

Appendix **B**

OTHER SAMPLING METHODS

- UGA Cooperative Extension Service
- IDEXX Colisure
- IDEXX Colilert
- Packaging Your Water Samples for Shipping

For more information comparing different processing methods, see The Volunteer Monitor's Bacteria Methods Comparison Study at http://water.epa.gov/type/rs/monitoring/upload/2006_03_20_monitoring_volunteer_new_sletter_volmon18no1.pdf.

UGA Cooperative Extension Service

Adopt-A-Stream has a partnership with UGA Cooperative Extension Service to process E-coli samples. The UGA lab requires specific, pre-approved containers provided by their lab. Contact UGA Cooperative Extension Service for general recommendations on mailing samples. Contact information can be found on the UGA Adopt-A-Stream Submission Form found in Chapter 3. Volunteers have the option of using any state-certified lab to process samples.

IDEXX Colisure

Because of the equipment costs associated with the IDEXX Colisure, volunteers did not select it for use. However, its accuracy when compared with laboratory analyses was as good as the two methods selected.

Preparation and Setup

1. Turn on IDEXX Quanti-Tray® Sealer.
2. Label Quanti-Trays using a permanent marker. This label should include site ID, date and time of sample collection, and sample number.

Preparing the Sample

1. Water samples are collected in 100 ml plastic IDEXX bottles by filling the bottles up to the 100 ml graduation.
2. Add Colisure reagent and two drops of anti-foam solution into sample.
3. Mix thoroughly until reagent is dissolved.
4. Pour sample into Quanti-Tray.
5. Place Quanti-Tray on rubber insert, and seal with Quanti-Tray Sealer.
6. Remove from back of sealer as soon as sealing is completed.

Incubation and Interpretation

Incubate at 35 degrees Celsius for 24-48 hours. After incubation is complete, read results. Wells containing total coliforms will turn from yellow to magenta. Wells containing *E. coli* will turn from yellow to magenta and fluoresce under UV radiation. If wells appear pink or orange, return tray to incubator and reexamine in 4 hours.

After all positive wells are counted refer to the Most Probable Number (MPN) table to determine total coliform MPN and *E. coli* MPN.

Sample Disposal

Because Quanti-Trays need to be sterilized by autoclaving, used trays are stored in large Ziploc bags and returned for disposal during each subsequent sample transfer.

IDEXX Colilert

Because of the equipment costs associated with the IDEXX Colilert, it was not selected for use by volunteers. However, its accuracy when compared with laboratory analyses was as good as the two methods selected.

Preparation and Setup

1. Turn on IDEXX Quanti-Tray® Sealer.
2. Label Quanti-Trays using a permanent marker. This label should include site ID, date and time of sample collection, and sample number.

Preparing the Sample

1. Water samples are collected in 100 ml plastic IDEXX bottles by filling the bottles up to the 100 ml graduation.
2. Add Colilert reagent and two drops of anti-foam solution into sample.
3. Mix thoroughly until reagent is dissolved.
4. Pour sample into Quanti-Tray.
5. Place Quanti-Tray on rubber insert and seal with Quanti-Tray Sealer.
6. Remove from back of sealer as soon as sealing is completed.

Incubation and Interpretation

Incubate at 35 degrees Celsius for 24 hours. After incubation is complete, read results. Wells containing total coliforms will turn from clear to yellow. Wells containing *E. coli* will turn from clear to yellow and fluoresce under UV radiation. After all positive wells are counted refer to MPN table to determine total coliform MPN and *E. coli* MPN.

Sample Disposal

Because Quanti-Trays need to be sterilized by autoclaving, used trays are stored in large Ziploc bags and returned for disposal during each subsequent sample transfer.

Packaging Your Water Samples for Shipping

All samples taken should be analyzed within 24 hours. So, if you need to ship your water samples to an analytical lab, try to collect them in the early part of the week and no later than a Wednesday to allow time for the lab to process them prior to the weekend. Make arrangements with your mail carrier prior to sampling to make sure the samples will be collected promptly and delivered within 24 hours. On the day of sampling, you will need to sample early in the day so the samples can be shipped out the afternoon of the same day. When shipping, make sure the bottles are secure with no leaks, and are kept cold. You should consider the following:

- Using a plastic garbage bag to line the shipping container to prevent leaks of water.
- Sealing each sample in its own plastic bag to prevent any cross-contamination and to contain the sample in case of leaks or breakage
- Packing the samples with ice or ice packs.
- Using a sealed plastic cooler or specialized water sample shipping container. Be sure to fill out the sampling form completely, the chain of custody form, any other paperwork and place it inside of the container before sealing. You may want to seal the paperwork in a large zippered storage bag.
- Finally, attach the pre-addressed, pre-paid mailing label and ship overnight.

* Please note that UGA Cooperative Extension Service requires specific, pre-approved containers provided by the UGA lab. Contact UGA Cooperative Extension Service for general recommendations on mailing samples.