Introduction

AquaponicsUSA.net

BioponicEarth.com

The Future Of Farming


The Future Of
Farming

Climate-Controlled Greenhouses & Solar Warehouses Growing Food Year-Round For Local Communities In Place Of Open Fields of Crops! But Why Is This The Future?

This is NOT about the Debate of **What Kind Of Climate Change-HOT or COLD. CC is** a Fact of Life on our Planet that is dependent on our ever-changing SUN.

We've **Overfished Our Oceans**. UN's FAO (Food & Ag Org's) 2021-2025 Data shows 35.5% of Assessed fishery stocks are overfished, meaning they are being harvested faster than they can be replenished. That's over ⅓ rd. Click below for the Link to **Marine Fishery Resources, 2025**.

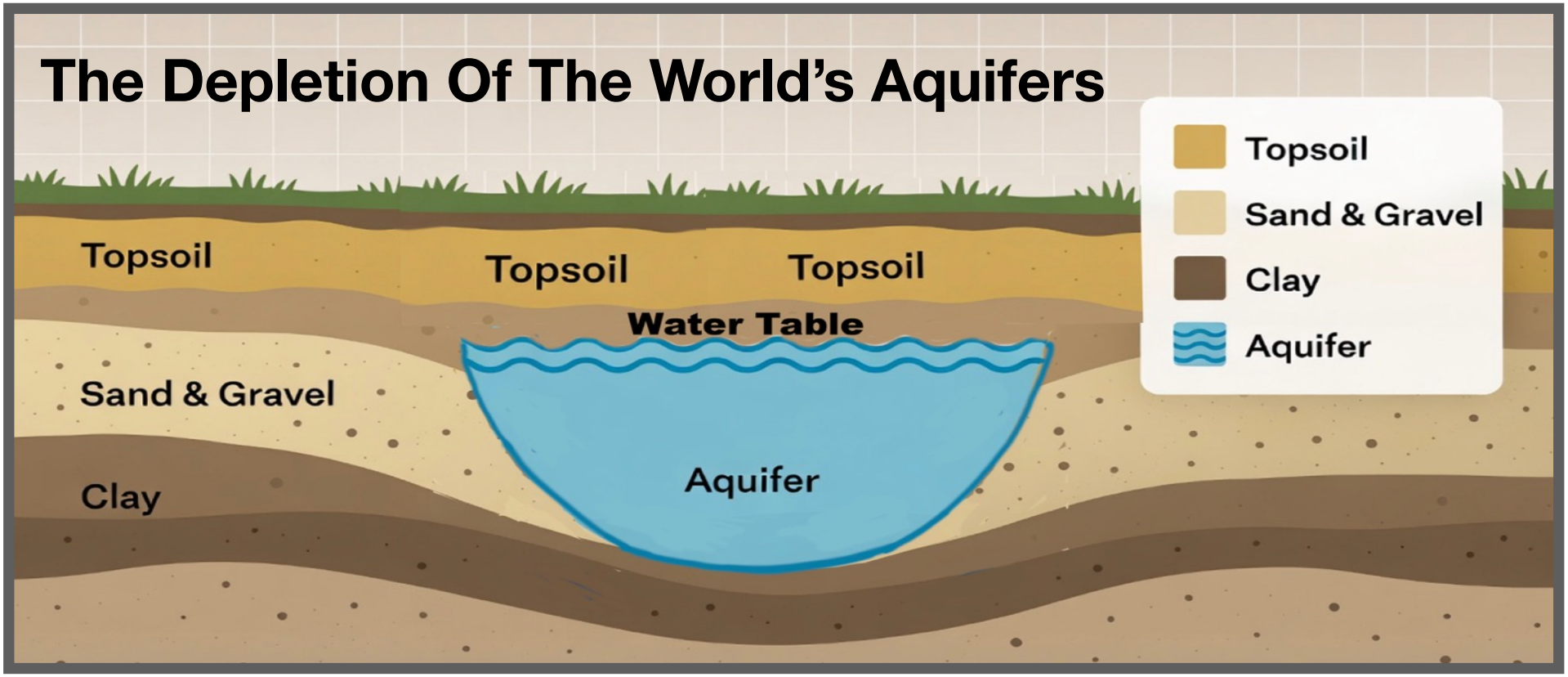
We've **Degraded Our Soil**. UN's FAO (Food & Ag Org's) Created a Status of the World's Soil Report in 2015.

which states that about ⅓ **of the World's Soils** are moderately to highly **Degraded** due to human activities including: erosion, loss of organic matter, nutrient depletion, salinization, compaction and contamination. We've overused ⅓ of our Fish and ⅓ of our Soil. Click below to Link to that **Status** Report.


Moldova Lake, between Moldova & Romania

We've **Overused Our Water Resources.** UN-Water, FAO (Food & Ag Org's) created **(AQUASTAT) ASSESSMENTS** to track both **Physical Scarcity** (Insufficient Volume) and **Water Stress** (Withdrawals at a high Proportion of Renewable Resources) Click below to Link to that **FAO Water Report**.

