

HYDROPONIC *Vegetable Production in Florida*



WHY BUILD A HYDROPONIC GARDEN?

- Easy to build
- Provide nutritious vegetables for home use
- Avoid many pest problems associated with soil

CROPS

Several leafy salad crops such as lettuce, mustard greens, mizuna, mint, chives, and kale grow well during the cool season. There are fewer crop options for the warm season; however, basil, Swiss chard, cucumber, watercress, and some cut-flowers, like Zinnia and sunflowers, have done well. Also consider growing herbs, peppers, tomatoes, vegetable/herb mixes, and strawberries.

FLOATING RAFT SYSTEMS

Floating raft systems utilize Styrofoam rafts or mats with holes drilled in them which are floated on nutrient-rich water. This system works well with short-season, shallow-rooted crops, such as lettuce, basil, and watercress, which grow well under high-moisture conditions in the root zone.



MEDIA-FILLED POTS OR UPRIGHT BAGS

These upright containers can be spaced in two rows, similar to rockwool culture or lay-flat bags. Drip irrigation supplies a nutrient solution to the containers, which is usually not re-circulated, but timed to pulse-flow through the containers. Composted pine bark is the most common media used because of its ample availability from the forest-pulp industry in Florida.



MEDIA-FILLED TROUGH

The media-filled trough is a hydroponic system that uses various liner materials to produce a trough that will hold a media selected by the grower. A drip system runs the length of the trough, uniformly providing water.



NUTRIENT FILM TECHNIQUE

The nutrient film technique (NFT) is where plants are grown with roots contained in a plastic film, a trough or PVC pipe. Nutrient-laden water is recirculated through the system, bathing the roots.



PERLITE BUCKET SYSTEM

Perlite is naturally occurring volcanic glass or rock and is white, angular, and pearl-like. Perlite hydroponic systems include drip-irrigated, perlite-filled, Dutch buckets or lay-flat plastic bags. Perlite is also used in a variety of other cropping systems such as vertical systems and perlite-filled, aluminum roofing panels.



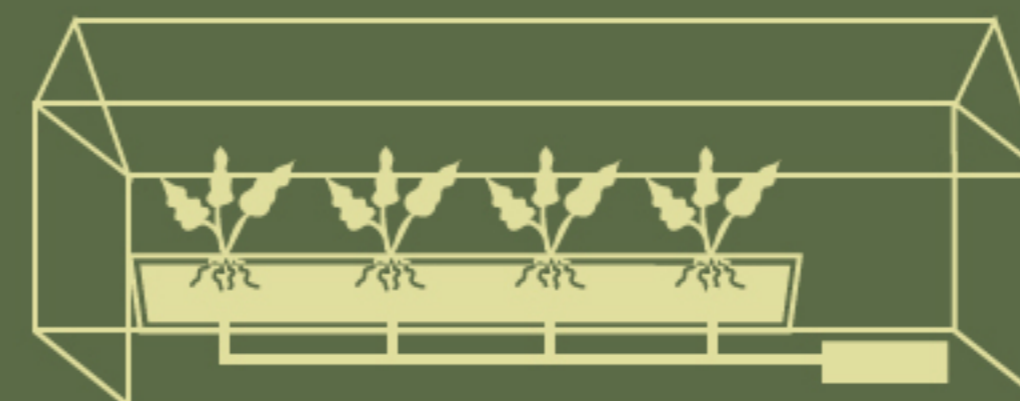
ROCKWOOL CULTURE

Rockwool is an inert, fibrous material produced from a heated mixture of volcanic rock, limestone, and coke. Rockwool is extruded as fine threads and pressed into loosely woven sheets.



SOIL-MIX RAISED BEDS

This system consists of a combination of peat, perlite, vermiculite, and composted product or similar substrate, sometimes mixed together with fertilizer. Drip irrigation supplies water and nutrients to these crops, which are grown in rows under a protected greenhouse structure.



VERTICAL SYSTEMS

Vertical hydroponic systems produce crops in upright rows, a method that can significantly increase plant populations. More recently, vertical-production techniques have also been developed for tomato.

