatment costs
- Decrease days of milk discarded
- Reduce the risk of residue violation
- Get quick results, in as little as 3 hours
- Increase treatment success

Milk Culture Supplies

NEW!

AccuMast™

- On-farm mastitis diagnostic tool, utilizes color to identify all of the treatable mastitis pathogens in as little as 16 hours.
- Saves you time and money by making selective therapy a reality, significantly reducing the cost of mastitis and improving cure rates and overall cow health and profitability.
- Available in 4 plates/pk.



AccuStaph™

- Incredibly accurate, cost-effective tool to detect the contagious cows with *Staphylococcus aureus*, the most costly form of mastitis.
- Found 99% sensitive by multiple independent studies with NO additional testing.
- Proprietary media combined with the color coding makes it foolproof to detect chronic cows with mixed infections that otherwise often go undetected as staph cows.
- Differentiates new staph infections from chronic cows.
- Available in 4 plates/pk and each plate is designed to test 4 different samples.



Mastitis and Somatic Cell Count



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On-Farm Testing Options

Minnesota Easy Culture System™



Simple, easy-to-use culturing system for use on-farm. In as little as 24 hours, you can now have culture results to make informed treatment decisions and reduce treatment costs. Easy-to-learn and easy-to-use

system requires only basic, low-cost equipment.

Armor Animal Health offers a kit to get you started and the supplies to re-order.

Kit includes:

- Milk-collection Sample Vial
30 mL



- Culture plates

The media has a shelf life of roughly 5 weeks. Must be kept refrigerated.

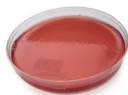
Bi-Plate

Gram (+) or gram (-) bacteria
15 ct



Tri-Plate

Gram (+), gram (-) or
Streptococcus bacteria
15 ct



Factor Plate

Gram (+) bacteria
15 ct

MacConkey Plate

Gram (-) bacteria
10 ct

MTKT Plate

Streptococcus species
15 ct

- Cotton-Tipped Applicators
Sterile. Single tipped. 6" long.
Available in 2 swabs/pack, 200 ct box,
100 ct box and 2400 ct box (non-Sterile)



- Inoculating Loops
Used to streak sample on culture
plate. 25/bag.



- Incubator

Hova-Bator Incubator

Economical and reliable. The
radiant heat tube gently warms
and keeps air flowing. Incubate
plate for 18 hours at 98°F.



Quincy Lab Incubator

A compact, inexpensive,
and reliable incubator that is
perfect for incubating cultures.



- Laboratory handbook - "Easy Culture"
Free lab manual intended to help you
perform simple analysis procedures on milk
samples.

CMT Test™

Used for the early detection of bovine mastitis. Accurate and inexpensive test used at cowside with instant results. Developed for estimating the somatic cell count of milk.

Complete Kit (Paddle and Solution)

1 Pint Refill Concentrate Solution

Regular Test Paddle



CMT X-Spurt Paddle™

This paddle makes CMT testing a fast and efficient one-hand operation instead of a tedious time-consuming procedure. The X-Spurt bottle holds the reagent and also acts as a handle. With one squeeze, equal amounts of reagent enter all four cups at the same time.

White or Blue



Mas-D-Tec™ by Udder Comfort

An electronic, hand-held, conductivity meter that measures milk to identify subclinical mastitis in each individual quarter of cow. Reads results immediately.



PortaSCC Milk Test™

Detects subclinical mastitis early and affordably in cows. Includes: test strips, insert, color chart, blanking strip, reusable transfer pipettes and bottle of activator solution.

Available in 24 Tests or 100 Tests
Digital Readers are sold separately.



PortaSCC Quick Milk Test™

Includes: test strips, insert, color chart, 10 reusable transfer pipettes and 1 bottle of quick activator solution. Results in only 5 minutes.
40 Tests



Residue Tests

On-Farm Testing Options



Why Test? Aid your dairy in limiting the risks associated with antibiotic treatments. By working to reduce drug residue violations, we can also increase consumer confidence in our food products.

Delvotest SP-NT™

The gold standard test when checking for antibiotic residues in milk. No tablet required. Results in 3 hours. For bulk and individual. 25 or 100 test kit.



