**Sample SOP:  
Sampling Agricultural Water Used for Production**

**Revision: 2.0  
Date: DD/MM//16**

1—Purpose

Describes how to sample surface water for generic *E. coli* analysis. An alternate version is included for use when sampling well or municipal water.

2—Scope

Applies to any farm personnel responsible for sampling water and submitting it to a laboratory for analysis.

3—Responsibility

Anyone responsible for sampling water or submitting the samples to a laboratory should understand this SOP. Anyone responsible for keeping records of water tests results should also be familiar with the SOP in case there are unusual test results so they might be able to identify a problem with the sampling, shipping, or analysis.

4—Materials

* Marker for labeling sampling container (make sure the marker is waterproof)
* Water sampling stick (not required but helpful for sampling surface water)
* Disposable gloves
* Sealed, sterile sampling container (0.25- to 1-liter bottle or other lab-provided container)
* Cooler
* Ice or reusable ice packs (be sure these are not sub-zero ice packs, they should keep the sample chilled but not frozen)
* Tape
* Zipper-seal bags
* Garbage/disposal bag for waste
* Shipping labels (for overnight delivery to lab)

5—Procedure

*\*Detailed instructions may be provided by selected lab regarding container and sampling protocol.*

***Water Sampling Protocol for Surface Water***

1. Label the container.

* *Include sampler name, water source or other location ID, date, and time of collection. The container label may contain only a sample ID, with the other information on the sample collection sheet. If so, make sure the correct sample ID is on both the container and the sample collection sheet.*

1. Identify a good sampling area, sampling as close to the water use point as possible.

* *Choose the sample location after water flows through the irrigation filter (if any) so that the water sampled is representative of the water that touches the produce.*

1. Put on gloves.
2. When sampling from a spigot, it is a good idea to clean and then disinfect the spigot. Turn spigot on and purge water until the water reaches a consistent temperature (normally 2-5 minutes but sometimes longer) and you are sure you are not collecting water that has been sitting in pipes.

* *Disinfect by wiping with one of the following: a 1.7-2.5% solution of household bleach (be sure to check the label instructions), 70% ethanol, or 70% isopropanol. Be careful because plastics may react with these chemicals.*

1. Open the collection container as close to the sampling area as possible. If using a sampling stick, assemble the bottle on the sampling stick before opening. Do not place fingers on the container lip or inside the container.
2. Collect at least 100 mL of water from each location (collecting at least 200 mL is recommended in case the sample spills or needs to be reanalyzed).

* *If sampling surface water from the source (like a river or pond), dip the container into the water, mouth downward, and tilt the bottle slowly upward to collect water.*
* *If sampling from a spigot, avoid contact between the container lip and the spigot or other parts of the irrigation equipment.*

1. If the bottle is completely filled pour off excess sample to the bottle shoulder, stop, and seal the container.

* *Remember not to touch the inside or lip of the container or cap.*
* *Leaving an air space makes it easier for the laboratory to mix and pour the sample once it arrives.*

1. Double check container label and sample collection sheet to be sure information is readable and correct.
2. Place the sample in a 1-gallon zipper-seal bag and seal.

* *Zipper-seal bags are used to separate the sample from melted ice or other possible contamination sources.*

1. Remove gloves and place in trash bag.
2. Place sealed sample container in cooler with ice or ice packs.
3. If shipping, label cooler and seal cooler.

* *Include a copy of the sample sheet taped to the inside of the cooler lid; use a separate zipper-seal bag to keep it dry.*

1. Deliver sample to selected lab or drop off at shipping company if shipping.

* *Be sure delivery meets the hold-time requirement set by the laboratory or regulation; otherwise, test results may not be accepted by the buyer, auditor, or regulatory agency.*

***Water Sampling Protocol for Well Water***

1. Label the container.

* *Include sampler name, water source or other location ID, date, and time of collection. The container label may contain only a sample ID, with the other information on the sample collection sheet. If so, make sure the correct sample ID is on both the container and the sample collection sheet.*

1. Identify a good sampling area, sampling as close to the water use point as possible.

* *Choose the sample location after water flows through the irrigation filter (if any) so that the water sampled is representative of the water that touches the produce.*

1. Put on gloves.
2. When sampling from a spigot, it is a good idea to clean and then disinfect the spigot. Turn spigot on and purge water until the water reaches a consistent temperature (normally 2-5 minutes but sometimes longer) and you are sure you are not collecting water that has been sitting in pipes. If you know the volume of your system and flow rate, allow 2-3 times the volume of the system to purge before sampling.
   * *Disinfect by wiping with one of the following: a 1.7-2.5% solution of household bleach (be sure to check the label instructions), 70% ethanol, or 70% isopropanol. Be careful because plastics may react with these chemicals.*
3. Open the collection container as close to the sampling area as possible. Do not place fingers on the container lip or inside the container.
4. Collect at least 100 mL of water from each location (collecting at least 200 mL is recommended in case the sample spills or needs to be reanalyzed).

* *Avoid contact between the container lip and the spigot or other parts of the irrigation equipment.*

1. When the sample container is filled to the shoulder, stop and seal the container.

* *Remember not to touch the inside or lip of the container or cap.*
* *Leaving an air space makes it easier for the laboratory to mix and pour the sample once it arrives.*

1. Double check container label and sample collection sheet to be sure information is readable and correct.
2. Place the sample in a 1-gallon zipper-seal bag and seal.

* *Zipper-seal bags are used to separate the sample from melted ice or other possible contamination sources.*

1. Remove gloves and place in trash bag.
2. Place sealed sample container in cooler with ice or ice packs.
3. If shipping, label cooler and seal cooler.

* *Include a copy of the sample sheet taped to the inside of the cooler lid; use a separate zipper-seal bag to keep it dry.*

1. Deliver sample to selected lab or drop off at shipping company if shipping.

* *Be sure delivery meets the hold-time requirement set by the laboratory or regulation; otherwise, test results may not be accepted by the buyer, auditor, or regulatory agency.*