

PolySeed[®]

Technical Report

Adding Seed Solution to BOD Bottles

Never add seed to a dry bottle!

I have found several resources on the internet stating that seed should never be added directly to dry BOD bottles. The resources advise adding a small amount of dilution water to each bottle before seeding. Why?

The answer is "Matrix Shock". All liquids have a cohesive force at their surface and on the sides where it comes into contact with the container in which it is held. When seed (in a liquid matrix) is added to a dry container, that cohesive force is temporarily broken. As a result, the population density of the seed is compromised; a portion of the cells are instantly destroyed while others are damaged beyond repair.

Standard Methods suggests:

For dilution prepared directly into the BOD bottles:

- Use a wide tip volumetric pipette
- Fill each bottle approximately two-thirds full with dilution water
- Add desired amounts of seed and nitrification inhibitor (if needed)
- Once seed is added, fill the remainder of the bottle with dilution water

NOTE: Before you begin pipetting, always pre-wet the pipette tip! A dry pipette tip will deliver lower volumes than a wet pipette tip. This may seem like a small detail, but even small inconsistencies in volume can cause big problems with BOD test results.