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College of Agricultural and Environmental Sciences
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Sources of Water for the Garden

Community and School Gardens

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Fruits and vegetables are 75 to 95 percent water. To grow a healthy plant, that water has to come either from rain or supplemental watering. Unfortunately, the rains in Georgia do not always come when they are needed and many parts of the state experience long periods of drought. Access to reliable supplemental water should be at the top of the list when establishing a community or school garden.

Water Needs of Plants

If you look at an entire year as a whole, most of the state of Georgia receives an adequate amount of rainfall for plants to thrive. Unfortunately, even though the state averages about 50 inches a year, it is normal to have days or even weeks without rain.

The amount of supplemental water needed will vary depending on the season, the weather in a particular year, the soil type, the crop being grown and cropping practices. In general, plan for water needs based on the average water used by a vegetable garden in the middle of the summer when there is little rain -- about 1.5 inches per week, which translates to about 1 gallon of water for every square foot of garden space. A small 10' x 20' garden plot would require 200 gallons of water per week to continue growing at a healthy rate. A raised bed with improved drainage will require even more water.

Possible Water Sources

For a community or school garden to be successful in Georgia, there should be a source of water other than rain. This can be an especially challenging problem for a community garden as the site is often located in a park or vacant lot. The following is a brief outline of possible water sources. Since each community garden situation is different, it is necessary to be thorough in investigating the options. In some cases, it may be necessary to obtain permission or permits from local authorities.

Municipal Water

Municipal water is clean, safe and requires no pumps or filters. Of course, there must be a water line nearby and a connection within a distance no more than a few hundred feet -- closer is better. If there is not a connection, it might be possible to have the water authority install a connection just for the garden, though this can cost as much as \$1,500 for a 3/4-inch connection. If a new connection is installed, it will require a permit and, more than likely, the services of a licensed plumber to make sure the proper fittings are installed after the water line is connected. There is also the issue of who will pay for the water. In some situations, it might be possible to use a spigot from a nearby house, church or business and compensate the owner for the water used.

River or Creek

If the garden is located near a flowing river or stream, it may be possible to pump water to the garden. This will require a properly sized pump, power for the pump (electricity or gasoline), filter and enough water pipe to run from the water source to the garden. The pipe may need to be buried to avoid being disturbed. In addition to obtaining any necessary permits, a water sample should be taken to ensure the water is safe (contact your local Cooperative Extension office for more information). An analysis of the flow will also be necessary to ensure there is enough water to supply the garden without affecting the flow downstream. When pumping water from a river or creek, keep in mind that pumps tend to get clogged with debris and could wash away in a flood. The water from a river or creek will also need to be filtered to remove soil particles, especially if a drip system is used.

Pond

Irrigating from a pond poses similar problems to pumping from a river or creek, with the added issue of algae buildup and the question of where the algae is coming from. A pond fed with spring water is usually fine. Many ponds in neighborhoods are designed as detention or retention ponds and receive a lot of runoff water that could contain contaminants from a street or parking lot. Since these ponds rely on runoff, the water level will likely be very low when there is no rain, and, therefore, of no use for irrigation.

Well

In south Georgia it is possible to have a well that can supply all the needs of a garden since the water comes from an underground aquifer. In the Piedmont and most of the Mountain regions, wells are fed from small pockets of water that may be dependent on rainfall to be recharged. A well producing more than 5 gallons per minute should be fine for a small garden using drip irrigation. Digging a well solely for the purpose of watering a garden is cost prohibitive and requires a permit. As in the case of the municipal water supply, it may be possible to find a neighbor who has a well and is willing to share.

Rainwater Collection

Collecting water from roofs for garden irrigation is becoming more popular and is an idea often discussed in the planning stages of community and school gardens. Everyone likes the idea of getting water for free and preventing runoff. In theory, it's a good idea. In reality, collecting rainwater is unlikely to provide adequate water for extended periods of drought. Although rainwater collection can reduce dependence on water from other sources, when water is really needed, rain barrels are empty. For example, a 10' x 20' garden area requires 600 gallons of water during a three-week drought. A 55-gallon drum would provide a three-week supply of water for only a 10' x 4' garden area. Consider the size of the garden when installing rain barrels.