

Tossed Greens

By Clif Droke



Beginners can try soilless growing using the simplest of setups

Most kitchens will have room for at least one or two of these 'salad disks,' in which lettuce grows in a homemade hydroponic system made with simple, inexpensive parts.

Hydroponics can be an intimidating venture for the novice, especially for those who lack the proverbial "green thumb."

Most home hydroponic systems being promoted today feature an array of motorized pumps, timers, high intensity lights and other assorted electrical gadgetry. Then there's the emphasis on two-part and three-part nutrient formulations, pH testing, micro-nutrients, etc. It's enough to scare away anyone from ever considering hydroponics (or soilless growing) as a worthwhile hobby or productive venture.

It doesn't have to be that complicated. For those who want to try it first before investing in equipment, there are ways of bypassing the high-tech approach to hydroponic gardening. By using common household items and recycling things that might otherwise be relegated to the trash, an extremely low cost, simple and practical soilless growing system can be constructed right in your own kitchen. A simple system such as this one will let the timid gardener get his feet wet and decide if he's ready for something more ambitious.

The salad disk

One day while eating lunch with a friend at a local Subway sandwich shop, I noticed the attractive and durable looking plastic salad container my friend was eating from. It was comprised of a large black plastic tray and a transparent cover that gave it a "flying saucer" appearance. It occurred to me that this might make a nice tray for growing small salad greens in a media-based hydro system.

I obtained several of the salad trays and plastic covers and immediately commenced experimenting.

The weather tends to get windy at times here on the island where I live in coastal North Carolina. As a result my previous experiments with lightweight, inert growing media often ended in disaster. I prefer to economize my hydroponic plants by using an indoor/outdoor approach (i.e., indoor artificial lighting is supplemented with outdoor sunlight whenever possible.) I also like my plants (mostly edible) to be portable so that if I have to travel I can at least take some of them with me and care for them on the go.

Naturally, I favor growing small, compact fruits and vegetables such as determinate, bush-type tomatoes, various types of leaf lettuce, miniature pea plants, etc. I discovered that it's best to use sand as a base for most of my plants (sand can be obtained for free here on the island), mixed in with lighter materials to let the roots "breathe." These include sphagnum moss, perlite, rockwool, with a little charcoal at the bottom of each container to prevent excessive nutrient salt buildup.

To begin I drill several small holes at the bottom of the tray and used one of the tray lids as a catchment for excess water. I fill the bottom dish of the salad container with a layer of sphagnum moss and charcoal, then fill in with a mixture of sand and perlite before covering the top layer with more sphagnum moss. The plastic top is fastened to the dish with three or four square-shaped holes cut in to allow for rockwool cubes to be inserted. These cubes are seeded with two or three varieties of heirloom leaf lettuce with sometimes two or three types of lettuce growing from the same cube. While this eventually presents

a somewhat overcrowded appearance to the tray, I find it enables me to get a higher yield from what is a very small system.

The lettuce is fed a simple Miracle-Gro solution with a little calcium nitrate and Epsom salts mixed in for good measure. (See recipe below.) Every now and then I leave the growing tray out in the rain to allow the water to flush the system of excessive nutrients, thereby preventing flocculation from occurring.

I've found that this system can be grown entirely outdoors in the spring (since the summer heat tends to wilt the lettuce) and this system can also be grown year-round indoors under a simple fluorescent light placed very close to the lettuce. I usually have one or two of these "salad disks" growing in my kitchen at any given time.

Although the system works best for various types of leaf lettuce, it can also be used to grow spinach and most herbs and micro greens. Another neat little trick is that the "Tom Thumb" variety of sweet pea can be grown in this system and placed on a kitchen table as an edible decoration or conversation piece. Best of all, the system is self-contained and extremely portable.

Porch beans

If you love the fresh, crisp flavor of home grown string beans in the summer but lack the space to grow them in your yard (or simply have no desire to fight off the weeds and insects in a sweltering backyard garden) then this next experiment is for you!