Snap Test - Beta-Lactam™ by Idexx

Bulk tank milk screening tests provide you with a quick and relatively inexpensive method for identifying a tank of milk that contains antibiotic residues above safe limits. This test screens for B-lactams. Read results in 6 minutes. 20 test kit.



Meatsafe Test™

One-step, Meatsafe B-Lactam is a rapid drug residue screen test for live animals. For use with urine from cattle. Results in 10 minutes. 10 ct kit.



Class	Product	Delvotest	Snap Test	Meatsafe
amoxicillin	Amoxi-Mast	x	x	x
ampicillin	Polyflex, Ampicillin	x	x	x
ceftiofur	Excede, Excenel, Spectramast DC, Spectramast LC, Ceftiflex, Naxcel		x	
cephapirin	Today, Tomorrow	x	x	
cloxacillin	Dry-Clox, Orbenin-DC, Dariclox			x
hetacillin	PolyMast			x
oxytetracycline	Agrimycin 200, Bio-Mycin 200, LA-200, Oxytet 200, Vetrinycin 200	x		
penicillin	Masti-Clear, Agri-Cillin, Norocillin, Pen-Aqueous, Penicillin injectable		x	
pirlimycin	Pirsue	x		
teracycline	no tetracyclines except oxytetracycline are approved for lactating cattle, but some vets will allow extralabel use of Tetsol 324	x		

Ketosis Tests

On-Farm Testing Options



Why Test? Elevated levels of BHBA in the blood may be an indicator of post-partum Ketosis, often due to a decreased appetite around freshening. Screen your herd for subclinical and clinical ketosis to identify best management practice choices. Prevention of ketosis is key to avoid a decrease in milk yield, additional diseases and a higher probability of culling.

Keto-Test™

Test strips used to test milk ketone levels. Dip single test strip for 3 seconds into small quantity of fresh milk. Keep refrigerated. 20/Box.



Ketochek Powder™

Ketosis test powder to detect for ketones in the milk or urine. 20 or 50 g.



Ketone Urine Strips™

Urine reagent "dip and read" test strips for screening for ketosis. 100/Box.



Ketostix™

Test strips used to test the urine of cows suspected of having ketosis. 100 ct.



Nova Vet Blood Ketone/Glucose Meter & Test Strips™

For detecting subclinical ketosis, on a tiny drop of blood in just 10 seconds.



PortaBHB Blood Ketone Test Meter & Test Strips™

An accurate test that uses one drop of blood to provide quantitative results in 5 seconds.



PortaBHB Ketone Test Strips™

Simply dip test strip in milk and read. 25 ct or 100 ct



Colostrum Tests

On-Farm Testing Options



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Why Test? Natural maternal colostrum is always considered the best choice, but there is some added work involved. Fresh colostrum should be checked prior to each feeding to ensure each calf is receiving high quality colostrum to prevent failure of passive transfer (FPT).

Digital Refractometer™ - Palm Abbe 201

Includes Brix scale 0 to 56 only. Check quality of colostrum with Brix scale. Refractometer is fast, convenient and easy to use. Simply place a drop or two of milk in the titanium well and press a button. The custom-designed microprocessor delivers a nearly instantaneous readout in degrees Brix. The user interface consists of two buttons, one to take readings and the other to step through various menu options. Calibration is automatic and does not require the use of special calibration solutions or tools. The refractometer automatically calibrates itself to water and is ready to use in seconds. Cases are sold separately.



Colostrometer with Flask™

A practical method for the rapid determination of colostrum quality prior to feeding a newborn calf to ensure the successful transfer of immunity.



Total Protein Tests

On-Farm Testing Options



Why Test? When calves do not get enough IgG at birth, this leads to a weaker immune system putting the calf at an increased risk of disease and death. To ensure calves are absorbing antibodies (IgG), blood can be taken from young animals and screened.

Refractometer™ by Westover Scientific

A high-quality clinical hand-held refractometer for quick and accurate serum total protein measurements. An indication of antibody status and colostrum absorption in the baby calf. Adjustable focus. Temperature compensated. Comes with protective case.



