Micro Sprinkler Irrigation

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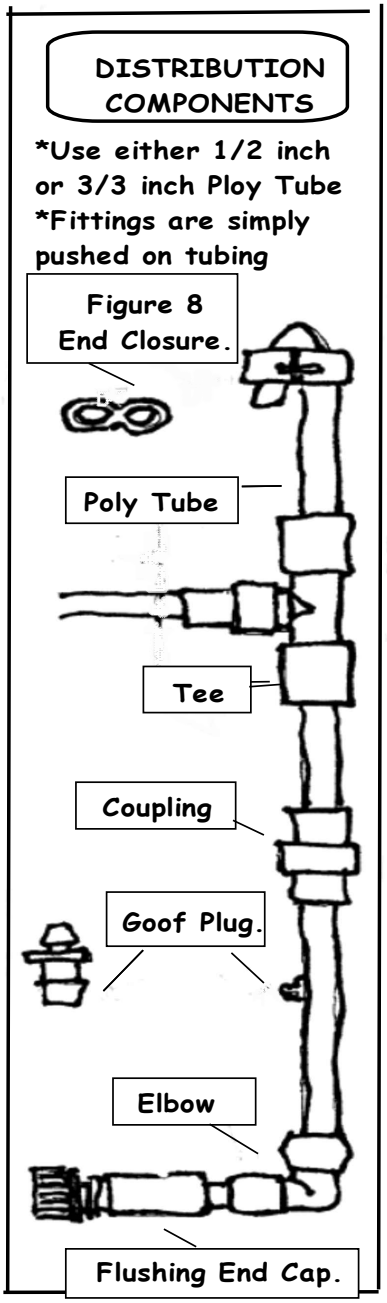


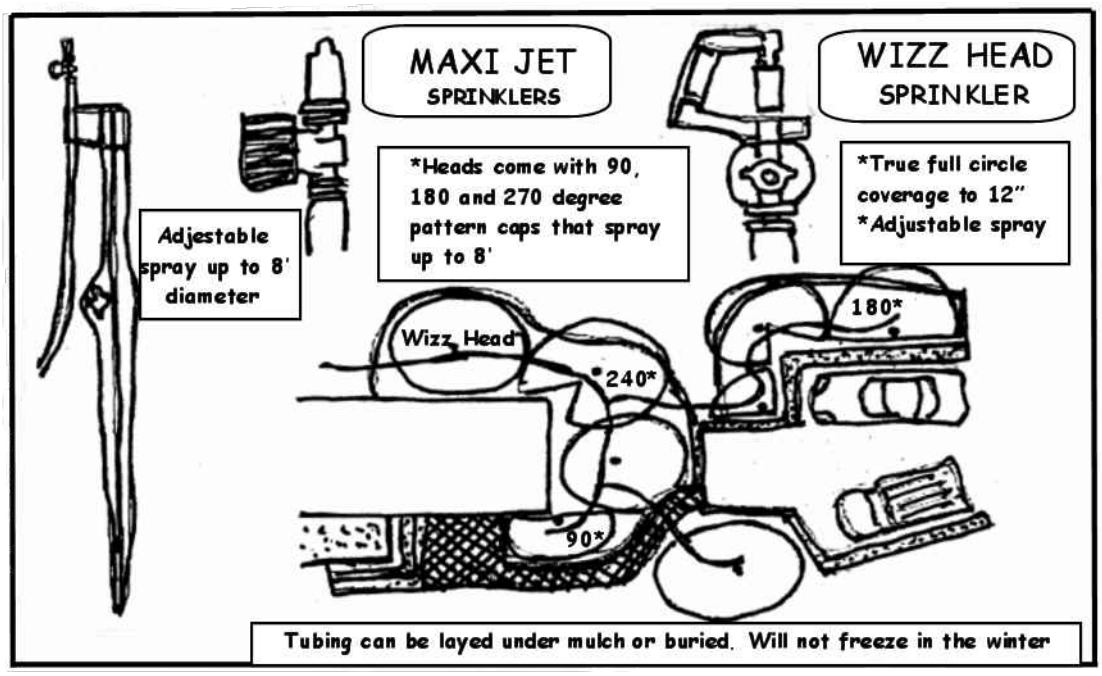
Rain, rain, -- When will it rain? Getting water to our fruits, shrubs, flowers, trees and vegetables is often the difference between healthy thriving plants and dead ones. Mother Nature doesn't always give us what we need in the way of soil moisture. Shallow rooted plants and sandy soils make proper watering even more crucial. We've all spent too much time lugging hoses and setting sprinklers, time that could be better spent gardening. Fortunately, farmers and engineers have devised some clever ways to water. Recent innovations deliver water efficiently and thoroughly. Modular systems have now been designed that can be scaled up for a 500 acre orchard or down for a suburban flower-bed. It can be as easy as turning on a spigot.