Arizona is of great concern. We have a Reprint of a Report on our Website **Downloads Page** called **"Colorado River Basin WATER WARS",** which was given by Mr. Tom Buschatzke, Dir. of AZ Dept. of Water Resources on Jan. 27, 2026 that explains the details of this on-going War between the Upper & Lower Basins. Click Link for **Video**.



We've **Depleted our Aquifers**: Largest Study, 2024 covering 1,693 Aquifer Systems: These Systems represent regions with about 75% of Global Groundwater Withdrawals, and Groundwater Levels are Declining in 71% of them. Click on **NIH Library** for the Abstract.

37 Largest Aquifers (tracked via NASA GRACE satellites): 21 are being depleted faster than they can recharge. Of these, 13 are considered "significantly distressed." Depletion is due to Agricultural use, population growth & Climate Change. Click on **Study**: A third of Big Groundwater Basins are in Distress.

MAJOR PRODUCERS OF FERTILIZERS

IRAN
QATAR
SAUDI ARABIA

Once again, we are looking at that ubiquitous **30% Number (almost ⅓)**

We've **Failed To Establish Reliable Fertilizer Resources**, and literally sit at the **Chokepoint, The Strait of Hormuz**, which handles **30%** of Globally traded fertilizers that include large shares of urea, ammonia and phosphates plus critical inputs like (LNG) a feed Stock for Nitrogen Fertilizer and Sulfur.

There's something strangely common about these Shortages because they all involve about ⅓ of what's available.

That's ⅓ of the Fish, ⅓ of the Soil, ⅓ of the Fertilizer and ⅓ of the Big Aquifers. If nothing else, us Humans are consistent regarding how fast we're depleting our vital life sustaining Resources. That's the Problem. What's the Solution?

Aquaponics Is The Solution! WHY? Because it solves every one of the FIVE PROBLEMS:

1. **CLIMATE CHANGE: Aquaponics happens in enclosed environments, those Climate Controlled Greenhouses and Solar Powered Warehouses.**
2. **FISH SHORTAGES: Aquaponics grows two Crops, Vegetables & Food Fish.**
3. **SOIL DEGRADATION: Aquaponics does NOT Use Soil. It uses LECA (Light Expanded Clay Aggregate, Hydroton)**

4. **WATER SHORTAGES: Aquaponics Conserves Water because it uses RAS Technology. RAS Stands for "Recirculating Aquaculture System". All of the Water stays in the System continuously looping from the Fish Tanks to the Grow Beds. The only water loss is through evaporation or Plant uptake.**
5. **FERTILIZER SHORTAGES Aquaponics does NOT use Fertilizers because the Fish Fertilize the Plants.**

THAT'S WHY AQUAPONICS IS THE SOLUTION!

