

10 Tips for BOD Test Success

1. **Make sure your dilution water is fully saturated before use**

According to *Standard Methods* you should check to ensure the DO concentration is at least 7.5 mg/L prior to use. If your dilution water is not fully saturated you can add DO by shaking the bottle or aerating with organic-free air.

2. **Check the pH of the dilution water and samples**

The pH of your dilution water should be between 6.8 - 7.2; your samples should have a pH between 6.0 – 8.0.

3. **Check the temperature of the dilution water and samples**

The temperature of the dilution water and samples should be 20° ± 3°C.

4. **Start from scratch with each new lot/bottle of seed**

When troubleshooting you may have had to make changes in dilutions or in the amount of seed used in the GGA/Samples. It is not safe to assume each lot/bottle will require the same changes. When obtaining a new lot/bottle of seed it is best to go back to the recommended instructions.

5. **Keep a good record of your results**

It is important to keep a good record of your results so that you can monitor trends. Sometimes seed variability changes with seasons, so you can refer back to your records to see what adjustments were made if a problem should arise.

6. **Do not pipette seed solution into a dry BOD bottle**

Always have some dilution water in the BOD bottle before adding any seed solution or GGA standard.

7. **Set up at least 3 different seed dilutions**

Standard Methods suggests using at least 3 different dilutions of seed, with each bottle giving a minimum DO depletion of 2.0 mg/L and a residual DO of at least 1.0 mg/L after the 5-day incubation period.

8. Check all reagents

Ensure that all of your reagents are of good quality. If commercial buffer pillows are used, make sure they have not exceeded their expiration dates.

9. Make sure you are using enough seed

Under-seeding is a common reason for low GGA results. You can determine how much seed to add by setting up a series of dilutions and choosing the volume that yields acceptable GGA results.

10. Check the barometric pressure to ensure accurate DO readings

Since barometric pressure is constantly fluctuating, it is important to use a DO meter that features automatic barometric pressure compensation. If you do not have access to this type of meter it will be necessary for you to check the barometric pressure daily and calibrate your DO meter manually.

Note: Barometric pressure will effect your DO readings because the oxygen saturation of water is different at different atmospheric pressures.