THE BASICS

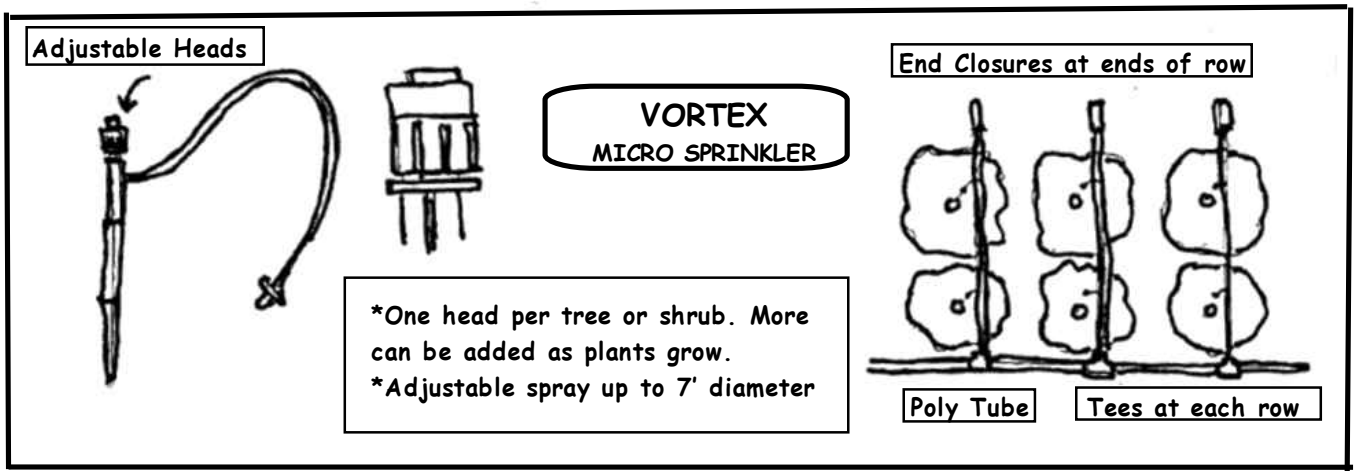
Many folks are familiar with drip irrigation. In drip irrigation, small emitters drip water onto the root zone of individual plants. We've used a lot of drip irrigation, but emitters are prone to clogging, and water is unevenly applied to the root zone. In sandy soils, little of the root zone may receive water – it just runs right through. We kept looking until we found a better alternative. Here at Just Fruits we use microsprinkler irrigation. This is a simple system of flexible polypipe water lines laid where you need water for your landscape. Polypipe can easily be cut to length with pruning shears or a knife and linked together with simple pressure fittings. No threading or gluing required! Attached to the lines are microsprinklers that put water where you want it, and nowhere else. Fittings are designed with both hose thread and pipe thread so the system can easily be hooked onto your outside spigots, or a more complex system can be designed using traditional PVC pipe and fittings. The systems fittings include tees, straight connectors, elbows, In-line valves for manually turning off parts of the system,

and end caps. You can use a manual or battery-operated faucet timer, or a time clock and solenoid valves, to automate the process. These devices not only save the labor of remembering to turn the system off and on, but they also promote healthier plants, due to even and consistent watering. Because polypipe is flexible, UV resistant, and resistant to freezes, lines can be run on the surface of the bed, covered with mulch, or buried. It all adds up to a versatile system that makes watering your landscape a snap.

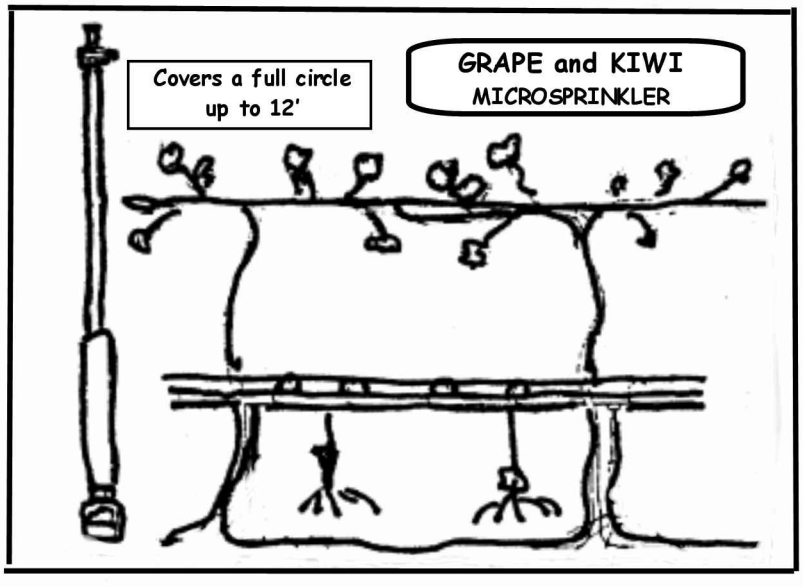
The heart of the system is the Micro sprinkler. These are small sprinklers that are adjusted to put the water where you need it. There are several kinds of micro sprinklers for different applications.



