

Minnesota Easy Culture System II



Quality Milk
Production Services

UNIVERSITY OF MINNESOTA



Quality Milk Production Services
NYS Animal Health Diagnostic Laboratory
34 Cornell Drive
Canton, NY 13617

The Quality Milk Production Services (QMPS) and the University of Minnesota Udder Health Laboratory have reached an agreement whereby QMPS will distribute supplies, and provide technical support for the Easy Culture II System in the Northeast. This system consists of culture plates (Bi-plates and Triplates) and a manual that explains their use and interpretation.

This service is intended to help you perform some relatively simple microbiological analysis procedures at your farm or veterinary clinic. It is not intended to replace a high quality diagnostic laboratory or identify all organisms that may be present in the sample.

The Bi-plate system is intended to identify a quarter as infected with Gram-positive or Gram-negative organisms, but some further presumptive identification may be possible.

The Tri-plate system is intended to give more complete identification of organisms causing the problem by including an additional media. Both systems require an incubator and sterile, cotton tipped swabs and are designed to be used on quarter milk samples only. Optional materials needed to further identify microorganisms include:

- Microscope and slides
- Hydrogen Peroxide
- Flat toothpicks
- Rabbit (coagulase) plasma

Culture results can provide you with valuable decision making information. Identifying infections early will facilitate treatment decisions and allow management changes that will have the greatest impact resulting in fewer new infections. Generally, reducing and/or preventing new infections will depend on appropriate milking procedures, cow (dry and milking) comfort and housing, heifer rearing and appropriate dry cow management. It is recommended that you and your veterinarian review all culture results and decide what mastitis management strategy is appropriate for your herd.

Easy Culture II plates and manuals, as well as other laboratory supplies can be ordered through any QMPS laboratory. Quality Milk personnel are also available to provide technical support for any of the materials they distribute. This includes: training in their use, confirmation and interpretation of culture results and a Laboratory Proficiency Testing program.

Northern Laboratory	Central Laboratory	Western Laboratory	Eastern Laboratory
34 Cornell Drive SUNY Canton Canton, NY 13617 315-379-3930	22 Thornwood Drive Park View Tech Center Ithaca, NY 14850 607-255-8202	4530 Millennium Drive Geneseo, NY 14454 585-243-1780	111 Schenectady Ave B4 Wheeler Hall-SUNY Cobleskill, NY 12043 518-255-5681