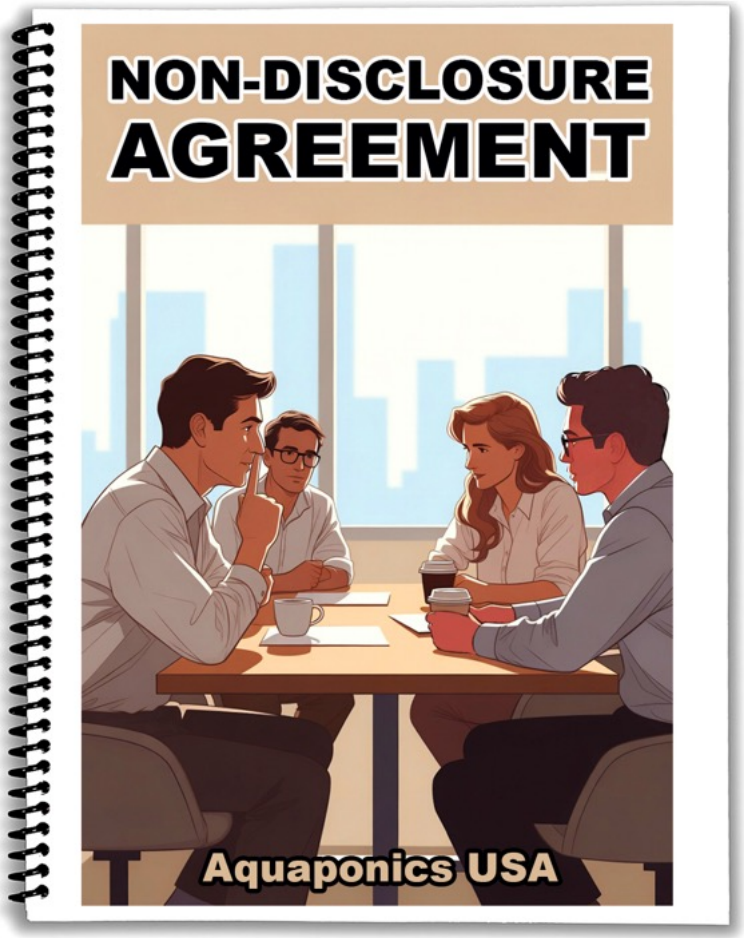
Food Forever Farm™

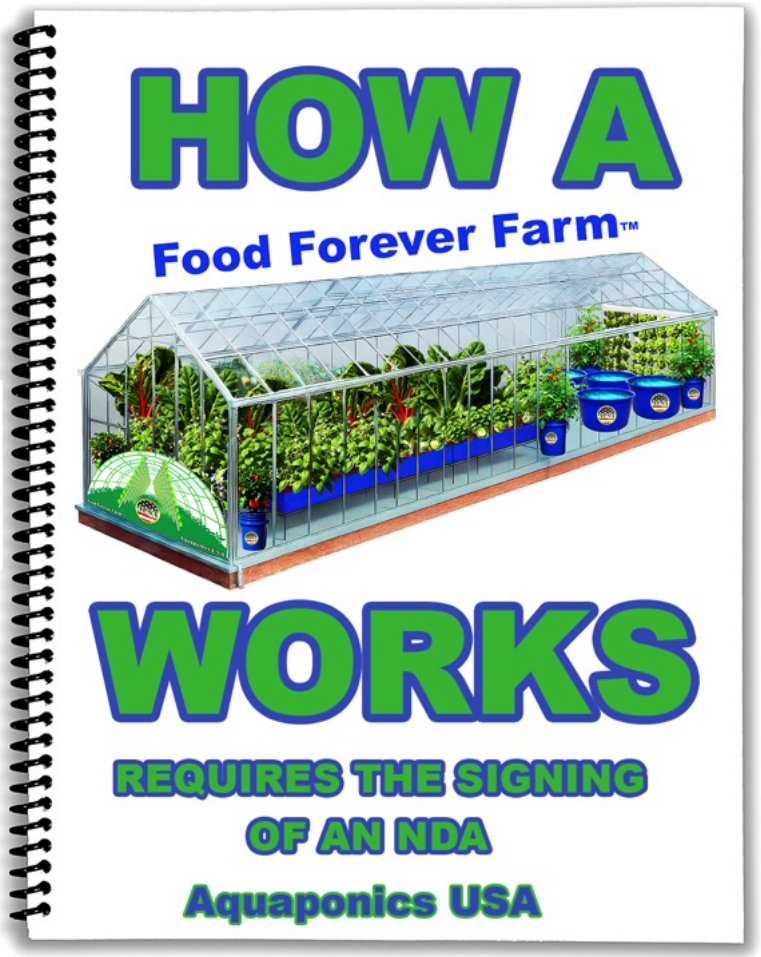
This is a $100K Aquaponics Food Growing System like the one we have connected to our house.

It is being featured in our newest Initiative designed to help School Districts Compete in the upcoming CNP, RFA (Child Nutrition Program's Request For Applications) Grant Contest for $100K-$500K, which is starting in September.

We give away a lot of Documents that you can find on our "Downloads" Page on our Website, but the "How A Food Forever Farm™ Works" Document requires the signing of an NDA.

