

Collection of Sediment Samples

Revision: #7

Replaces: 2/27/12 version

Effective: 4/15/20

1. Purpose and Scope: Pesticides can bind to organic matter in the sediment of lakes, ponds, and streams. Sediment can become contaminated with pesticides via runoff from the land or through aerial deposition to the surface of the water. Sediment samples are collected to determine the quantity of a pesticide bound to the organic matter. Any instructions on documenting and collecting sediment samples found in the Environmental Monitoring Plan (EMP) for the Program under study supersedes instructions contained in this SOP.

2. Supplies Required: To request sampling equipment and other supplies, send the filled out Environmental Monitoring Supplies Checklist to the monitoring supplies coordinator at Protection and Quarantine (PPQ) Science and Technology (S&T), Miami.

- 2.1 weighted dredge tied to a strong rope
- 2.2 3-gallon galvanized pail (obtain locally)
- 2.3 hand trowel (obtain locally)
- 2.4 ¼-inch mesh screen (obtain locally)
- 2.5 sample container (1-gallon heavy foil envelope)
- 2.6 baby wipes (obtain locally)
- 2.7 field log book
- 2.8 ice chest with wet, dry, or blue ice (obtain locally)
- 2.9 environmental monitoring forms (APHIS Form 2060)
- 2.10 strapping tape
- 2.11 indelible marker

3. Collecting a Submerged Sediment Sample:

- 3.1 Sediment is usually collected from the bottom of a water body. Stand at the edge

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of the water body to be sampled. Firmly hold the free end of the rope that is attached to the clean, weighted dredge and toss the dredge into the water.

- 3.2 Pull the dredge to you and empty the contents into the galvanized pail.
- 3.3 Repeat steps 3.1 and 3.2 until the pail is about half full.
- 3.4 Allow the sediment to settle in the pail and then pour off the water on the top.
- 3.5 Transfer the sediment sample to the sample container (1-gallon heavy foil envelope). If there is a lot of debris in the sample, pass it through the wire mesh to remove twigs, leaves, stones, and other debris prior to placing the sample in the sample container. Fold over the flap on the heavy foil bag such that there is no air space. Securely seal the bag with the strapping tape and label the bag using the indelible marker with a code that will allow the sample to be matched to its documentation.
- 3.6 Place the sample in the ice chest for transport to a freezer for storage prior to shipping.
- 3.7 Decontaminate all of the sampling equipment by first washing off any sediment adhering to it and then wiping it down with sanitary wipes.

4. Collecting a Sediment Sample from a Dry Channel or Depression:

- 4.1 If you plan to collect sediment from the bottom of a channel or depression which contained water at one time but is now dry, contact the Environmental Compliance Team for details on equipment and procedures.

5. Documentation:

- 5.1 Record all observations in the field log book (see SOPEM-12, *Using a Field Log Book*). Draw a site map, including an approximate scale and North arrow, which shows the relative positions of the water body or stream sample collection site and the treatment site. A topographical map or aerial photograph annotated with the GPS coordinates and required information should be provided if possible as well as photographs or video of the sample site and water body. Be sure to record when the last rainfall occurred, the amount, estimated duration, time between the onset of the rain and the collection of the sediment sample, land slope, soil type, and a description of the type of vegetation growing between the treatment site and the sample collection site. Observed weather reports available from the National Weather Service can provide additional useful information.

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5.2 Complete an APHIS Form 2060 for each sediment sample.

5.3 Retain the pink copy of Form 2060 for your records and distribute the remaining copies as specified in the EMP.

6. Packaging and Shipping:

6.1 Package and ship the sediment samples as described in SOP EM-17, *Packaging and Shipping of Samples*.