Bi-plate



Tri-plate

Factor Plate

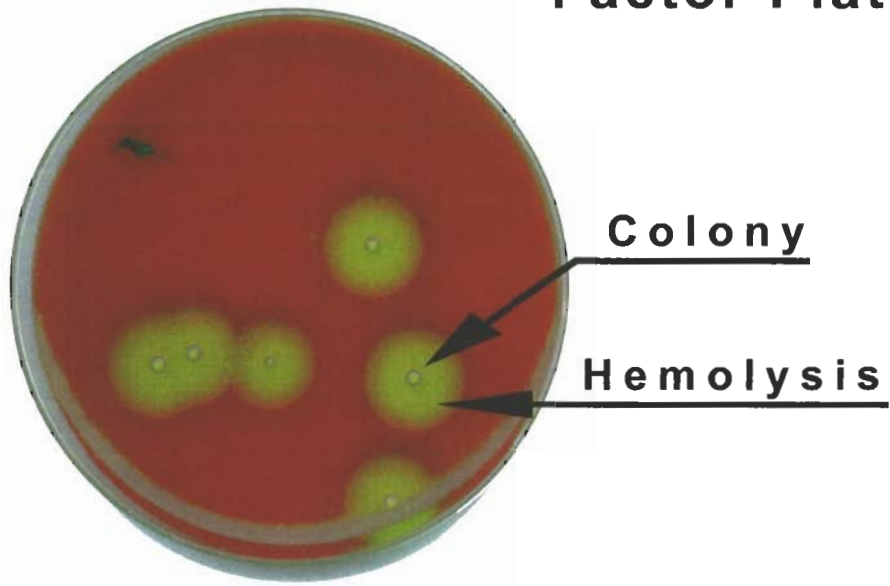


Figure 1- *Staph. aureus*

Figure 1a: Coagulase Negative



Figure 1b: Coagulase Positive

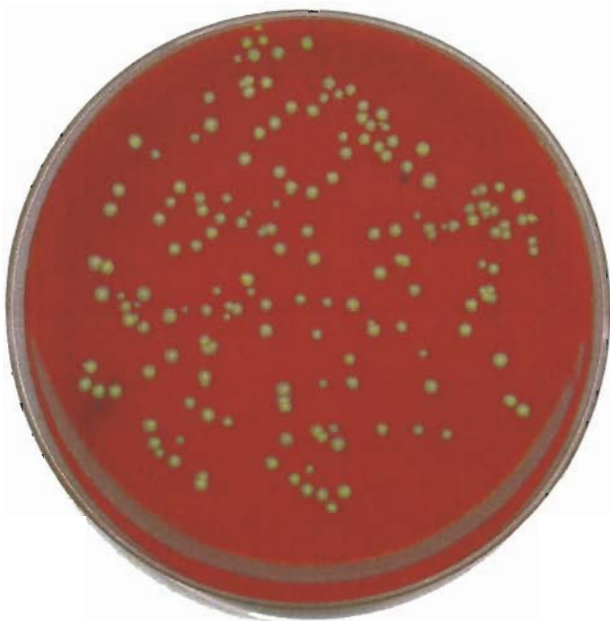
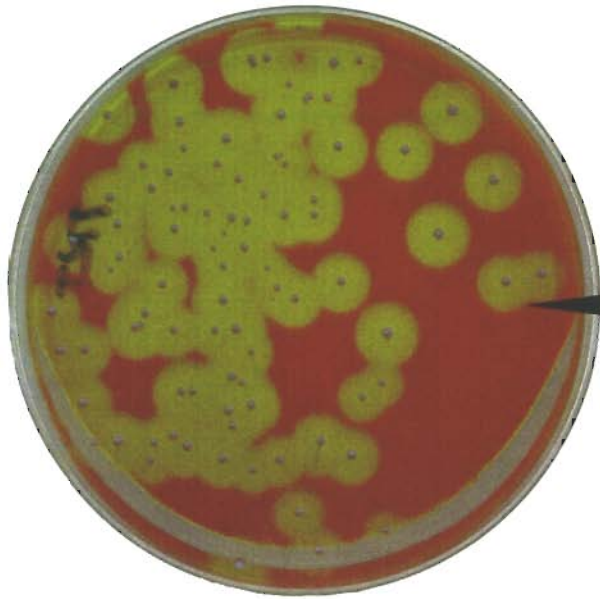


Figure 2- *Staph. species*



Modified TKT Plate

Hemolysis

Figure 3- *Strep. agalactiae*

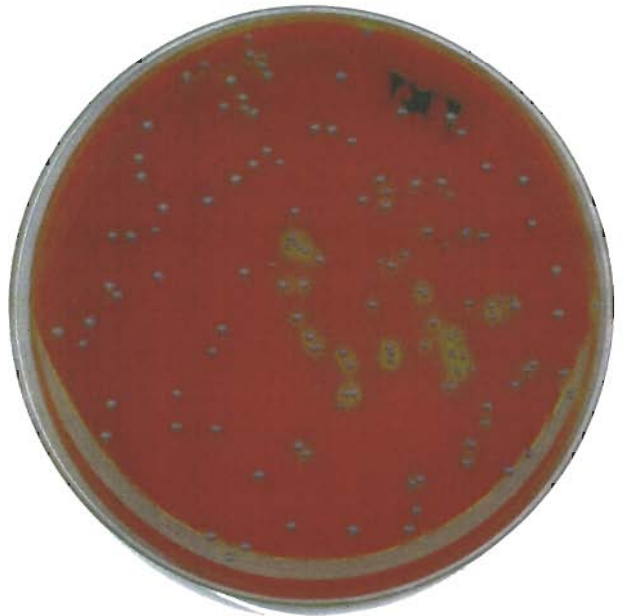


Figure 4- *Strep. dysgalactiae*



Dark around colony

**Figure 5-
*Enterococcus, Strep. uberis***

Modified TKT Plate

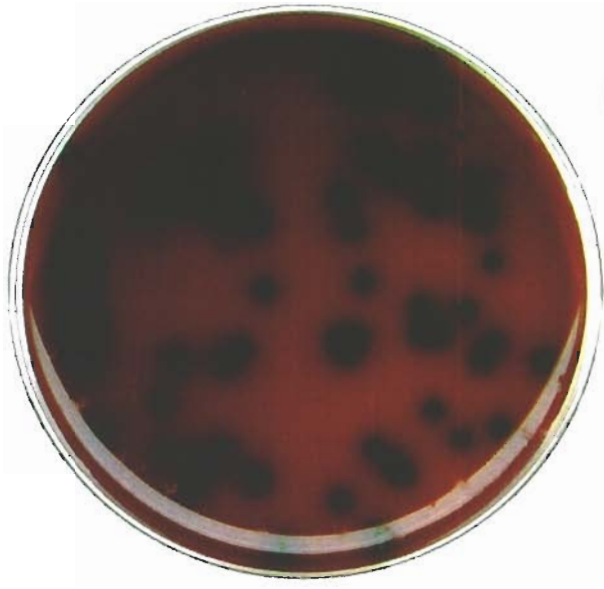


Figure 5a: *Streptococcus uberis*



Figure 5b: *Enterococcus speices*

MacConkey Plate



Figure 6- *E. coli*

Mucoid (Wet Looking)

