1. SCOPE AND PURPOSE:

This procedure estimates the level of yeast and molds in foods, animal feeds, food and feed ingredients, and environmental samples.

2. PRINCIPLE:

2.1. Yeast and mold populations are estimated by plating serial dilutions from a sample using a pour plate or spread plate procedure. The TYM procedure utilizes a general nutrient rich media that supports fungal growth, while an antibiotic is added to inhibit bacteria that could suppress fungal growth. When performed under standard conditions, the yeast and mold count can serve as a reliable indication of the sanitary quality of a product, especially when accepted standards are known for that product. When testing foods with low water activty (< 0.70 Aw) for yeast and mold the XM OSMO method may be a better alternative or an additional procedure.

2.2. Known Interferences: Chemical preservatives or other inhibitors in a sample can cause inhibition of growth on lower dilutions. The accuracy of colony count methods may be limited by the failure of some microorganisms to form visible colonies on the agar medium. This failure can result from several reasons such as nutritional deficiencies of the medium, unfavorable oxygen tension, unfavorable incubation temperature or length of incubation.

2.3. The standard lowest confidence level is 10 Colony Forming Unit (CFU) per gram (g) or per milliter (ml) for the pour plate procedure when 1 milliliter (ml) of a 1:10 dilution is plated. The procedure's confidence level can be lowered to 1 CFU/g or CFU/ml if 10 mls of a 1:10 dilution is plated among three plates.

3. PRECISION:

Assay precision may vary with test matrix and physiological state of the microorganisms in the test sample. Guidelines used to describe method precision are defined in NPSOP3040, *Verification of Microbiological Tests*.

4. REFERENCE (modified):

4.1. Primary: Bacteriological Analytical Manual, online, Chapter 18 Yeasts, Molds and Mycotoxins, U.S. Food & Drug Administration, April 2001

4.2. Other:

4.2.1. Compendium of Methods for the Microbiological Examination of Foods, 4th Edition, 2001, Chapter 20.

4.2.2. Standard Methods for the Examination of Dairy Products, 16th Edition, 1992, Chapter 8.