- Maxijet microsprinklers water up to an 8-foot diameter, and come with interchangeable pattern caps that enable you to water all or part of a circle around the sprinkler. This is particularly effective for watering odd-shaped beds or areas bordering buildings and sidewalks, as the water can be directed away from the structure. The distance that the sprinkler covers is adjustable and the maxi-jets may be placed on stakes to cover taller flowers.
- Whizz-head sprinklers cover a round area, up to 12 feet in diameter. They are excellent for watering large beds or vegetable gardens. The diameter is adjustable and like maxijets, the whizz-heads may be placed on tall stakes if needed.
- Vortex micro sprinklers cover up to a 7-foot circle. These are attached to low stakes and are placed close to the trunk of the tree spraying at ground level. They are perfect for medium to large shrubs and fruit trees. The amount of water is easily adjustable and the large aperture makes them easy to clean. They are also very inconspicuous.



We also stock several other types of micro sprinklers for specialized applications. There are special applicators for watering vineyards, and clips for attaching the polypipe to decks and walls, for watering patio plants or window boxes.
About the only thing we don't water is lawns. For that, larger sprinklers do a better job, although the microsprinkler system can be used to make large sprinkler systems more efficient.



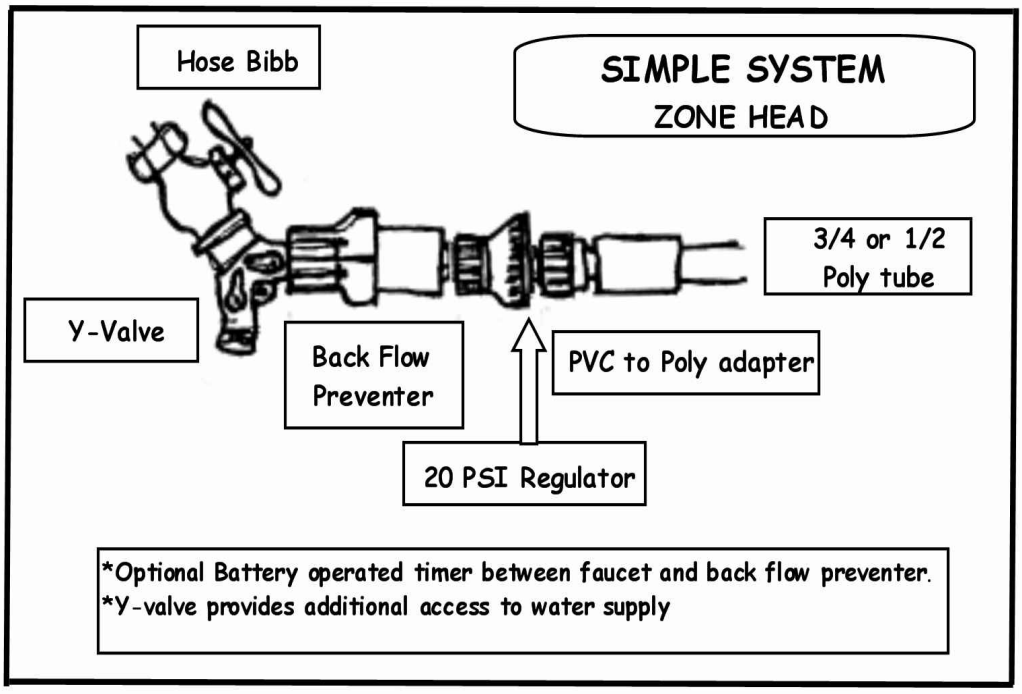
Irrigation with microsprinklers is usually organized into zones. A zone is the equivalent of a hose with a sprinkler on the end. However, instead of one large sprinkler, micro sprinklers are placed as needed along the hose. Since we like to use a maximum of 30 to 40 microsprinklers per ¾" line, the number of zones is set by the number of plants you need to water. For most homes, 1-3 zones are more than adequate. Each zone will be turned on and off separately.