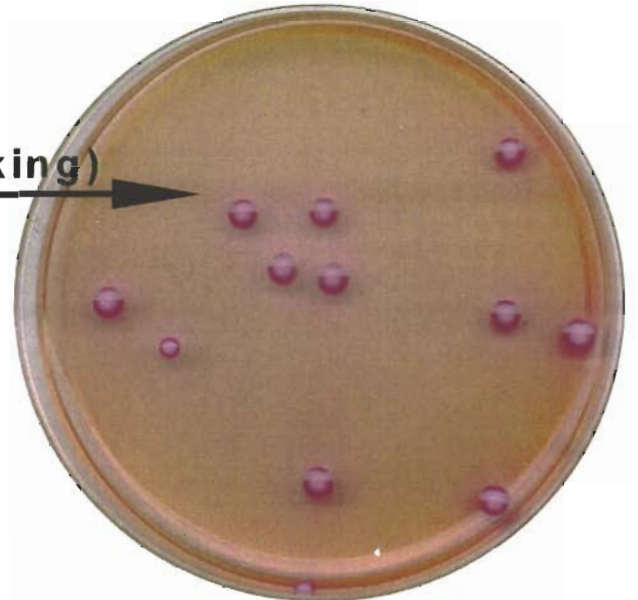


Figure 7- *Klebsiella* species

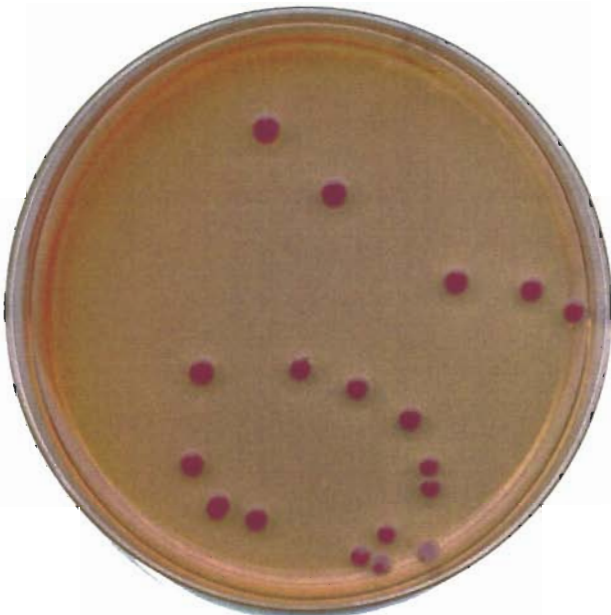
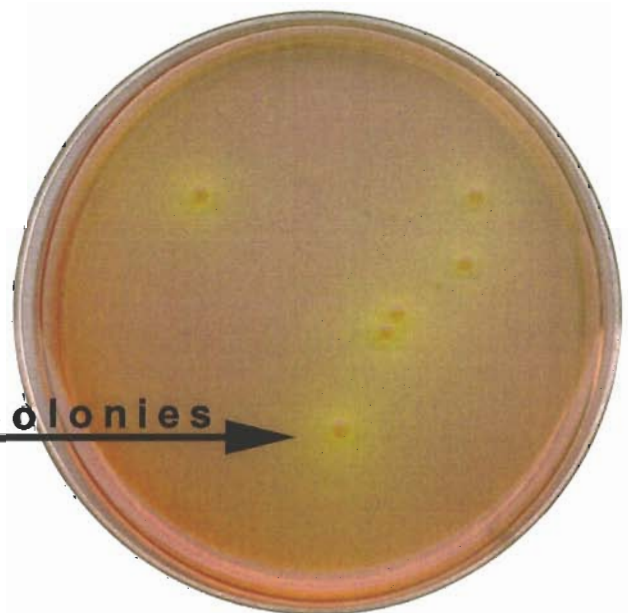


Figure 8- *Enterobacter* species

MacConkey Plate



**Figure 9a- *Pseudomonas species*
Yellowish Colored Colonies**



Yellow Around Colonies →

Figure 9b- *Pseudomonas species*