# One Day Garden

Focus upon sustainability rather than catastrophe. Instead of stashes of food and guns, build a garden that can be installed in a single day, and needs only a fraction of the water and care normally expected.

Inspiration for the water saving potential came a few years ago when I decided to grace a normally desolate corner of our property, with sunflowers, and lined a crescent of trench about two feet deep with plastic.

After enjoying weeks of large sunflower blooms (followed by a trove of edible seeds) , the project was ignored the following year.

Nature however, did not ignore the foothold, and graced the abandoned Bermuda mixed lawn with a crescent of enhanced growth a half-dozen times as rich as the surrounding lawn.

The empirical data thus serendipitously presented is a testimony to the water saving potential of no more than a buried membrane.

This one-day garden would be like a container garden, but built into the earth and lined with a membrane to hold the water. A riser from a pocket of sand or rocks in the bottom makes it possible to monitor and control the water level and nutrients. This basic hardware would make it adaptable to hydroponics as well.

If you covered all but the crops with pavers and an impervious membrane, you would also curtail surface water loss and almost all the weeding.

As for scale, choose a size that a reasonably healthy man could excavate and backfill in a single day. The time required for the other components would vary widely. In my case, I dug out a U-shaped pit five feet in diameter by three feet deep in loose soil in about an hour and a half. Another advantage of this five foot diameter is that rolls of heavy plastic are commonly available in increments of ten-foot widths – just adequate to line this size of hole.

The liner I'm using comes from a twenty by one hundred foot roll of six mil black plastic. This is enough for twenty gardens. Since the initial shape of the plastic would be square, you could conveniently taper the upper portion of the hole into a square instead of a circle – adding a few square feet to each garden for little effort and zero cost.

This format offers additional opportunities:

(1) Picture a case where a natural, or man-made disaster overwhelms the surrounding infrastructure. If your friends and family began building and planting one of these gardens every day, you would soon free yourself from dependence upon FEMA and other agencies.

(2) The convenient size and low maintenance could utilize property margins and otherwise unusable scraps of land. If permission were granted to use a scrap of land bordering an ally, homeless friends could be empowered to grow some of their own food.

(3) Negligible environmental impact would allow these gardens to be temporarily abandoned without a trace – other than leaving patches of enriched earth and available moisture. Such gardens prepared ahead of time, could be reactivated when needed.

(4) Minimal water and maintenance needs would empower homeless people and others to grow food far from the nearest sources of water. In these cases, water could be hauled in vehicles or carts.

(5) They would require no utility connections, permits, or improvements that would affect land values or invite regulatory involvement.

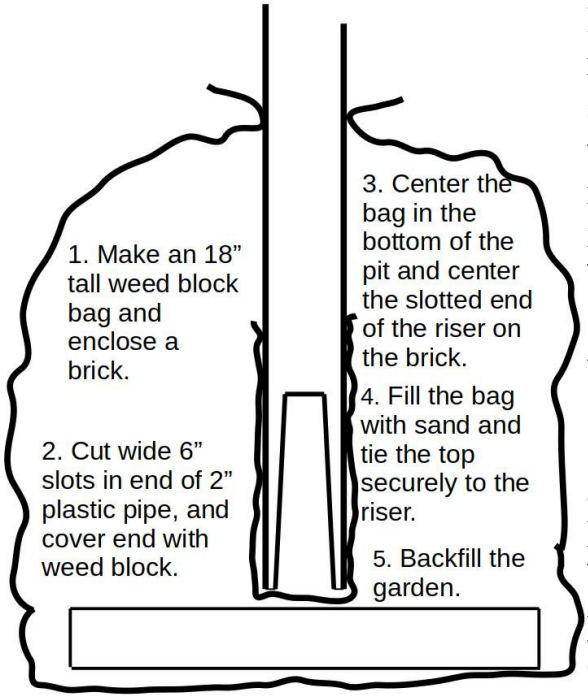
(6) Such gardens could also provide opportunities for employment through installation in residential yards. Beyond the installations themselves, ongoing maintenance might be negotiated in exchange for a monthly fee, a share in the produce, or a place to camp.

(7) All-in-all, this could empower those dependent upon the diminishing taxpayer funds to reconnect with society and rise above their current status of helpless dependents.