Digital Refractometer™ - Palm Abbe 202x

Includes Brix scale 0 to 56 AND Total Protein scale. Used for checking quality of colostrum, as well as Total Protein for evaluating failure of passive transfer. The refractometer is fast, convenient and easy to use. Automatically calibrates itself to water and is ready to use in seconds. Cases are sold separately.



Pregnancy Tests

Lab Testing Services



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Why Test? Testing is a simple way to help control diseases in your herd.

Draw on the support of industry professionals. They can do the heavy lifting ensuring accurate results from an accessible lab.



EarlyPreg28 - Blood Pregnancy Test

Designed to detect pregnancy in cattle, sheep, goats and buffalo as early as 28 days post-insemination without invasive palpation.

Testing Method:

- ELISA screening method



Why Test?

- Accurate results 28 days post-breeding
- Convenient and versatile, allowing you to schedule pregnancy testing when it fits your schedule
- Cost-effective and efficient way to identify open animals to re-breed on next cycle
- Noninvasive and embryo safe, reducing the risk of damaging a pregnancy and causing embryo loss

EasyPreg - Milk Pregnancy Test

Designed to confirm or detect pregnancy in cattle or goats as early as 28 days post-insemination without invasive palpation.

Testing Method:

- ELISA screening method



Why Test?

- Convenient, efficient and low stress
- Take milk samples from animals; no needle or special training required
- Schedule testing when it is right for you and the animals
- Dry-off checks can easily be taken before milking
- Take samples daily to reduce days open
- Milk sample can be fresh, frozen or preserved



Bovine Leukosis Virus (BLV)



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What is BLV?

- Bovine Leukemia Virus
- Mainly affects the white blood cells and causes inflammation and dysfunction in lymph nodes throughout the body

Prevalence:

- 88.5% of dairy herds and 38.7% of beef herds are infected with BLV¹

Testing Method - Bulk Tank, Individual Milk or Blood

- ELISA screening method

Why Test?

- Increased cow longevity
- BLV-negative cows have higher milk production than BLV-positive cows
- BLV-positive cows should not be sold as breeding stock



Bovine Viral Diarrhea (BVD)

Lab Testing Services

What is BVD?

- Common viral disease of cattle
- Dairies can experience an **annual loss of \$54 per cow** where a persistently infected (PI) animal is present¹
- Eradication of this virus is difficult as PI calves often survive while appearing healthy

Prevalence:

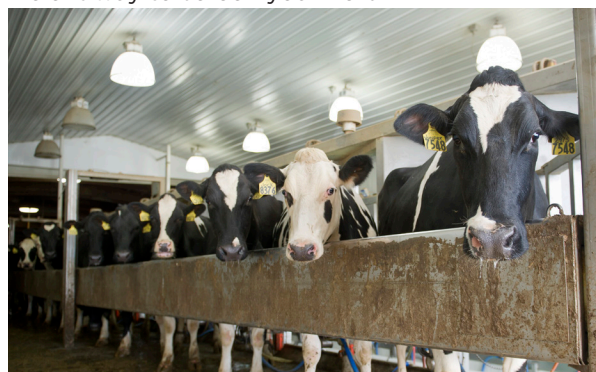
- BVD was present in bulk tanks in 12.5% of dairies with over 500 head and 3.5% of dairies with 100-499 head²
- Current data suggests PIs are present in 10-25% of U.S. herds, depending on region²

Testing Method - Bulk Tank or Individual (Ear Notch, Milk or Blood Test)

- PCR screening method
- If a positive bulk tank is detected, producers can utilize string testing or individual sampling

Why Test?

- Testing your bulk tank for BVD is an inexpensive and efficient way to screen your herd
- Individually testing and identifying newborn calves as BVD PI allows you to make the decision to cull PI animals early
- Early identification of BVD PI animals decreases levels of disease, treatment costs and raising expenses



¹USDA National Animal Health Monitoring Survey 1996

²NAHMS 2007 Study

Johne's Test

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What is Johne's Disease?

- An incurable wasting disease affecting the intestinal tract of livestock, **costing producers \$24 per cow¹ annually**

Prevalence:

- One in 10 animals moving through livestock auction facilities has Johne's Disease¹
- Eight out of 100 U.S. beef herds are estimated to be infected with Johne's Disease¹

Testing Method - Bulk Tank or Individual Milk

- ELISA screening method



Why Test?