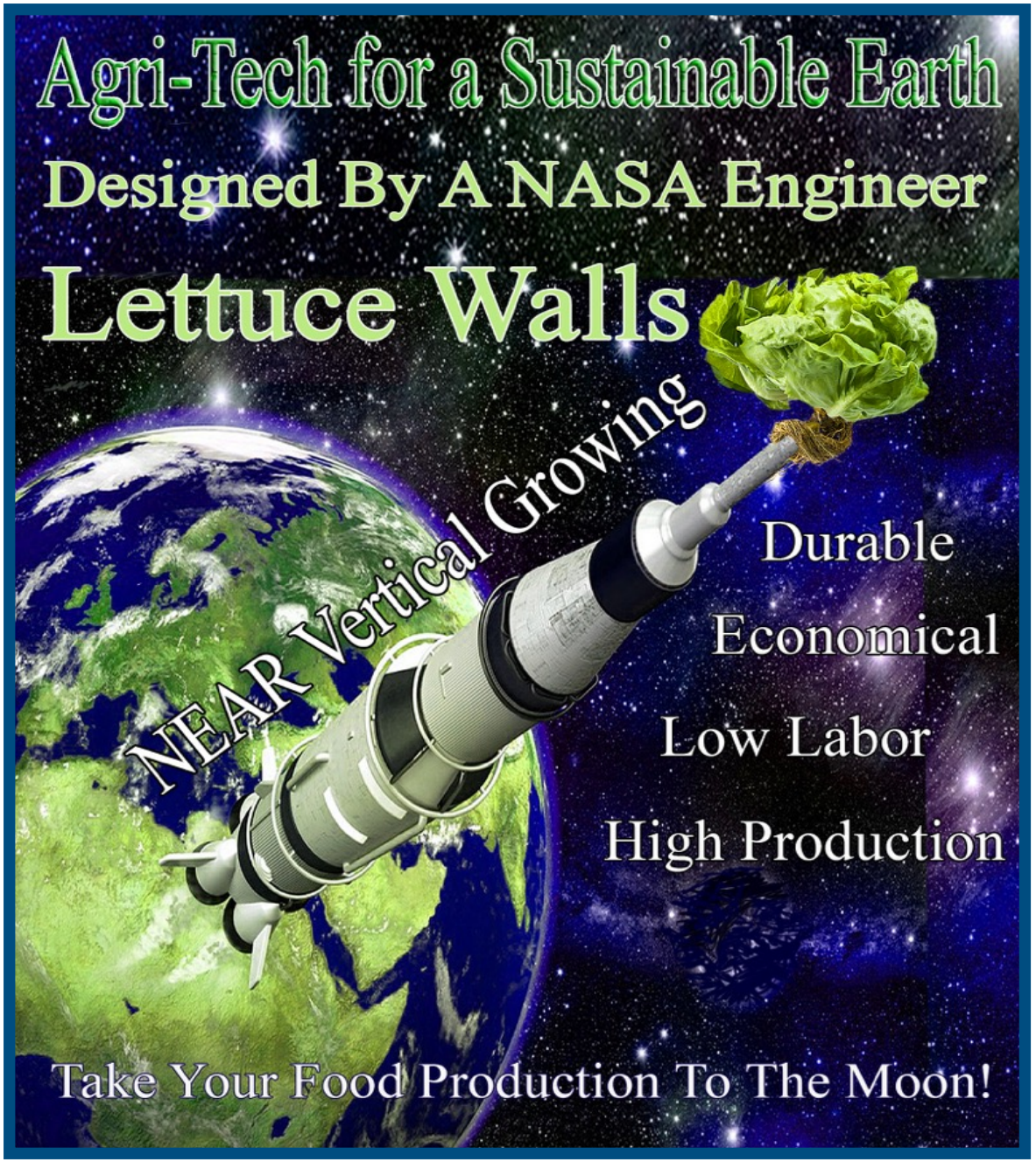
We have brought NDA's, and placed them on our Table, so feel free to Sign one today to receive that Document via your Email Address.





Lettuce Walls

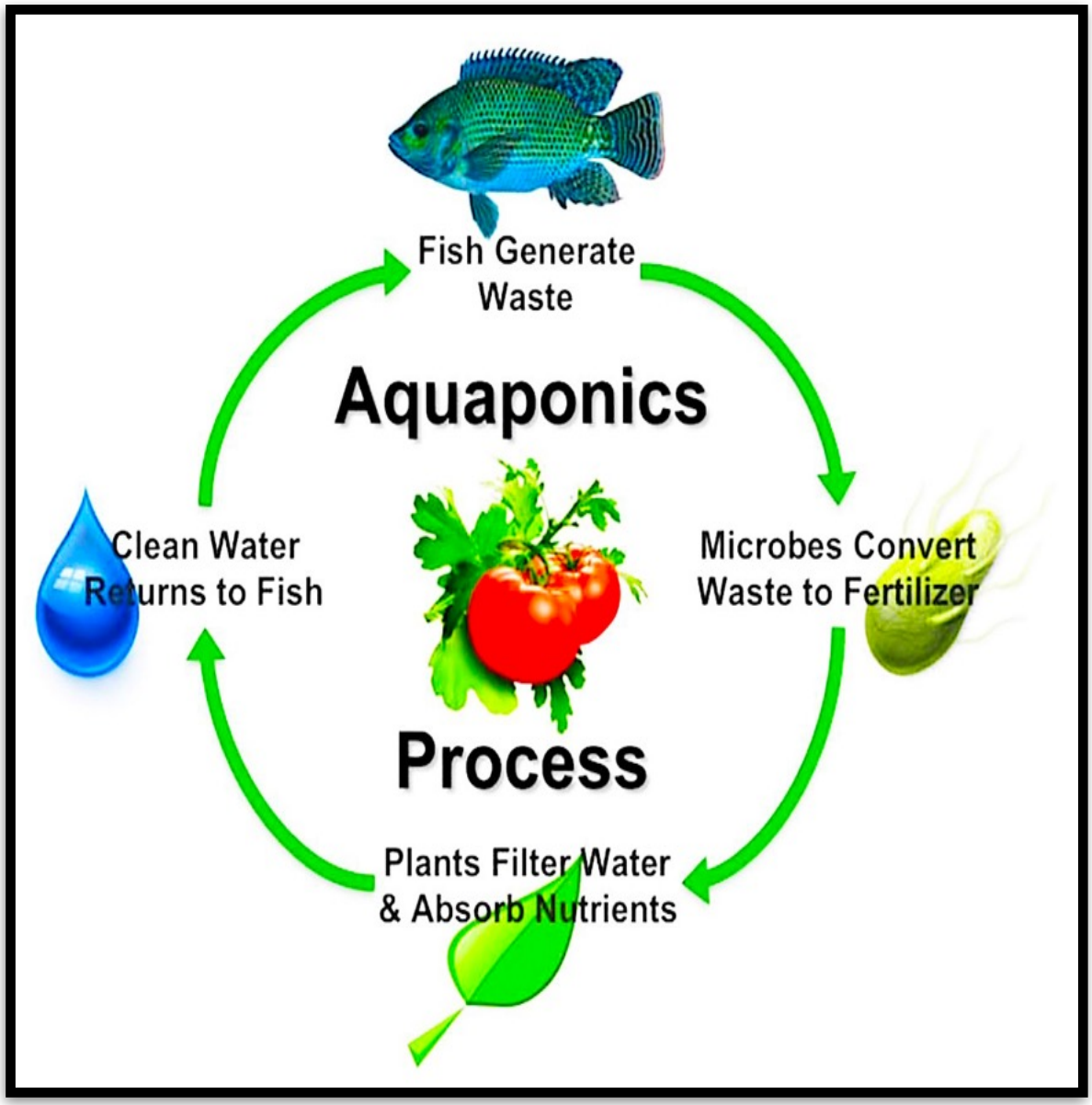
The most exciting thing happening in a Food Forever Farm™ is the Lettuce Wall. This one is in our Greenhouse and puts out 108 heads of Butter and Romaine Lettuce every 8-9 Weeks.



