



Texas Agricultural Extension Service



Environmentally Safe Practices

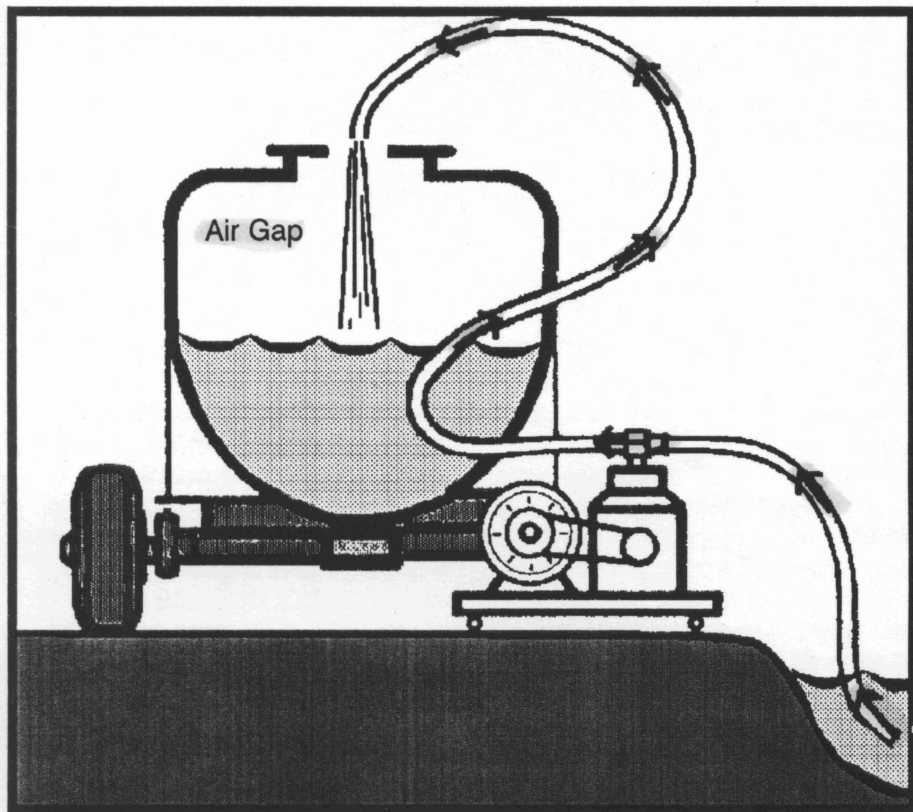
Avoid Back-siphonage of Agricultural Chemicals into Water Supplies

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Do This...



Texas Agricultural Extension Service • Zerle L. Carpenter, Director
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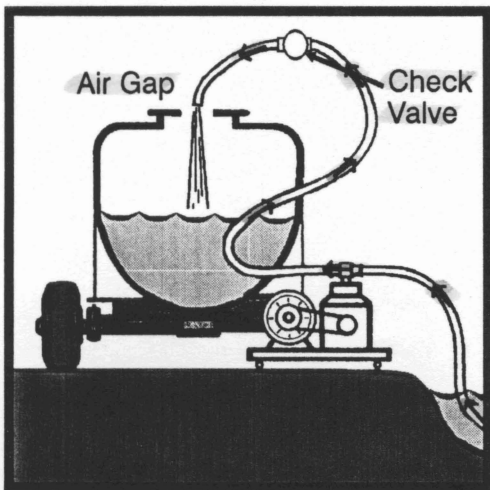
What is back-siphonage?

Back-siphonage is a reverse flow of water out of a tank or from a pump. When the delivery hose being used to fill the tank is below the water surface of a tank, intentional or unintentional shut-off of the water fill supply can pull the water/chemical mixture in the tank back up into the delivery hose and back to the original water source. When a tank is being filled from a well, pond, stream or other water source by a hose connected to a pump, or chemicals are being applied through irrigation water with chemigation equipment, a loss in pump pressure can siphon the tank mixture or metered chemical mix back into the well or pond through the pump. These back-flow processes can cause pesticides or fertilizers to be back-siphoned from the spray tank or chemigation equipment to wells, tanks, ponds, streams, lakes or canals. This will contaminate the water supply and possibly cause illness or death to man, animals, fish or other plant and animal life.

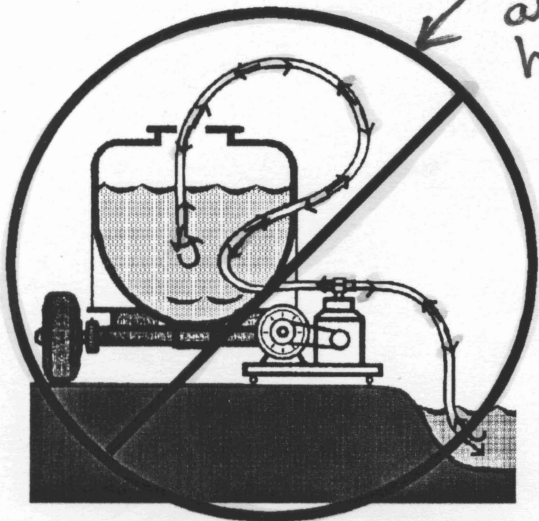
How can back-siphonage be prevented?

By installing a check valve in the flow line between the pump and the spray tank, back-flow of tank mixtures can be prevented. State and federal laws require chemigation equipment to be properly equipped with back-flow prevention devices such as a check valve. Leaving an air gap between the fill hose and the mixture level when filling a tank can also prevent back-siphonage. As a rule of thumb, keep the hose above the top of the tank mixture a distance of at least two times the hose diameter. Always have someone watching the tank fill process. Do not leave the hose unattended while filling a spray tank. Always work above the tank so that the person filling the tank can watch that the fill hose and the liquid mixture do not come in contact with one another and that the spray tank is not filled to overflowing.

...or Do This



Do Not Do This!



Denise
8-29-80

Do not do
arrows.
Too Small.

Do borders
and words
highlighted
in and
color (red)
instead.

Use own
judgement.



Back-siphoning can pollute.

Today, contamination of a water source can result in a fine and required remedial processes. If others use the water source as drinking water, the person contaminating the water source is liable for providing fresh water to all users. Think about your mixing and chemigation operations. It is worth your time to use safe operating procedures and check valves.



ESP, Environmentally Safe Practices, is a Texas Agricultural Extension Service program designed to promote the use of safe practices around the home and landscape. Whether one is working in household activities, home landscaping and gardening or in production agriculture, environmentally sound practices should be used. It is the responsibility of our generation to make wise use of environmental resources and to extend the use to future generations.



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