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Drip Irrigation for Home Vegetable Gardens

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When rainfall is lacking, vegetable crops suffer. Even a slight lack of rain may reduce growth and yield compared to an optimal supply of water, which is about an inch of rain per week.

Irrigation is the way to make up for inadequate rainfall. Sprinklers or manual watering with a hose are options. Sprinklers "waste" water by applying it where crops are not growing, and this can also promote weed growth in walkways. Manual watering is labor intensive, and hoses may damage plants when dragged through a garden. Both methods can apply water to crop leaves, and leaf wetness promotes foliar diseases. Drip irrigation is a good way to provide a steady supply of water, where it is needed, without wetting above ground plant parts.

Drip irrigation applies water where it is needed – to a crop's root system

Drip irrigation (aka trickle irrigation) systems are widely available and easy to use. There are kits that make installation easy (so you do not have to figure out what parts to buy). That said, many guides to drip irrigation may seem more technical than necessary, especially if they are geared to commercial growers. Here are a few resources that seem useful to home gardeners:

- Arizona State University fact sheet
- Washington State University fact sheet
- Virginia Master Gardeners fact sheet

There are also some "garden guru" web sites that offer pretty clear guidance on using drip irrigation. Here is one from an urban farming site that gives a good overview. And here is another that provides an installation guide for a drip system in a garden.

The components of a drip irrigation system that attaches to an outdoor spigot are:

- Backflow preventer keeps dirty water from flowing back into your home's water supply.
- Pressure regulator reduces water pressure to appropriate level for the drip system.
- Filter to remove any sediment in the water to prevent clogging of drip emitters.
- Mainline tubing which is the primary supply line to your garden.
- Drip tubing that comes off of the mainline and distributes water to the garden rows.
- Fittings and connectors to join tubing to mainline and to split tubing if necessary.
- Emitters or drippers deliver water slowly and directly to plant roots, some drip lines have these "built in" while others require you to install them.
- Irrigation timer (optional) allows automatic watering on a schedule.
- Goof plugs (optional) allow holes no longer needed in lines or tubes to be plugged.

Valves can be added to drip lines coming off of the main line to allow irrigation to be turned on and off for individual rows.

Drip irrigation kits for a home garden with about 1000' feet of crop rows cost about $200-$300. Some sources of drip irrigation kits for home gardens include:

- Dubois AgInnovation (Quebec) offers a complete kit to irrigate 1000' row feet of crops.
- The Drip Store offers many vegetable garden drip irrigation kits.
- Irrigation Supply Parts offers a 1000' drip irrigation kit (and other sizes).
- Growers Solution offers a drip irrigation kit designed for fifty 20-foot rows.

Products are named for information only; no endorsement is intended.