Oliver Duffy, a retired NASA Engineer, who will be presenting about his life-long Hobby, which is Off-The-Grid Communication. He has spent the last 16 years doing R & D on Aquaponics Agri-Tech. After several iterations, he designed our Lettuce Walls.

The next iteration will be to attach small Lettuce Walls to our Classroom Teaching & Food Growing Systems, which is what Aquaponics USA is actually selling to Schools.

What Is Aquaponics?



Aquaponics is Agri-Tech of the Future that is happening today.

The Nutrient rich Aquaponics Water is conserved via a RAS (Recirculating Aqua-culture System) while growing two crops, Food Fish and Veggies, in a mutually beneficial Symbiotic Relationship where the Plants clean the water for the Fish and the Fish Fertilize the Plants.

What Is Aquaponics USA?

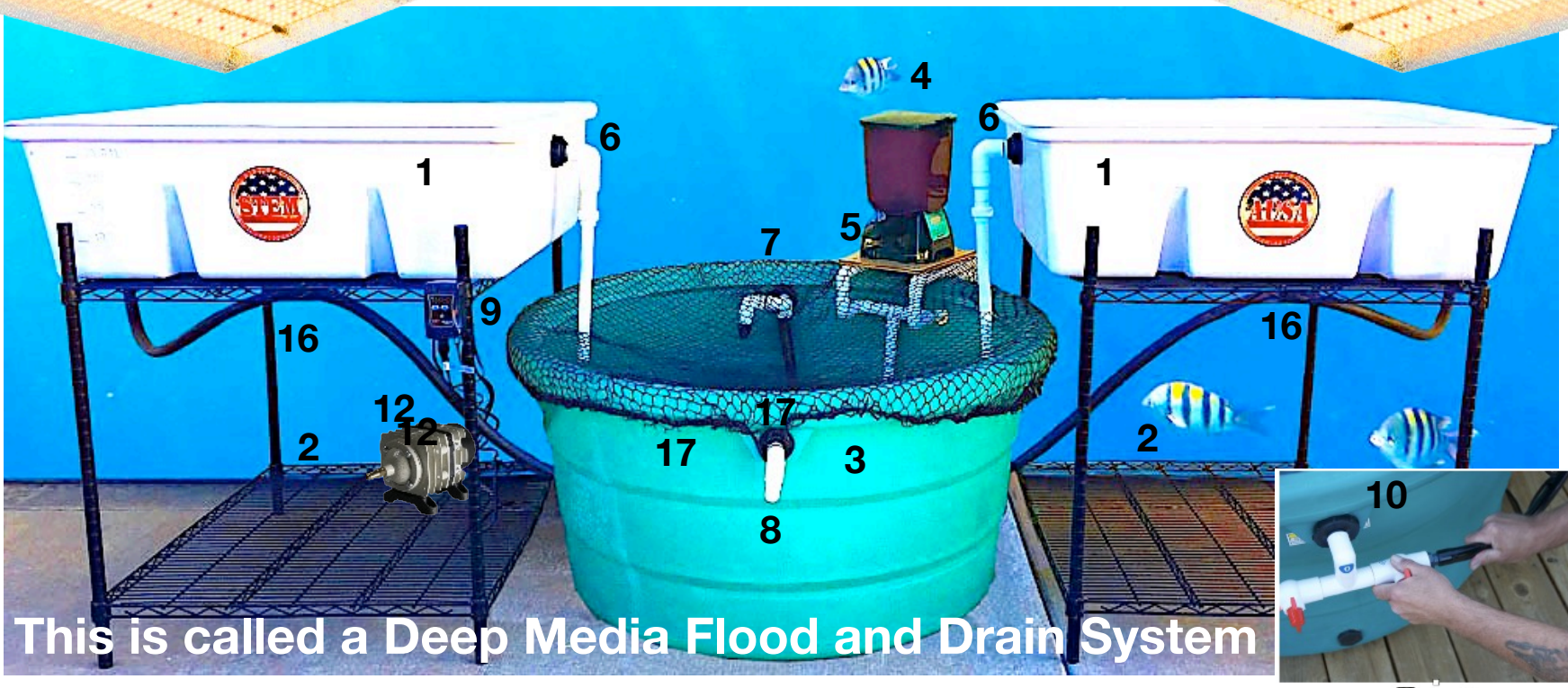
This Image was created with the help of AI. We do not use actual Student photos due to the Rules regarding the need for Model Releases for every photographed Student.

