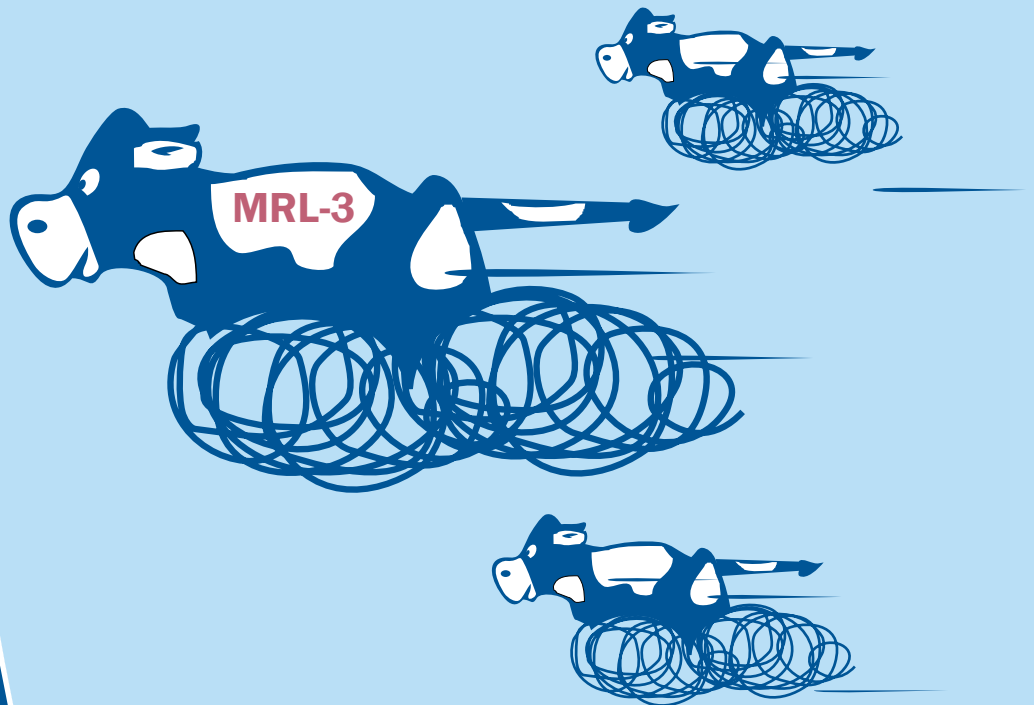


The Charm ROSA[®] MRL-3 (3 minute test)



THE WORLD'S FASTEST ANTIBIOTIC TEST

ROSA[®] MRL-3 test

MRL-3, A NEW BENCHMARK IN MILK QUALITY PROGRAMS

Using accepted ROSA technology, Charm Sciences has launched a revolutionary 3 minute milk test for beta-lactam antibiotics. **MRL-3** provides two results in three minutes: beta-lactams and cloxacillin.

Speed, sensitivity at EU/Codex Maximum Residue Limits (MRLs) and precision are combined in a simple 1 step test. This ensures the dairy industry lower operating costs by receiving milk faster, moving tankers more quickly, and expediting production of a safe, wholesome and quality product.

Speed, sensitivity and simplicity... all rolled into one test strip, the **MRL-3**.

- › **Allows processors to data capture MRL-3 Reader results in real time**
- › **Provides presumptive identification for the presence of Cloxacillin**
- › **Requires minimal equipment**
- › **Frees up operator's time**
- › **Allows producers to screen cow and bulk tank samples more quickly**

LIMITS AND DETECTION LEVELS

Antibiotic Drug	EU / Codex MRL (ppb)	Detection Level Range (ppb)
Amoxicillin	4	4 - 5
Ampicillin	4	3 - 5
Cefacetile	125	8 - 18
Cefalexin	100	15 - 30
Cefalonium	20	3 - 6
Cefazolin	50	12 - 20
Cefoperazone	50	5 - 9
Cefquinome	20	15 - 25
Ceftiofur and Metabolite*	100	10 - 20
Cefuroxime	50	3 - 5
Cephapirin	60	6 - 10
Cloxacillin	30	20 - 30
Dicloxacillin	30	15 - 25
Penicillin G	4	2 - 3

*Ceftiofur parent drug sensitivity is at levels approximately ¼ those reported in the table.

MRL-3



Rapid One Step Assay

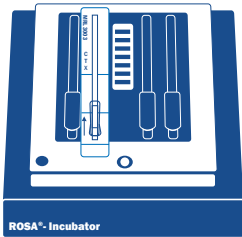
ROSA RAPID ONE STEP ASSAY



Lateral Flow Strip

➤ Add milk

and



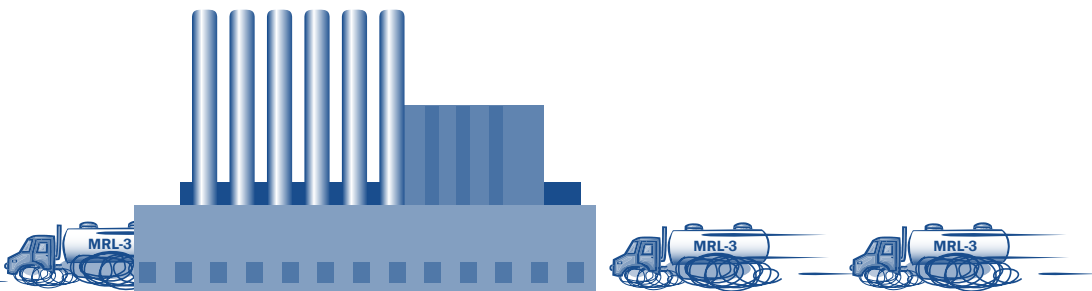
ROSA® Incubator

➤ incubate.



ROSA® Reader

➤ Read.



EQUIPMENT & REAGENTS

› The Charm ROSA® Reader is a portable hand held instrument designed to electronically read results from ROSA lateral flow test strips.



ROSA® Reader

- › Results in just 5 seconds
- › Download to printer or computer
- › Stores 4500 data points
- › Records sample ID, test type, operator ID, date, time, lot number, reading and result interpretation; sorts data by performance controls

› The Charm ROSA® Incubators (Dual and Quad)



Quad Incubator



Dual Incubator

- › Self timing with indicator lights/beeper
- › Auto Start when lid closed
- › Auto Reset when lid opened
- › Count down timer display (Quad incubator only)

› The Charm ROSA® MRL-3 Reagents



ROSA® MRL-3 Test KIT

- › LF-MRL3-100
1 container of 100 MRL-3 test strips including 4 ppb Penicillin G/30 ppb Cloxacillin Positive Tablet Controls
- › LF-MRL3-500
5 containers of 100 MRL-3 test strips including 4 ppb Penicillin G/30 ppb Cloxacillin Positive Tablet Controls

ABOUT ROSA® TECHNOLOGY

Introduced in 1999, Charm's ROSA® lateral flow test strips and readers are the leading diagnostic tests employed by the dairy industry worldwide to screen for antibiotics and aflatoxins.

ABOUT CHARM SCIENCES, INC.

Charm Sciences, Inc., a world-renowned manufacturer of food safety monitoring tests and equipment was founded in 1978. The Company continually develops innovative, reliable testing methods. Charm Sciences corporate offices are in Lawrence, Massachusetts.



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