Drip Irrigation for In-Ground or Raised Beds

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There is not a whole lot of complexity in installing a drip irrigation system. If you use the PVC tubing with orifice emitters, then I strongly advise you to install your system when it is warm outside. The PVC is difficult to work with at temperatures below 40^0 F. Even in warm weather, a pot of hot water is a helpful aid for soaking the ends of the PVC parts to make them more pliable.

When you lay out your design, don't forget to take into consideration how the laterals in the beds will be attached to the main supply line. Will they stick out into the path? Will they go through the boards of the boxed beds or be installed over the edge of the boards? Make your measurements fairly carefully, taking into consideration overlap of the pieces. Otherwise you may have a part that doesn't quite reach to the next part. PVC is easy to cut and difficult to fix if it is cut too short.

SHOPPING LIST

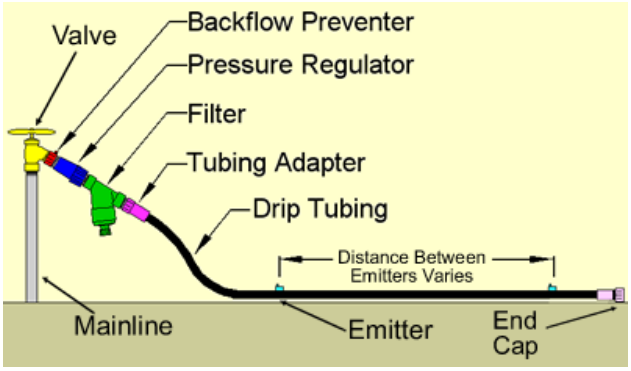
Head
Timer
Backflow valve
Pressure control valve
Filter assembly
Feeder siphon (used occasionally and attached to head when needed)
Supply lines
Sufficient ¼" tubing or hose to get from water source to last lateral of feeder line in system (order a few feet more than you think you need)
Laterals
Shutoff valve (1 for each bed)
Screen filter (1 for each bed)
1/8" tubing
Emitters for every 16 to 24 inches
End piece
Tee fitting (to cut into the main supply line)

CONSTRUCTION STEPS

1. Always begin laying out your drip system at the head. Assemble the various parts in the proper order: timer, backflow valve, pressure control valve, and filter.
2. Lay out all of your main supply lines, connecting the water supply to your garden with some extra at the end to be sure you have enough. Do not cut the supply line into all of its parts until you begin installing the laterals one by one.
3. Beginning with the bed closest to the head, install the laterals one by one so that the measurements of the lines between the connecting beds can be as accurate as possible.
4. Turn on your system to check for leaks.

TOOLS

Emitter tool (optional)
Hacksaw
Measuring tape



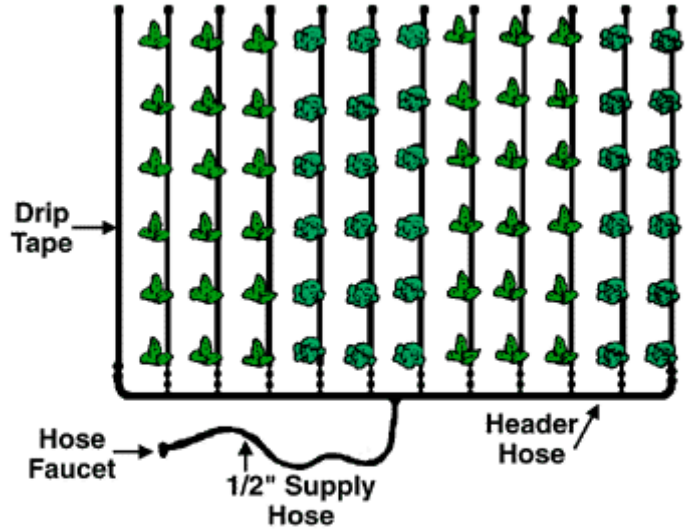
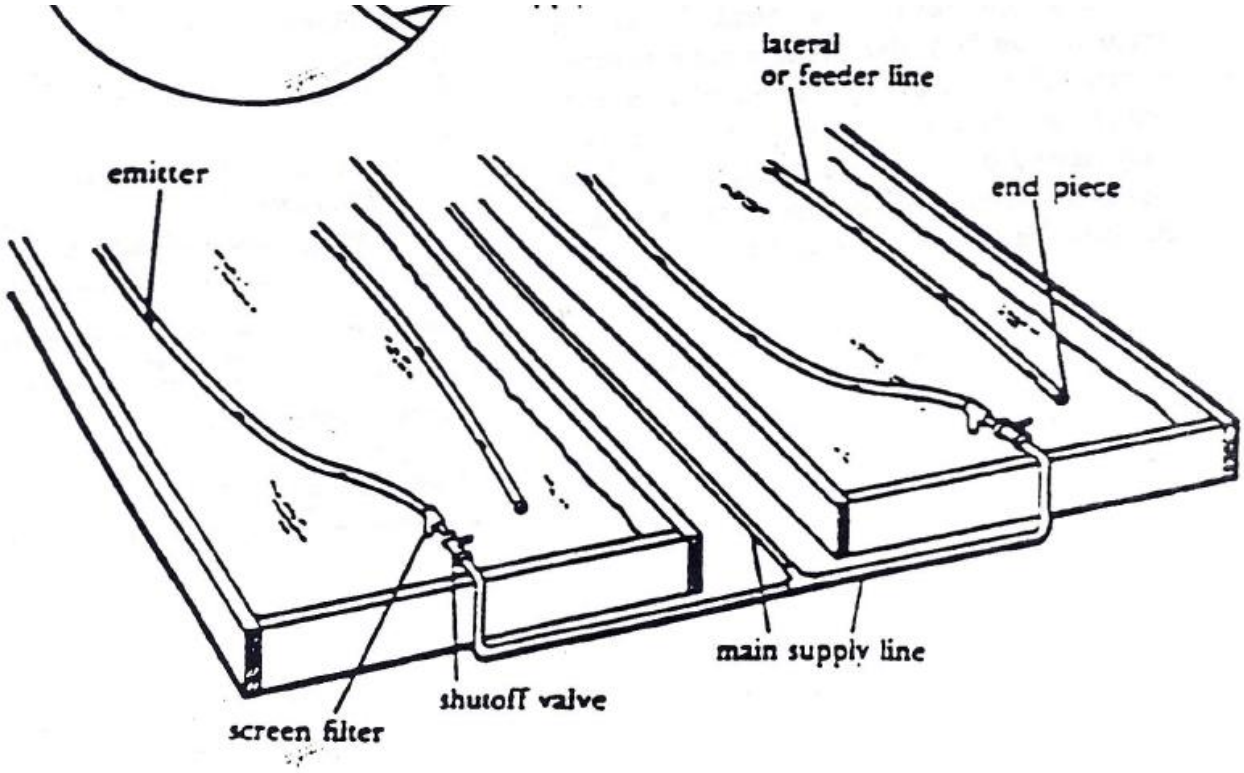


Fig. 9. Typical design (layout) of a drip system for a home vegetable garden.



Additional sources of information:

Texas A&M Extension: http://aggie-horticulture.tamu.edu/earthkind/drought/efficient-use-of-water-in-the-garden-and-landscape/

The Center for Water Efficiency: http://www.allianceforwaterefficiency.org/Drip_and_Micro-Spray_Irrigation_Introduction.aspx

Colorado State University Extension: http://www.ext.colostate.edu/PUBS/Garden/04702.html