1. SCOPE:

This method enumerates mesophilic obligate and facultative anaerobic microorganisms in foods, animal feeds, food and feed ingredients and environmental samples.

2. PURPOSE:

2.1. ATPC - Mesophilic obligate and facultative anaerobic microbial populations (primarily *Clostridium* sp. and *Bacillus* sp.) are estimated by plating serial dilutions from a sample using a pour plate procedure. This method utilizes a media with an oxygen reducing agent and incubates the plates under reduced oxygen conditions.

2.2. TATPC - Thermophilic obligate and facultative anaerobic microbial populations are estimated following the same procedures with the exception of an elevated incubation temperature (see 8.4.4.1).

2.3. Known Interferences: 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 nutritional deficiencies of the medium, unfavorable oxygen tension, unfavorable incubation temperature or length of incubation, or failure of an injured cell to repair itself.

2.4. The standard lowest confidence level of the pour plate procedure is 10 CFU/g (colony forming unit per gram) or CFU/ml (milliliter) when 1.0 ml of a 1:10 dilution is plated. The procedure's lowest confidence level can be reduced 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:

Compendium of Methods for the Microbiological Examination of Foods, APHA, 5th Edition, Section 6.7