- Identifying Johne's cows allows farmers to make management decisions regarding a cow's future (DNB, no treatment, cull)
- Identifying Johne's-positive cows prior to calving allows a farmer to plan for colostrum management to protect the calf at freshening
- Testing your bulk tank for Johne's is an inexpensive and efficient way to screen your herd for the presence of this bacterial infection

¹ USDA National Animal Health Monitoring Survey 1996



Mastitis Profiling

Lab Testing Services

This DNA technology provides a solution for mastitis identification with high accuracy and quick results.

In approximately 20-50% of bovine milk samples taken from animals with clinical mastitis, no bacterial growth can be detected using conventional culturing.

Testing Method - Individual, Pooled Samples Screening or Bulk Tank

- PCR technology locates the organism's DNA and requires only a small amount of pathogen DNA, dead or alive, for identification
- Testing can be performed for contagious and/or environmental pathogens



Why Test?

- Identify sources of mastitis in cows already being treated
- Decrease test time from 2 - 10 days (conventional culturing) to 1 - 2 days from when the lab receives the sample
- Fresh, frozen, preserved or treated milk may be used

Contagious Pathogens	Environmental Pathogens
Staph aureus	Coliforms <ul style="list-style-type: none">E. coliKlebsiella sppEnterobacter
Mycoplasma bovis	Streptococcal species <ul style="list-style-type: none">S. uberisS. dysgalactiae
Strep agalactiae	Pseudomonas species



Sample Collection & Supplies



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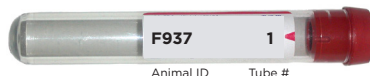
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Lab Testing Services

Blood

1. Write tube number and individual animal ID on tube
2. Collect sample
3. Refrigerate blood prior to shipment.
If sample is serum only, freeze prior to shipment



Individual Milk

1. Write date, owner/farm name and individual animal ID on label
2. Collect 10 mL of milk in vial with preservative tablet
3. Place label on clean, dry vial
4. Freeze sample(s) prior to shipment



Date
Farm Name
Animal ID
Sample #

Test Type	Sample Required		
	Blood	Milk	Ear Notch
BLV	X	X	
BVL Bulk		X	
BVD Bulk		X	
BVD Individual	X	X	X
EarlyPreg28	X		
EasyPreg		X	
Johne's Bulk		X	
Johne's Individual	X	X	
Mastitis Profiling Big 16		X	
Mastitis Profiling Contagious 3		X	

Bulk Tank

1. Write date, owner/farm name and # of animals on label - if multiple samples, identify tank # on label
2. Collect 30 mL of milk in each vial with preservative tablet (50 mL needed to run bulk test)
3. Place label on clean, dry vial
4. Freeze sample(s) prior to shipment

Ear Notch

1. Write tube number and individual animal ID on tube
2. Collect small ear notch, place in dry tube. (Do not place in formalin or PBS). Be consistent where the notch is taken
3. Notch can be handled with bare hand to place in tube. Keep notch free of all tattoo ink. NOTE: Ear punch may be used
4. Keep notchers clean and free of blood and hair buildup
5. When disinfecting between animals, rinse notcher in mild disinfectant after notching and rinse again in clean water prior to taking notch from next animal
6. Place collected samples in a cooler with ice packs or in freezer prior to shipment
7. Samples can be frozen right after collection and should be tested within 30 days



Approx. size of notch



BLOOD COLLECTION

Blood Tubes-Red* by Kendall

No additives. For laboratory procedures requiring serum - general chemistry and serology procedures.

Available in 3 mL, 5 mL, 7 mL, 10 mL - Box/100

*Also used for ear notch collection.



Pipette - Plastic Transfer

Polyethylene transfer pipette for routine sampling of serum, blood and other biological fluids. Nonsterile, 3.5 mL pipette is graduated in 0.5 mL increments from 0 to 3.5 mL.

1.7 mL - Box/50

3.5 mL - Box/500



Vacutainer Tube Holder

Translucent polypropylene. Simplifies drawing blood. Guides the placement of blood collection tube onto collection needle.