We have 8 Class-room Teaching & Food Growing Systems to choose from and have brought a few of our Brochures, which are on our Table.

The differences between the Systems have to do with their Sizes and config-urations. System Prices go up as the Size increases.
Our Classroom Systems range from 7 Sq. Ft. to 65 Sq. Ft.

Components In A Classroom System

Food Growing Systems Using our EZ-15 as an Example



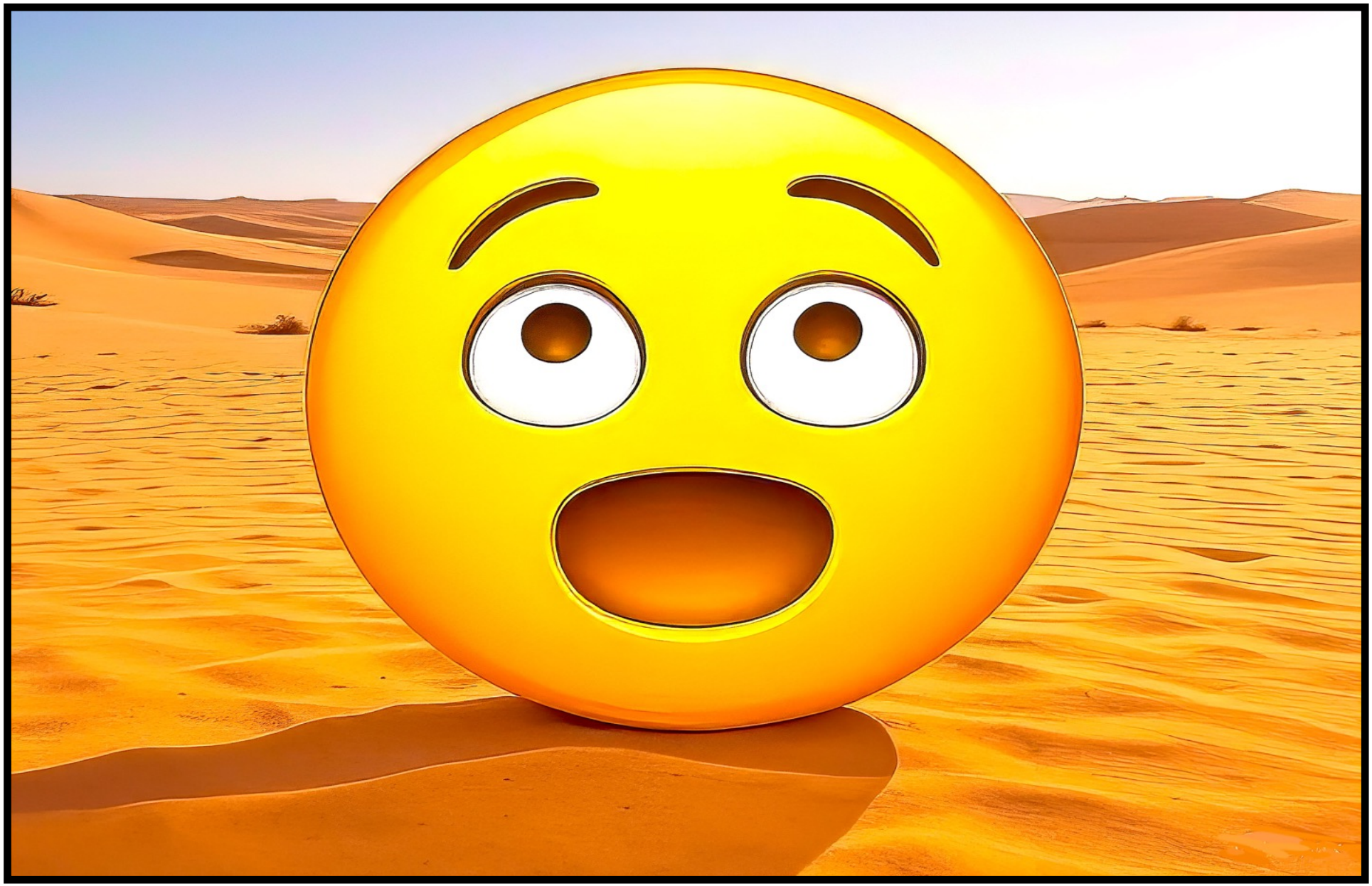
1. Grow Beds
2. Metal Grow Bed Tables
3. Fish Tank
4. Automatic Fish Feeder
5. PVC Fish Feeder Holder and Stand
6. Loop Siphons
7. Jet Back
8. Overflow
9. pH Meter
10. Manifold
11. Submersible Pump
12. Air Pump
13. Air Stones
14. Float Valve
15. Grow Lights
16. Water Delivery Hoses
17. Fish Tank Top Net

