Changes in Water Test Results – What To Do

Sediments in surface waters may contain indicators of microbial contamination such as coliforms or E. coli.

Rainfall events & changes in temperature can stir up sediments and cause elevated levels of indicator organisms in test results.

Growers who are using surface water and see elevated levels of indicator organisms in their water test results should do the following:

1. Immediately survey the watershed surrounding your irrigation water source. In particular, look for new potential sources for contamination. Has livestock been pastured for the summer in areas that drain into the pond? Has anything changed in the watershed since the last test? These are questions to ask as you survey the areas surrounding your irrigation water source.

2. If no new sources of potential contamination can be found, check to see if the water source experienced any rainfall event just prior to testing.

3. Make sure irrigation intakes are elevated. Drawing water from the bottom of the water source will stir up sediments and cause them to be taken into the irrigation system. Ideally, intake lines should be located in deeper water and at least 18 inches off the bottom of the water source. If shallower water is used, intakes should be between the surface of the water and the bottom.

4. Wait at least 2-3 days after a rainfall event before irrigating. This will give the water time to clarify and allow sediments to start to settle back to the bottom.

5. Collect an additional water sample and submit for testing as close to irrigating as possible. This will give a more accurate assessment of the water that is going to the crop after sediments have started to settle.

6. Drip irrigation will prevent splashing and, in many cases, will prevent water from contacting the edible portion of the crop. This will help to reduce the risk of contamination from irrigation water regardless of test results.

7. If additional test results indicate that levels of indicator organisms are not decreasing, growers should try to locate an alternative source of irrigation water.

UMass Extension

This information is from articles by Scott Monroe, originally published in the Purdue Extension Vegetable Crops Hotline

Proper Surface Water Sampling Technique

Poor water test results can sometimes be traced back to inappropriate collection technique.

Mishandling containers or sampling too near the bottom of surface waters can drastically alter water test results

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- Select a lab
- Start with the appropriate collection container
- Do not touch inside container or remove neutralizing substances inside
- Try to sample at a depth of 6-12 inches
- The container should be submerged prior to opening the lid, then be filled and the lid put back in place prior to removing it from the water.
- If a dock or other structure is not available for access to deeper water, one can attach a sample container to a pole.
- Care should be taken not to sample too close to the bottom, as sediments may be collected with the sample.
- Samples should not be taken immediately after rainfall.
- Best practice is to collect the sample during a time when the water would normally be used for irrigating.
- If irrigating from flowing surface water, such as a creek or stream, and it is necessary to wade into the water, be sure to sample from the upstream side to avoid collecting stirred up sediments.
- Once the sample is collected, the container should be marked with the date and time of collection and immediately cooled.
- Samples should be kept as cool as possible by icing or refrigerating until they are delivered to the lab.
- Many labs have a maximum time interval between collection and sample receipt, usually 24 hours. Samples received too long after collection will not be processed.
- Those growers who are covered under the Food Safety Modernization Act Produce Rule should pay special attention to time requirements, as the rule currently specifies **EPA Method #1603**, which only allows a **maximum of 8 hours from sample collection to processing**.