

ASSESSING PRE-HARVEST WATER QUALITY

SAMPLING & WATER TEST METHODS

SOURCES

Municipal, well, reclaimed water, reservoir, canal or other surface water

SAMPLING FREQUENCY

- If there is no well exemption sample water source if > 60 days have passed since last tested
- When in use, sample each water system at least once every 35 days
- Collect samples at least 18 hours apart to calculate geometric mean

SAMPLING PROCEDURES & TEST METHODS

- Analyze samples for generic E. coli
- Collect sample as close to point of use as practical
- Use sampling method prescribed in Table 1
- Use FDA BAM method or other EPA approved or AOAC accredited method to analyze
- Calculate rolling geometric mean using the 5 most recent samples

INTENDED WATER USE

FOLIAR

Water contacts edible portion e.g. overhead sprinkler irrigation, pesticide/fungicide applications


**ACCEPTABLE
WATER TEST
RESULTS**

Single Sample \leq 235
MPN / 100ml

AND

Geometric Mean is
 \leq 126 MPN / 100 ml


**UNACCEPTABLE
WATER TEST
RESULTS**

Single Sample
>235 MPN / 100 ml

OR

Geometric Mean is
>126 MPN / 100 ml

NON-FOLIAR

Water does not contact the edible portion e.g. furrow or drip irrigation, dust abatement


**ACCEPTABLE
WATER TEST
RESULTS**

Single Sample \leq 576
MPN / 100 ml

AND

Geometric Mean is
 \leq 126 MPN / 100 ml


**UNACCEPTABLE
WATER TEST
RESULTS**

Single Sample > 576
MPN / 100 ml

OR

Geometric Mean is >
126 MPN / 100 ml

ARE TEST RESULTS ACCEPTABLE?

 **YES**

No further action necessary and water from this source may be used for any crop production.

NOTE:

If test results are higher than normal or indicate an upward trend, investigate to determine if remedial action should be taken

 **NO**

CONDUCT REMEDIAL ACTIONS

- Stop any crop production
- Examine the water source and distribution system
- Assess if there is a contamination source that can be resolved
- Conduct a sanitary survey (Appendix A) of water source and distribution system

RETEST

- Complete survey and/or taking remedial actions and retest at same sampling point
- Continue testing for the next five days at closest point of use
- If any test exceeds 235 MPN/100ml, repeat the sanitary survey and/or remedial actions
- Do not use system until the water meets acceptance criteria

CROP TESTING

- If water exceeding the acceptance criteria has been used for irrigation, sample and test crop for E. coli O157:H7 and Salmonella (Appendix C) prior to harvest
- If any test results are positive, do NOT harvest the crop for human consumption

ASSESSING POST-HARVEST WATER QUALITY

SAMPLING & WATER TEST METHODS

SOURCES

Municipal, well, reclaimed water, reservoir, canal or other surface water

SAMPLING FREQUENCY

- If there is no well exemption sample water source if > 60 days have passed since last tested
- When in use, sample each water system at least once every 35 days
- Collect samples at least 18 hours apart to calculate geometric mean

SAMPLING PROCEDURES & TEST METHODS

- Analyze samples for generic E. coli
- Collect sample as close to point of use as practical
- Use sampling method prescribed in Table 1
- Use FDA BAM method or other EPA approved or AOAC accredited method to analyze
- Calculate rolling geometric mean using the 5 most recent samples

INTENDED WATER USE



DIRECT CONTACT

Direct water contact with product
e.g. re-hydration, core in-field



ACCEPTABLE WATER TEST RESULTS

Generic E. coli negative
or below DL/100 ml

OR

ORP ≥ 650 mV and
a pH range of 6.5-7.5

OR

Free chlorine > 1 ppm
and pH range of 6.5-7.5

OR

Other approved
treatments per
product EPA label for
human pathogen
reduction in water



UNACCEPTABLE WATER TEST RESULTS

Positive result for
generic E. coli



NOTE:
Water directly
contacting harvested
crop shall meet
microbial standards
in US EPA's National
Drinking Water
Regulations and/or
contain sufficient
concentration of an
approved disinfectant
to prevent cross
contamination

ARE TEST RESULTS ACCEPTABLE?



YES

No further action necessary and
water from this source may be
used for any crop production.



NO

CONDUCT REMEDIAL ACTIONS

- Stop post-harvest use until water quality meets acceptance criteria
- Examine water source and distribution system
- Assess if there is a contamination source that can be resolved
- Conduct a sanitary survey (Appendix A) of water source and distribution system

RETEST

- After completing survey and/or taking remedial actions, retest at same sampling point.
- Continue testing for the next five days at closest point of use
- If any of the tests exceed 2 MPN/100ml, repeat the sanitary survey and/or remedial actions.
- Do not use system until the water meets the acceptance criteria

PRODUCT TESTING:

- Water exceeding the acceptance criteria is not appropriate microbial quality for post-harvest use
- Sample and test product for E. coli O157:H7 and Salmonella (Appendix C)