

GARDENS/MINI-FARMS NETWORK

**USA, México, Rep Dominicana, Cote d'Ivoire, Nigeria, Haití, Honduras,
Kenya, Malawi, Mozambique, England, Nicaragua, India, Uzbekistan, South Africa**

**Workshops [urban & rural] in organic, no-till, permanent-bed, gardening, mini-farming, mini-ranching,
with bucket drip irrigation, worldwide, in English & Español**

Bucket Drip Irrigation

The bucket must be suspended at least 1 meter above the ground. A tube is connected to the dripline and the other end is placed in the bucket to siphon the water out. Assuming the bucket is 20 liters, fill it twice for each row of vegetables every other day. The dripline can be moved to another row for irrigating. Plant a row of vegetables on each side of the dripline and use 40 liters of water. One bucket, used 2-3 times per day, will grow all the vegetables a family can eat.

Bucket Kits

The key to the simple drip irrigation system that we use is the gravity fed "bucket kit". The bucket kit consists of four 8m lines [or two of 50 ft or one of 100'] of drip tape connected to a bucket suspended 1m above the vegetable bed. Water is poured into the bucket and is evenly distributed to 100 watering points. By filling the bucket twice a day, a small kitchen garden can be watered. Studies in Kenya have shown that two of these kits can provide the water needed to produce enough vegetables to feed a family of seven during the dry season. These bucket kits are available in most countries (US\$25), save water, save labor, and are easy to use. Go to Chapinlivingwaters.org.

Using sleeves

Farmers in Honduras invented a VERY cheap drip irrigation system. They buy the regular black poly hose. Then they punch holes in it where they want them with a nail or ice pick. A hot nail is best. Then take short sections [5 inches] of the same hose, cut it lengthwise to form a sleeve, and place a sleeve over each hole. This sleeve applies pressure to the hole, only letting a little water out, like a drip. This technology is quite cheap, VERY simple to do. Maintenance is also simple, because if a hole plugs up, you can often unplug it merely by taking the sleeve off and then cleaning out the hole.

Using screws

Farmers in Nicaragua are using cheap round tubing and wood screws. I tried it with great success. The screw is inserted completely into the tubing, every 12 inches, so that it protrudes through the opposite side. It is then backed off to allow water to drip through that side. The flow is set by screwing it in or out as needed. This even allows for variations in pressure due to terrain. Hole can be cleaned out.

Pin holes for drip

I am wondering if a dripline could be made by using a hot pin or very small hot nail, etc. to punch holes in the poly tubing. I mean really tiny holes every 12 inches.

Irrigating one plant

Drill one hole in the bottom side of a bucket. It should be the same size as a short hose which is then inserted into the hole. Place the end of the hose at the base of a plant. Even better is to use a short piece of hose with several holes and circle the plant.

DIY drip kit:

Roger Pigott [San Diego workshop] decided to use two bucket drip systems on a bed in the garden but he did not want to siphon the water. Kits from Echonet.org are \$25 each. He went to the hardware store and purchased: 100' of ½" black poly tubing; a post to hang buckets on; a faucet rosette washer and nut; ¾" ring washers; ¾" swivel tubing adapter; union - ¾" pipe threads and garden hose threads. One for each bucket. He drilled a 3/4 inch hole in the bottom of the buckets and installed the fittings. He then connected the tubing from the buckets to a header. He has five driplines connected to the header using tees and ells. He used wood screws for the drip outlets. There is about 60' of dripline. He planted seed in the five rows and laid the dripline over the seed. Very original thinking!

Buy enough hose to connect the drip line to the top of the bucket to siphon out the water. It takes about 1-2 hours for the bucket to empty. The dripline can be moved to another row of vegetables or plant a row of vegetables on each side of the dripline. Use more water. If one is willing to carry the water, one line will irrigate several rows during the day.

Best irrigation system with pressure

Best drip lines for irrigation using pressure. Purchase 1/8 inch or 1/4 inch polyethylene tubing. Connect to a faucet and run to the plants to be irrigated. For outlets, use a transfer barb or a tee. These do not stop up. Move to irrigate various areas.

Organic, no-till mini-farming, in permanent beds, using hand tools [& hand power tools], takes very little funds, increases yields, reduces labor by 50% to 75%, reduces inputs/expenses to nearly 0 [seed only], increases fertility, stops soil erosion [no rain water run off], eliminates most weed, disease and insect problems and greatly increases profits if marketing. Drip or DIY drip or DIY bucket drip irrigation as needed.

I teach workshops/training, worldwide, English or Spanish, free when expenses are paid.

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