



## **Pyronin Y-Methyl Green Stain for Goat Milk**

Pyronin Y-Methyl Green is used to stain the somatic cells in sheep and goat milk. The L-W stains used for staining cow's milk which include the regular formulation with either xylene or tetrachloroethane or the Canadian formulation with either xylene or tetrachloroethane do not work very well with goat/sheep milk. This is due to the differences in how milk is secreted from the mammary glands of these different species. Goats and sheep have an apocrine method of milk secretion which sheds cytoplasmic particles (non-leukocytic cell-like) which are difficult to distinguish from the white blood cells since they are both anuclear (without a nucleus). The cow has a merocrine method of milk secretion which does not shed cytoplasmic particles. Methyl Green is specific for DNA staining and the Pyronin Y is specific for RNA. The methylene blue in the L-W stain does not differentiate these classes since all particles stain blue: the nucleus of cell takes up the stain.

We have an excellent power-point presentation: "Direct Microscopic Examination of Milk for Small Ruminants" that was published in February 2006 by the Dairy Products Council under the direction of Lynn Hinckley at the University of Connecticut.