How To Grow Organic Aquaponic Tomatoes:

We planted tomatoes in regular 2-inch pots in our rafts, then installed regular tomato trellises over them; they all grew fast and plentifully. However, the bugs loved them! We found only three tomato varieties that did not have any pest problems: a yellow cherry tomato (called "Egg Yolk", from Baker Creek – this cultivar still shows up all over our seven acres as a volunteer!), a small Roma, and the volunteer Beefsteak.

(Below) A beefsteak-type heirloom tomato that is orange and green when ripe; those two big ones are about to fall off the vine!

DUTCH BUCKETS ARE THE BEST SOLUTION FOR AQUAPONIC TOMATOES AND OTHER VINOING PLANTS THAT WE KNOW:

The problem with aquaponic tomatoes, even in a greenhouse, is that when the bugs do find you (and they WILL!), all the effective organically approved insecticides that kill the bugs (Neem oil, hot pepper sprays and detergent sprays) also kill your fish!

Therefore, we recommend planting your tomatoes using a “Dutch bucket” system, using a bucket or half-barrel filled with good compost material and soil, then watered using a ONE-WAY drip system (critical, so no water goes back to kill your fish!) with your aquaponics water.

What Is A Dutch Bucket?

Dutch buckets can be gallon cans, buckets specifically made for this use, 5-gallon buckets, or barrels cut in half (depending on the size of the plants grown). What do you have that is cheap, easily available, and holds water? The larger sizes of dutch buckets can easily support two or more plants in them. When they get a LOT bigger, they are called "wicking beds" rather than dutch buckets. They are versatile: you can install them at any desired spacing to get the results you need.

Critical! A Dutch bucket has a bunch of drainage holes about 1 inch off the bottom, drilled in the sides, so that you can’t overwater your plants and drown them. If you’re making Dutch buckets out of regular 5-gallon buckets, drill about 10 ¼-inch holes in the side of the bucket, spaced evenly around the bucket, at one inch up from the bottom.

While tomatoes grow great in our raft systems, the real reason to grow tomatoes in a Dutch Bucket system is that sooner or later you will encounter vegetable pests that you can’t control with organic methods that don’t get into your water and kill the fish. In this Dutch Bucket system, the
**Aquaponic water only goes one way** (to the buckets). As a result, you are able to use Neem oil, hot pepper oil sprays, and detergent sprays to control pests; these are all organically certifiable but will kill the fish if used in a recirculating system where the water goes back to the fish tank. In a one-way drip system, no water goes back, and there's no chance of harming the fish.

**Another BIG benefit of doing it this way is** that you are not just limited to the nutrients that the aquaponics water brings in, because you mix your own potting mixture for the dutch bucket. This leaves you free to use ingredients such as volcanic cinder or sand (to aerate the mixture), azomite, calcium carbonate (oyster shells) and other mineral additives (to provide trace nutrients and adjust the pH of the potting mixture), and compost, compost tea, or vermicompost (to add more nutrients for heavy feeders such as tomatoes).

You can also make up your own custom potting mix with compost, nutrients, minerals, etc, if you are into the science and method of that; and the vegetables will grow even better. **A great book on tomatoes is "How To Grow World Record Tomatoes" by Charles H. Wilber;** the methods he covers there include Dutch buckets; just use aquaponics water for irrigation.

**Be careful of "gravel"**, you may need to experiment before using local gravel, because some of it is less than inert; it will affect the growth of plants negatively; this is what's called **"allelopathic"**, and it's in the Glossary. Also, don't use tree bark or chipped trees; a LOT of them are **allelopathic and will stunt or kill plants** because of the chemical compounds they contain. So experiment with what's cheap and locally available and see what grows best.

Fill your buckets, set up a one-way drip system using aquaponics water and standard drip-irrigation hardware and spaghetti tubing. Run your AP water into a 55-gallon barrel first, then to the Dutch buckets; this way, you will be able to add nutrients and supplements into the barrel water and not have them go into your aquaponics system. Fill the barrel from the AP, drip into the buckets, then refill the barrel, and so on.

**Because you have the AP water going into a 55-gallon barrel first before it goes to the Dutch Buckets, you have the ability to adjust the amount and type of nutrients** going to your plants by putting these additional nutrients into the 55-gallon barrel **at any time**, not just when you are initially filling and planting the bucket.

**Plants that are particularly suited for growing in dutch buckets** are anything that climbs or spreads out; such as tomatoes, cucumbers, melons, squash, and gourds. Another advantage is that you can take a single dutch bucket out of a system for replanting without having to deal with the rest of the system.