# MLSS Sample Collection for Nuvoda Lab Analysis

## Equipment

1. One (1) Sample dipper
    a. The dipper must be able to attach and detach to a 1L sample container. Pictures below.



2. Sample container (1L) attachable to a sample dipper. The container must have a cap.

## Sample Dipper Discussion

Nuvoda has found that the simplest way to ensure accuracy in MLSS measurement is to grab a sample directly from the bioreactor and bring the entirety of the sample back to the analysis location. This method avoids the measurement error resulting from settling mobile biofilms while pouring from a traditional sample dipper. The mobile biofilms and other dense particles settle so rapidly that an undermeasurement of the mobMLSS is inevitable with methods using open cup sample dippers, sample transfers, sample splitting or sample pipetting.

## Collection Procedure

Locate a well-mixed location in the bioreactors to collect a sample. For best results, locate an aerated zone with a uniform bubble pattern at least halfway down the length of basin where mixing intensity is strong, and solids are representative of most bioreactor passes or zones. Avoid a location near the introduction of return activated sludge (RAS) or other inlet or return streams. Bioreactor outfall is a common sample location.

a. When taking the sample, try to reach out as far into the basin as possible to avoid wall effects.
b. Use the dipper and 1L container to collect MLSS sample. Carefully lift the sample from bioreactor so as not to spill from the container and cap sample container once collected.