

Water sources for horticultural crops

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Clean water is a necessary resource for production of greenhouse and nursery crops and the maintenance of ornamentals and turf in the landscape.

Water for these purposes is usually obtained from wells or ponds located on the farm or from municipal supplies. Impurities found in the water may cause problems such as high pH, excess calcium, marginal leaf burning from sodium, boron, staining from iron and manganese, or other ions toxic to plants. Microorganisms such as algae, bacteria and decaying animal or plant matter can cause odor and other problems.

Soil or water from areas treated with fertilizers, insecticides and herbicides have been known to cause contamination of water sources.

As an Extension educator, I have observed water contamination from the various areas listed.

Wells

Excessive hardness, high calcium, which can be detrimental to plants such as geranium, poinsettia, azalea and other pH sensitive crops comes from wells. Injector equipment and irrigation systems usually get clogged as lime collects in the system.

Sodium from road salt causes marginal burn of leaves on sensitive plants and damages injector equipment.

High boron shows up as marginal burn on leaf edges. It is difficult to detect in water supply.

Iron and manganese cause a precipitate in water supply lines and cause staining on equipment, plants and other surfaces over time.

Ponds

A well-managed pond will minimize the contamination potential. A collection area around the perimeter of the pond will filter and reduce the nitrates, herbicides and other contaminants from entering the main area of water.

Algae is a big problem in nutrient-rich ponds. It clogs pipes and sprinkler heads and is especially detrimental to drip systems.

A circulation (aeration) system reduces algae potential as few herbicides can be used in ponds.

Erosion about the banks of ponds can be prevented by planting banks with turf that consists of turf-type tall fescue, rye grass and Kentucky blue grass.

