

**CHECKLIST
PROTECTING GROUNDWATER FROM CONTAMINATION**

- ✓ Mix and store pesticides and fertilizers away from the wellhead to reduce the chance of contamination. This is particularly important for shallow wells and those in sandy soils.
- ✓ Protect all potable water against backflow to ensure that contaminated water is not mixed with that used for human consumption. Install back flow preventers when chemicals are injected into the irrigation water regardless of source.
- ✓ If water is supplied by a municipal water system, check local regulations prior to installation, as some companies require a complete break in the water system.
- ✓ Water lines or hoses used to fill tanks during mixing should never be immersed in the solution because back-siphoning may occur.
- ✓ Test backflow prevention devices annually. Record and save the date and results of the tests.
- ✓ Select the correct fertilizer for your cropping situation, apply the correct amount and monitor fertilizer injection system to ensure maximum efficiency.

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Protect Your Water Supply: One of the areas most sensitive to contamination is the immediate source of water which enters your operation. This may be the private wellhead or the water line(s) which carry public water. Wells provide a direct entry point for pollutants to the groundwater. Pesticide and fertilizer mixing and storage should take place away from the wellhead to reduce the chance of contamination. This is particularly important for shallow wells and those in sandy soils. Most liquid pesticide labels now contain a chemigation provision that details system requirements. See sections on “Fertilizer Storage and Handling” and “Pesticide Storage and Handling”.

Backflow Preventers: All potable water must be protected against backflow to ensure that contaminated water is not mixed with that used for human consumption. Backflow or back-siphoning occurs when a negative pressure develops in the water supply line, causing water that has been contaminated to be drawn back into the supply lines. The National Plumbing Code requires that backflow preventers be installed on any supply fixture when the outlet may be submerged. Examples of this are a hose that fills a spray tank or barrel, a fertilizer injector, or an equipment wash tub. Backflow preventers should be installed when chemicals are injected into the irrigation water regardless of source. If water is supplied by a municipal water system, check local regulations prior to installation, as some companies require a complete break in the water system. If this is the case, a separate pump and supply tanks will be required. Water lines or hoses used to fill tanks during mixing should never be immersed in the solution because back-siphoning may occur.

Backflow prevention devices should be tested annually, and the date and results of the tests should be recorded and saved.

References

Cox, D.A 1993. *Groundwater and Your Greenhouse*.

http://www.umass.edu/umext/floriculture/fact_sheets/greenhouse_management/water.html

Aldrich R.A. and J. Bartok, Jr. 1994. *Greenhouse Engineering*. NRAES-33.

<http://www.nraes.org>