How Did It All Happen?

Creation Event/Problem

The Message

The Shock Factor



The Acceptance

The Solution

The Mentor

The LLC's Were Formed

The Teams Were Assembled

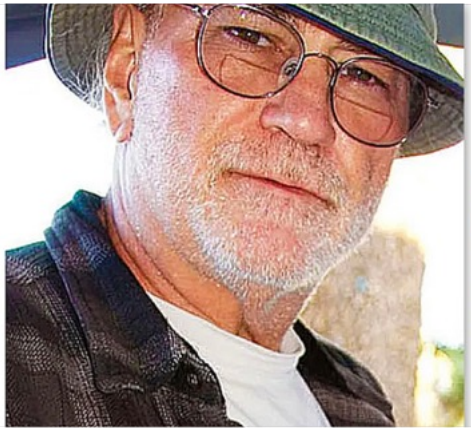
MARKETING DIRECTOR
CURRICULUM COORDINATOR

SYSTEM DESIGNER
GREENHOUSE MANAGER

CHIEF OF OPERATIONS
CHIEF FINANCIAL OFFICER

SALES MANAGER
OFFICE MANAGER






GRACE SYLKE | **KEIL PLOTCZYK** | **OLIVER DUFFY** | **STACI RANDALL**

The Advisory Board





DR. JAMES HARDT
BOARD CHAIR

TRACIE FLEWELLEN

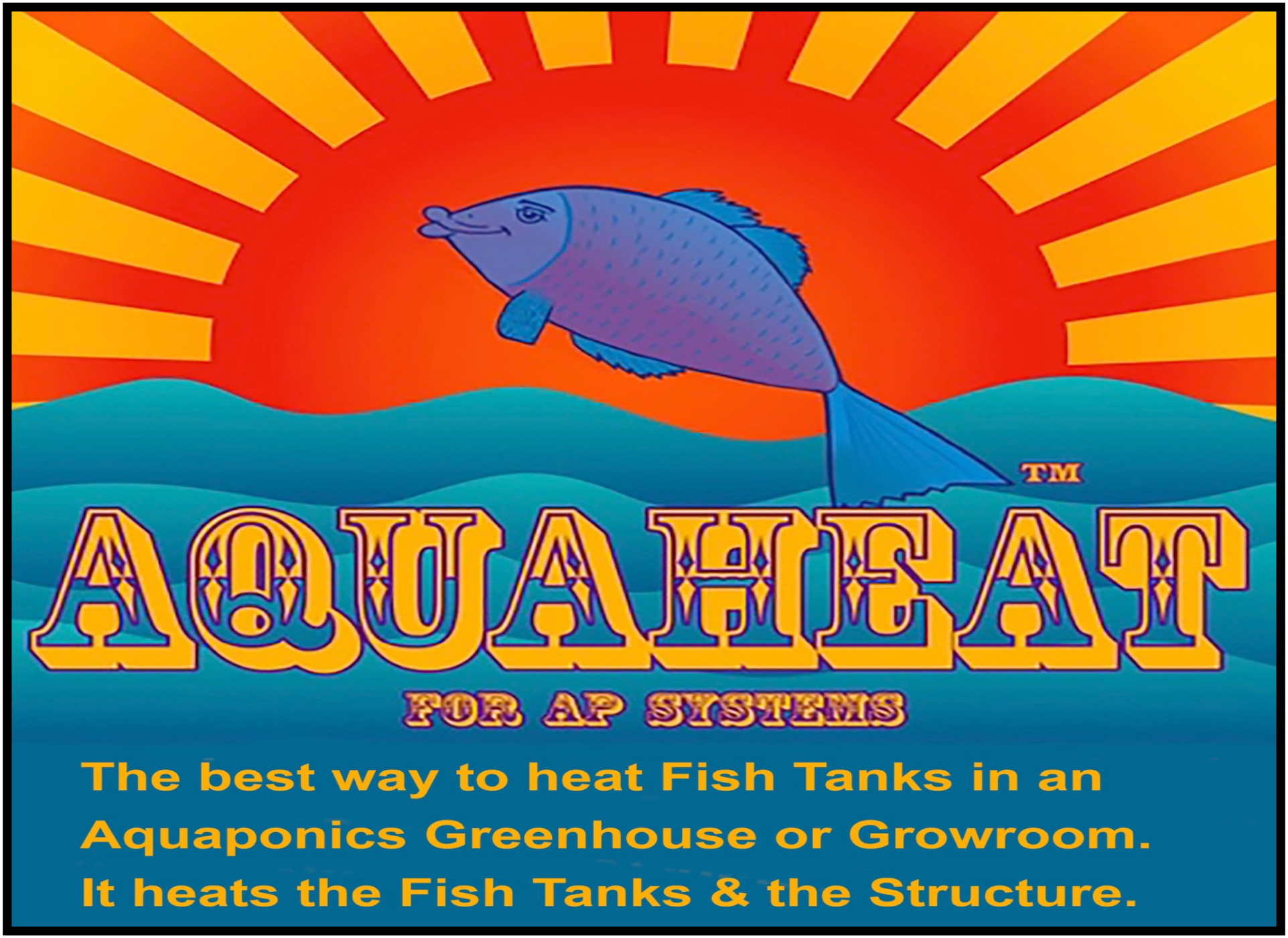
ALAN RIVA

MARCI MITCHELL