By re-using a small-to-medium sized plastic container, such as the type ice cream is sold in at the grocery store, you can grow bush beans on your porch, deck or patio, provided it has a railing or something the beans can wrap around or climb.

Here on the island most houses are built on "stilts" and have an elevated deck with a sunny exposure. By filling an empty ice cream container with my usual mixture of sphagnum moss, sand, perlite and a little charcoal (making sure to drill holes on the bottom to allow for drainage), I'm able to plant a bush bean in each container and place it close to the railing of the deck.

In time, the beans begin climbing the railing and start spreading outward and wrap-

ping around the rails as they move along. It actually gives the deck an interesting and very decorative appearance and eventually I'm able to harvest beans right outside my front door.

The best part of this system is that it involves absolutely no weeding (although there is the matter of taking down the vines when the growing season has ended). This system is also fed using a Miracle-Gro solution (see below) and is supplemented with rain water.

Tomatoes and chili peppers

Using the simplified household approach, you can even grow tomato and chili pepper plants in your living room without the use of an expensive, high maintenance hydroponic setup.

Ornamental chili pepper varieties are available that grow less than a foot tall and produce lovely, edible chilis. These make great living room decorations and gifts. They are highly suitable for growing in a soilless container system using any number of inert growing materials (perlite, vermiculite, rockwool, sphagnum moss, coir, etc.) and can be grown either in sunny windows or under artificial light.

Tomato varieties such as Tiny Tim can also be grown rather easily in small containers indoors and outdoors at any time during the year and also make great living-room decorations and gifts. The bountiful, cherry-sized tomatoes are also delicious in salads. For both the pepper and tomato plants I also use a Miracle-Gro solution fortified with calcium nitrate and a pinch of Epsom Salt.

One other growing trick I've learned is that it's possible to start leaf lettuce and a tomato seeds in the same rockwool cube (my preference is Red Sails leaf lettuce). By growing lettuce and tomatoes in the same container you can harvest lettuce even as your tomatoes ripen, thereby maximizing growing space.

For all the above hydroponic experiments the same nutrient formulation can be used. Contrary to what many growers claim, Miracle-Gro can indeed be used for most hydroponic plants – with the right adjustments. I've used it successfully for growing several varieties of heirloom lettuce and tomatoes. I obtained the formula for my

Miracle-Gro hydroponic nutrient solution from the helpful web site www.hydroponicsonline.com. For lettuce and other leafy crops the basic formula per gallon of water is:

1 teaspoon all-purpose Miracle-Gro or Miracle-Gro for Tomatoes

½ teaspoon calcium nitrate

½ teaspoon magnesium sulfate (Epsom Salt)

For tomatoes the formula is identical except that Miracle-Gro for tomatoes (red crystals) is used instead of the all-purpose version (blue crystals). However, I've discovered that in media-based hydroponic systems the tomato formula works equally well for lettuce, chili peppers, peas, and most other crops that can be grown in containers.

In the early stages of growth, before the plant reaches maturity, use a half-strength version of the above formula. Also, cheaper generic versions of Miracle-Gro (such as K-Grow sold by K-Mart retail outlets) can be used instead.

Conclusion

Household hydroponic systems constructed of easily obtained, recyclable materials are among the most practical for the small-time hobbyist or container gardener. They don't rely on electricity unless you're using artificial lighting, are portable, self-contained and easy to regulate, and do not involve expensive mechanized parts or high-tech gadgetry.

These easy-to-build systems are the perfect way for the novice gardener to gain experience in soilless plant culture without the intimidation that can often accompany more sophisticated hydroponic systems. If you like it, you can dive in on more ambitious and expensive projects.

Best of all, they are simple enough to be used by children and adults alike and offer a fun and rewarding pastime while simultaneously cutting down on the grocery bill! 🍴

Clif Droke is a professional financial consultant and author. He lives in Topsail Beach, NC, where he gardens year-round using hydroponic and other soilless growing systems.