The initial test was to plant two butternut squash seedlings that were barely tall enough to protrude above the pavers. These were planted in a 5’ diameter bed lined with plastic, 36” deep – just two weeks before this photo was taken (Only one of these seedlings made it).

After the first cycle of watering, I allowed the water depth to drop to 2” during the first triple-digit week.

No water was added for the next eight days, until and the water depth was again down to 2”. Five gallons were then added.




For most applications in an active garden, the riser could protrude a few inches above the surface. But in cases where it might be desirable to make all the surface traces disappear, cut the riser off a few inches below the surface and install a coupling, so that a short extension could be attached for adding water.

Until an extension is added, cover the end of the riser with a cap or plastic.

In order to save labor and mess while digging and back-filling this garden, I made a plastic-lined corral of wire fence, five feet in diameter by three feet high. This was set on a piece of plastic next to the hole, with the seam joining its ends facing the hole. This was to keep the pile of temporarily displaced earth from spilling over adjacent garden areas, and to keep it close to the hole.

The back-filling began by simply opening the seam so that some of the dirt could spill directly into the hole. While refilling the hole, I also mixed in a bag or two of compost I had stored in plastic leaf bags.

After a month of monitoring the water levels and refilling as necessary, a trove of growing squash began to appear.

Water levels were monitored by a dip stick down the riser, and five gallons were added whenever the stick indicated one inch or less. Initially the garden could go an entire

week without a 5 gallon increment being added, but by the end of a month, the cycle had shortened to four days. Presumably, this change was attributable to the increasing demands of growing plant – which would facilitate an interesting calculation in itself.

At this level, an extreme water and maintenance-saving garden could be established far from the nearest water source and be supplied by water hauled in hand carts.

By day 45 the garden was consuming about 5 gallons per day, and had taken over most of the space I had allotted for it.

On the 53rd day, I harvested the first reasonably mature butternut squash. It was kind of small (only 7-1/2" long), but the surface had hardened, and most of the green coloring had been replaced. Several additional squash were also beginning to enter this phase. LET THE HARVEST BEGIN.

## Evaluation

We have established a garden with a single day's effort, that required no maintenance besides watering until its first meal became available two months later.

Preparation did not come free. This project required: (a) A 10 ft. square of six mil black plastic; (b) about 3-1/2 feet of 2" plastic pipe; (c) enough landscape fabric to enclose about a cubic foot of sand; (d) an impervious covering to prevent surface evaporation. As for the surface covering, I used landscape fabric covered with a solar roof coating, held in place by some available pavers. I would expect (although I haven't tried) a piece of plastic covered with a layer of dirt or compost would have worked as well.

Effort-wise, consider the wire and plastic corral used to contain the dirt while excavating the hole, and the compost added to the soil during back-filling. Consider also, the cultivation of the required bedding plants.

## Onwards

Besides the results themselves, this experiment has taken us to a new horizon, from which we can see additional questions and opportunities. For example: It didn't take me long to make a mistake. When I dumped a cup of fertilizer down the riser, there were fibrous components of it that did not dissolve, and partially clogged the riser system.

On the plus side, a lesson was learned: When it comes to adding nutrients, they must already be thoroughly dissolved when added through the riser. Otherwise, spade them in from the surface.

## Additional thoughts

* This project demonstrated the feasibility of installing a productive garden within a single day, featuring: (a) a plastic liner to contain water (b) about one cubic foot of "aquifer" (c) a riser to monitor and control the water depth and nutrients.
* The ten foot increments in which the plastic is sold, approximate the distance of the rounded bottom extending three feet deep, plus the five foot diameter of the garden.
* If you slope corners into this round format, you can add 21.5% to the area for very little effort and zero cost.
* A ten by twenty foot increment of plastic would produce a garden five feet wide by fifteen feet long – tripling the area while only doubling the plastic required (The plastic typically comes in 20' widths). Inasmuch as this could also eliminate two risers and two "aquifers," this would make it more practical to make each garden a three day project.
* The five foot width of these gardens would enable them to fit into narrow confines otherwise not suitable for gardens.
* Due to the limited volume of the soil within the gardens, variations in watering cycles would have greater affects.
* Inasmuch as catastrophic damage could happen with minimal neglect, it would be more secure if some form of automated watering system were deployed.
* A 20'x10' strip could give you a garden 15'x5'