Vacutainer Needle

20 X 1 - Box/100

EAR NOTCH COLLECTION

Ear Notcher

Cuts "V" cleanly for quick, efficient ear markings. Size of notch can be varied by using the tip of the die at desired depth.

Small or Med



Ear Punch

Lightweight aluminum with case-hardened 1/4" steel punch designed for punching further into the ear. Useful for obtaining skin plugs to test cattle for BVD-PI.



MILK COLLECTION

Milk Vials

Used to collect milk, fecal and urine samples for testing purposes.

10 pk - 11 mL

30 mL



Milk Vials w/ Preservation Tablets

Milk vials used to collect samples for individual BVD, Johne's and EasyPregnancy Tests.

10 pk - 11 mL

2 pk - 30 mL

Shipping Pack - Small

- Holds up to 12 - 5 mL red top tubes OR 10 - 11 mL milk vials
- Small Box w/ Postage
- Biohazard Bag
- 2 - 3oz ice pack
- Instructions/submission form
- Bubble wrap

Shipping Pack - Medium

- Holds up to 100 - 5 mL red top tubes OR 100 - 11 mL milk vials
- Medium Box w/ Postage
- 2 Sample Bags
- 2 - 12 oz Ice Pack
- Instructions/submission form
- Insulated Pouch

Shipping Pack - Large

- Holds up to 200 5 mL Red top tubes OR 150 - 11 mL milk vials
- Large Box w/ Postage
- 3 Sample Bags
- 4 - 12 oz Ice Pack
- Instructions/submission form
- Insulated Pouch



Client Information Submission Form

Armor Animal Health Account #: _____

Farm Name: _____

Contact Name: _____

Office Phone: () _____ Mobile Phone: () _____

Operation Type: (check one) ☐ Dairy ☐ Heifer Grower ☐ Cow-calf ☐ Beef/Feedlot

Sample Submission Information

Type of Sample(s) Submitted:

☐ Blood ☐ Milk ☐ Ear Notch
☐ Commingled Samples (only for Bulk Tests)

Test(s) Information:

Test Requested (check all that apply)	Test Type	Required Sample to Run Test			# of Samples <i>See back for data entry.</i>
		Blood	Milk	Ear Notch	
	Bovine Leukosis Virus (BLV) Individual	X	X		
	Bovine Leukosis Virus (BLV) Bulk		X		
	Bovine Viral Diarrhea (BVD) Individual	X	X	X	
	Bovine Viral Diarrhea (BVD) Bulk		X		
	Johne's Individual Test	X	X		
	Johne's Bulk		X		
	EasyPreg		X		
	Early Preg28	X			
	Mastitis Profiling Big 16		X		
	Mastitis Profiling Contagious 3		X		
	Neospora	X			

Note: BVD Bulk, BLV Bulk and Johne's Bulk can all be run on the same commingled bulk milk sample.
 Johne's Individual and EasyPreg can both be run on the same individual milk sample.

Results will be emailed or faxed to you the next business day after samples are received.

Send Results: (check all that apply)

Client: ☐ Your Office Fax #: () _____

☐ Your E-mail Address: _____

Veterinarian: ☐ Veterinarian E-mail Address: _____

☐ Veterinarian Fax #: () _____

Armor: ☒ Email labreports@armorah.com

Packaging/Shipping of Samples

- Complete submission form and Sample Submission log on back.
- Place clean samples in biohazard ziplock bag or plastic bag.
- Place ice packs on ALL ear notch and blood samples. Milk with preservation tablet does NOT require ice while in transit.
- Wrap samples and ice pack (if applicable) in bubble wrap, or insulated pouch. Secure well to avoid broken vials.
- Construct box, size dependent on amount of samples being shipped.
- Put wrapped samples in box. Do not over fill.
- Include submission form in box.
- Seal box.
- Put box in outgoing mail with the United States Postal Service.

****To assure quality samples arrive at the lab only send samples on Monday or Tuesday.****

Ship to:

Armor Animal Health
 6040 North Cutter Circle, Ste. 317
 Portland, OR 97217



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Sample Submission Form

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