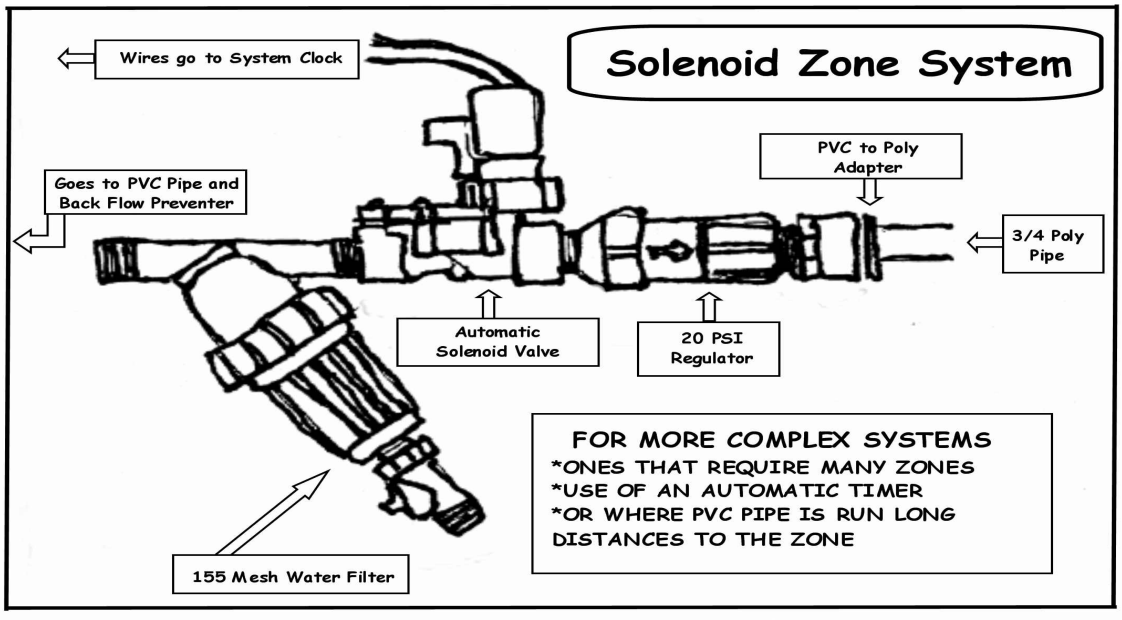
PLANNING YOUR SYSTEM

In this section we'll discuss the basics of planning your system. We'll concentrate on the home system, but we routinely design and install large orchard systems. Call us for help no matter what size system you need!

1. The first step in planning your system is making a sketch of your property. Where are the water pump, the existing water lines, and the spigots? Which flowerbeds or shrubbery need water? A sketch map with approximate distances and locations is all you need. Draw in areas to be watered and label by types and sizes of plants. Remember that different types of plants need different amounts of water.
2. After making your map, decide how many zones you will need. Flowerbeds are usually best watered with maxijets and whizzheads while shrubs, fruit trees and landscape trees usually do better with vortex micro sprinklers. We recommend that zones contain no more than 25 maxijet microsprinklers on a ¾" line, or 10 for a ½" poly pipe line. Vortexs micro sprinklers should be rated at no more than 45 per ¾ line or 20 per ½ line. You can mix maxijet micro sprinklers and vortexs on the same line. For each zone identify a water source. This can be either a water faucet for simple systems or a PVC water line for more complicated systems.
3. Bring your plan and a list of the parts you need in to us. We'll go over it with you and suggest ways to make things as easy as possible.
4. Or just make us a rough sketch of your yard and we'll design your system for you.

FOR SIMPLE SYSTEMS USING A HOSE BIBB: The system first begins with a back-flow preventer. This ensures that no stale, algae-laden water trapped in the line gets back into the well or city water system. Next is a Y valve. This allows you to operate the system and a water hose at the same time. From here you can either go with a manual or battery-operated timer. Next comes the pressure reducer. This slows the water pressure to 20 psi, which extends the life of the micro sprinklers and keeps the mist from being too fine, causing the wind to blow it off the plants. Past this is the polypoly adapter, into which you push the polyline that goes to the plants.





FOR COMPLEX SYSTEMS: The system begins with an irrigation filter. This is designed to trap small particles that might clog or wear out the components of the system. This and a more elaborate back-flow preventer are usually inserted at the well-head or main city waterline to treat the entire water system. Next comes the manual valves or electric solenoids that turn the water off and on to the zones. These can be placed all together at the head of the system and then the water is distributed to the various zones via either PVC or polypipe. Or main line pipes of PVC or polypipe can be run out to the zone and then the valve attached to the line (if you're using electric valves the wires used to power the valve are run with the trench with the pipe). Whichever way you choose you will need to add the regulator at this point and then the polyadapter (or PVC to polypipe adapter). From there you go polypipe to the plants.