

# Passive Hydroponic Salad Growing – by Selinda Barkhuis

## Starting up:

- What to grow: Salad greens, spinach, herbs, “old” seed packages, such as beets, kale, cole, chard....
- Keep track: What was started when and how, growing medium, lights and time, nutrients, harvest details.
- Note any problems: Adjustments, results.
- Pros of growing greens: Fairly forgivable, easy to start over.

## Light set-up:

- Where some natural light is available, salad and veggie starts grow just fine under simple fluorescent “shop light” fixtures that take 1” F32T8 tubes and have reflectors that direct light down. Use higher K “cool-white” low mercury tubes (less than \$3 each).
- Hang lights a few inches from top of salad. If set-up will be used for other starts, use s-biners that fit through holes on top of fixtures, and then use chains to hang fixtures from above, so light fixtures can easily be adjusted up and down.
- Plug lights into power strip that is on a timer set for 12 hours “on” a day, such as 7 am to 7 pm (flowering plants require more light).
- Salad is a cool weather crop. No additional heat is necessary.

## Grow set up:

- Durable water reservoir – opaque to minimize algae growth. Using one-tray reservoirs will be easier to wash weekly.
- Durable or bio-degradable planting trays with large hole(s) at bottom.
- Platforms.
- Capillary matting (cap-mat) is now available machine washable. Use with thin weedblock (or lift trays regularly to prevent roots from penetrating cap-mat). If reservoir sits on uneven surface, place so that cap-mat dips into reservoir at lower end.
- Coconut coir is sustainable and locally available. Expand coir with water as directed on label and fill trays almost to top. Tamp down to ensure coir at bottom of tray makes contact with cap mat.
- Follow directions on seed packet when sowing.

## Hydroponic nutrients:

- General Hydroponics FloraNova is locally available; a bottle lasts “forever.”
- Start using after seeds have germinated; use less than recommended.



## Chores and problems:

Indoor greens require continuous attention, but the reward is a continuous harvest.

- Daily chores: Check water level and add plain water if running low; check plants; check for pests.
- Weekly chores: Clean reservoirs and use fresh water with nutrients.
- To minimize pests, use sticky window film or sticky yellow cards, and clean reservoirs and area regularly. If tray becomes too infested with soil gnats, start over.
- If seedlings are damping off, clean out reservoir (over time, certain nutrients may reach toxic levels). Fill reservoir with fresh water at reduced, or even eliminated, nutrient level; thin and clean out seedlings. A sad-looking tray can explode with luscious new growth within a week of providing a bit of TLC.

## Harvesting:



Use s-biners and chain to allow for easy adjustments



Use trays with large holes at bottom



Place trays on cap-mats that dip into reservoir



Coconut coir medium is available locally

- Three to six planting trays produce enough greens to provide several salads a week for two people, especially if supplemented with overwintering outdoor greens.
- It takes about one month from sowing to first harvest. Trays can then be harvested every week or so, for three to four months.
- Harvest in AM, especially if plants are exposed to direct sunshine.
- While simple “mowing” is quickest and easiest way to harvest, selective “clipping” allows for simultaneous cleaning of debris and thinning of weak seedlings, which will result in healthy larger plants over time. Thin by snipping at root – do not pull.
- At some point, tray will be “done”. Compost remainder and start over.



Harvest, thin, and clean up at the same time

**A sampling of easy-to-grow salad greens:**

- **Mesclun** is a salad mix of assorted small, young salad leaves that originated in Provence, France. The traditional mix includes chervil, arugula, leafy lettuces and endive in equal proportions, but the term is now used to refer to any mix of fresh and available greens and leaf vegetables.
- **Lettuce** is generally the main ingredient of salads. Listed varieties can all be sown densely for cut-and-come again harvesting both indoors and outdoors. If the goal is for the lettuce to form heads, grow outside and thin to 6-10” depending on variety:
  - **Leaf, looseleaf, cutting or bunching lettuce:** Has loosely bunched leaves. Most suitable for dense plantings and continuous harvest.
  - **Romaine, Cos:** Forms long, upright heads. Tolerates warm weather. This is the variety generally used in Caesar salads.
  - **Butterhead, Boston, Bibb:** A head lettuce with a loose arrangement of leaves, known for its sweet flavor and tender texture.
  - **Mixtures:** Experiment with different greens to find varieties and mixtures that work for you.
- **Arugula or roquette** is easy to grow and overwinter outside, but like mustard greens, bolts from May 15 to July 15 (5/15 – 7/15). It adds a rich, peppery taste to salads.
- **Mustard greens** are closely related to kale, cabbage, collard greens, etc. They are easy to grow and overwinter outside, but bolt from 5/15 – 7/15.
- **Mizuna** is a type of japanese mustard. It’s easy to grow and overwinter outside.
- **Watercress** is an aquatic or semi-aquatic perennial plant native to Europe and Asia and one of the oldest known leaf vegetables consumed by humans. Botanically related to mustard and radish, it is noteworthy for a peppery, tangy flavor. It grows easily inside, but place tray directly in reservoir and keep well watered.

**What to sow when:**

	Indoors	Outdoors			
		Over-wintered (under cover)	Spring	Summer (use shade cloth)	Fall**
Lettuce	Yes	No	ASAP	Bolt-resistant varieties*	< 9/15
Spinach	Yes	Yes, fert w/ high N in spring	ASAP < 5/15	> 7/15	< 9/15
Arugula	Yes	Yes	ASAP < 5/15	> 7/15	< 9/15
Mustard greens		Yes	ASAP < 5/15	> 7/15	< 9/15
Mizuna		Yes	ASAP < 5/15	> 7/15	< 9/15
Water cress	Yes, with tray in water	No			

\*Such as Red Sails, Slowbolt (both looseleaves), and Valmaine (romaine)

\*\*Sow < 8/15 for fall harvest, or < 9/15 to ensure sufficient daylength for germination. Smaller plants may overwinter better.