QSCOUT® MLD SCOUT INFECTION.

Advanced Animal Diagnostics
Information that counts®

Expose hidden mastitis in your herd with QScout® Farm Lab

Diagnose subclinical mastitis during early lactation to gain up to $250 per infected cow

Undetectable to the naked eye, subclinical mastitis is often missed, yet it diminishes milk production, milk quality and reproductive performance, and threatens herd health.

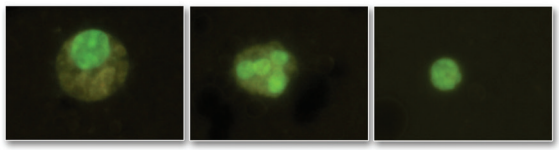
Challenge mastitis with a new breed of on-farm diagnostics

QScout® Farm Lab, a portable diagnostic analyzer, brings the fastest, most reliable diagnostics to the farm. It reads the QScout® MLD (milk leukocyte differential) test, accurately detecting subclinical mastitis in individual quarters in just minutes per cow. With the autoloader feature, the Farm Lab reads up to 20 MLD slides without supervision.

Identify infection by quarter

Modeled after blood leukocyte differential tests routinely used in humans and companion animals, QScout MLD identifies and differentiates leukocytes (white blood cells) in milk. Each of the three leukocyte types (described and shown in Figure 1) plays a key role in fighting infection.

Figure 1. *Fluorescent imaging differentiates leukocyte types.*



The immune system's first responders: Lymphocytes and macrophages scout for pathogens; neutrophils fight infection by releasing enzymes that kill bacteria; and, macrophages engulf and digest cellular debris and pathogens.

QScout MLD accurately measures the immune response to mastitis and gauges the severity of the infection rather than relying on culture results, which are prone to contamination and difficult to interpret. Unlike SCC, a relatively crude estimation of immune system status based on a composite milk sample, QScout MLD looks at each quarter individually for elevated cell types and cell type ratios that indicate infection.

Prompt diagnosis pays

Impact of testing and treatment during early lactation

Hidden udder infections inhibit your herd's milk production, while shrinking your bottom line. Diagnosing and curing subclinical infections early provides dairy producers with a positive ROI through increased milk production, boosted milk quality and enhanced reproductive performance.

In early lactation trials, cows that tested positive for subclinical mastitis based on QScout MLD diagnosis were split into "treat" and "no treatment" groups. **Cows diagnosed with subclinical mastitis by QScout® MLD that were treated had 1,325 pounds more 305 day ME milk and 115,000 fewer SCC/mL** over the non-treated group (Figures 2 and 3).[1]

Added benefits realized

Healthier cows leads to better reproductive performance. Research data shows that addressing subclinical mastitis in early lactation improves reproduction results. Cows testing positive for subclinical mastitis and given follow-up treatment resulted in **18% fewer services per conception and 14 fewer days open** compared to the no-treatment group, saving producers up to $84* per cow.

Information that counts

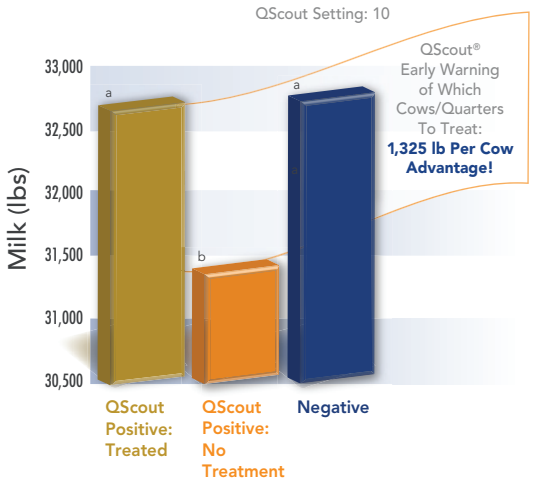
With each test performed, individual cow health data are collected and tracked in QStats. While treatment lists can be printed or downloaded directly from QScout Farm Lab, test analyses and historical reports are stored and accessible with an online QStats portal. QStats empowers better decision making and smart herd management strategies.

Economic Benefits of QScout MLD

	Per cow	1,000-cow dairy	5,000-cow dairy
Milk Improvement	**$185**	**$27,794**	**$138,968**
SCC Premium*	$58	$8,700	$43,500
Reduced Days Open Savings	$84	$12,600	$63,000
Total Revenue	$327	$49,094	$245,468
Total Investment**	$77	$15,854	$79,270
Total Return on Investment	$250	$33,240	$166,198

*Average premium based on reducing SCC 115,000/treated cow; 15% herd infection rate
**Antibiotic for 1.5 infected quarters/cow ($14.40); withheld milk 69 lb/day at $14/cwt ($57.96); QScout MLD ($5.00). Total investment does not include cost of QScout Farm Lab.

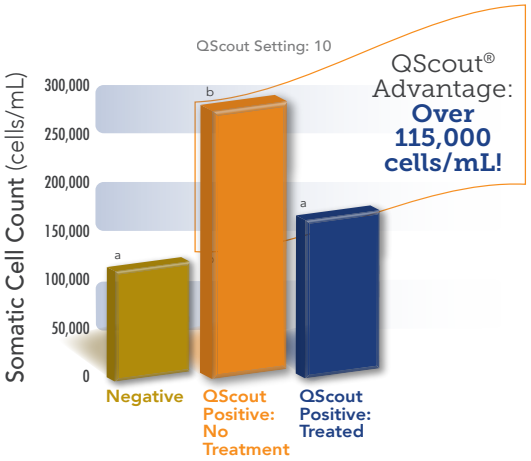
Figure 2. *Treating subclinical mastitis presents a milk production advantage.*



a,b Values with different letters differ, P = 0.0010 November, 2014 DHIA

**Trial results represent milk production data from cows diagnosed positive for subclinical mastitis at QScout setting 10, or those that are most likely to respond to treatment. Cows diagnosed at settings 17-18 are severe cases, and should be cultured to identify the infection-causing pathogen.

Figure 3. *Cows treated for subclinical mastitis showed significantly improved milk quality.*



a,b Values with different letters differ, P<0.0001 November, 2014 DHIA update

Trial results showed a reduction in SCC for all cows tested positive using QScout setting 10.

*Cost of a day open (cow not pregnant) past 100 DIM is estimated at $4-8/day.

Hockett, M. 2014. Early lactation on-farm trials. In: Proc. 54th National Mastitis Council Annual Meeting, Memphis, TN. p. 239-240

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