BARBARA HOCKABOUT

The Systems Were Designed


This Stainless Steel Tubing At The Bottom of the Fish Tank is part of our
Hydronic Heating System we call AquaHeat™

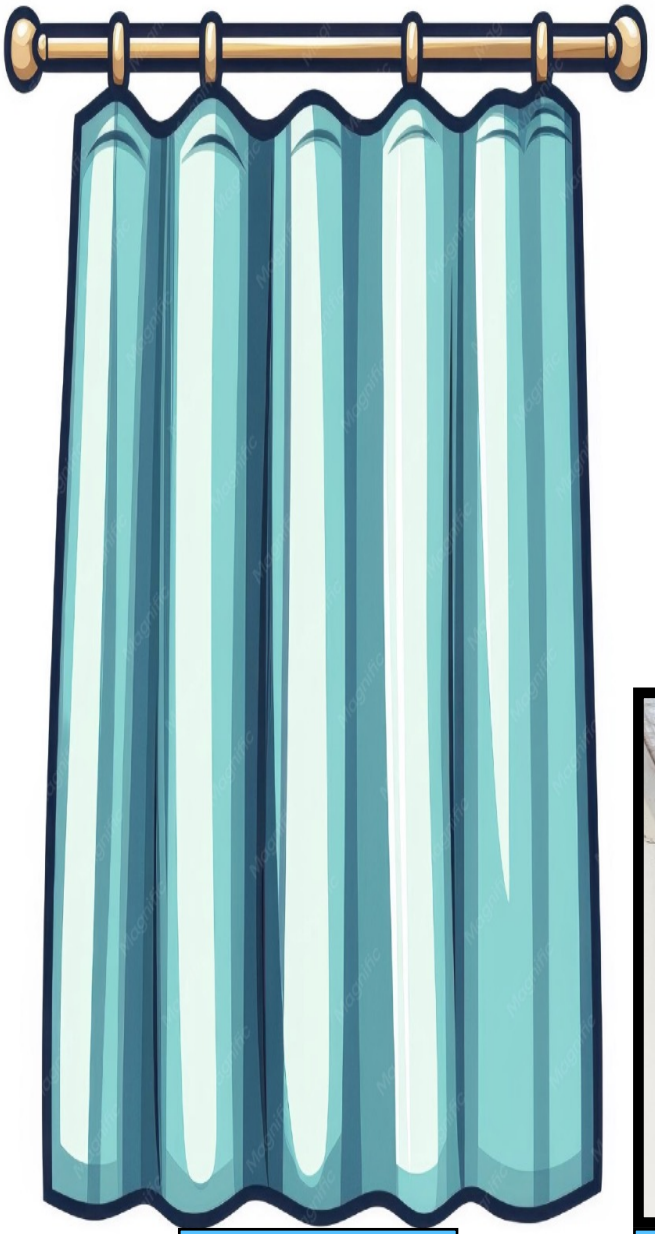

AQUAHEAT
TM
FOR AP SYSTEMS
The best way to heat Fish Tanks in an
Aquaponics Greenhouse or Growroom.
It heats the Fish Tanks & the Structure.

Building The Greenhouse & Fishroom

The Fishroom

The Climate Controlled Greenhouse

What Makes A Climate Controlled Greenhouse?



Curtains

Bug Zappers

Blue Flame Propane

Swamp Cooler

Swamp Cooler

The Horizontal Growing Table, HGT™

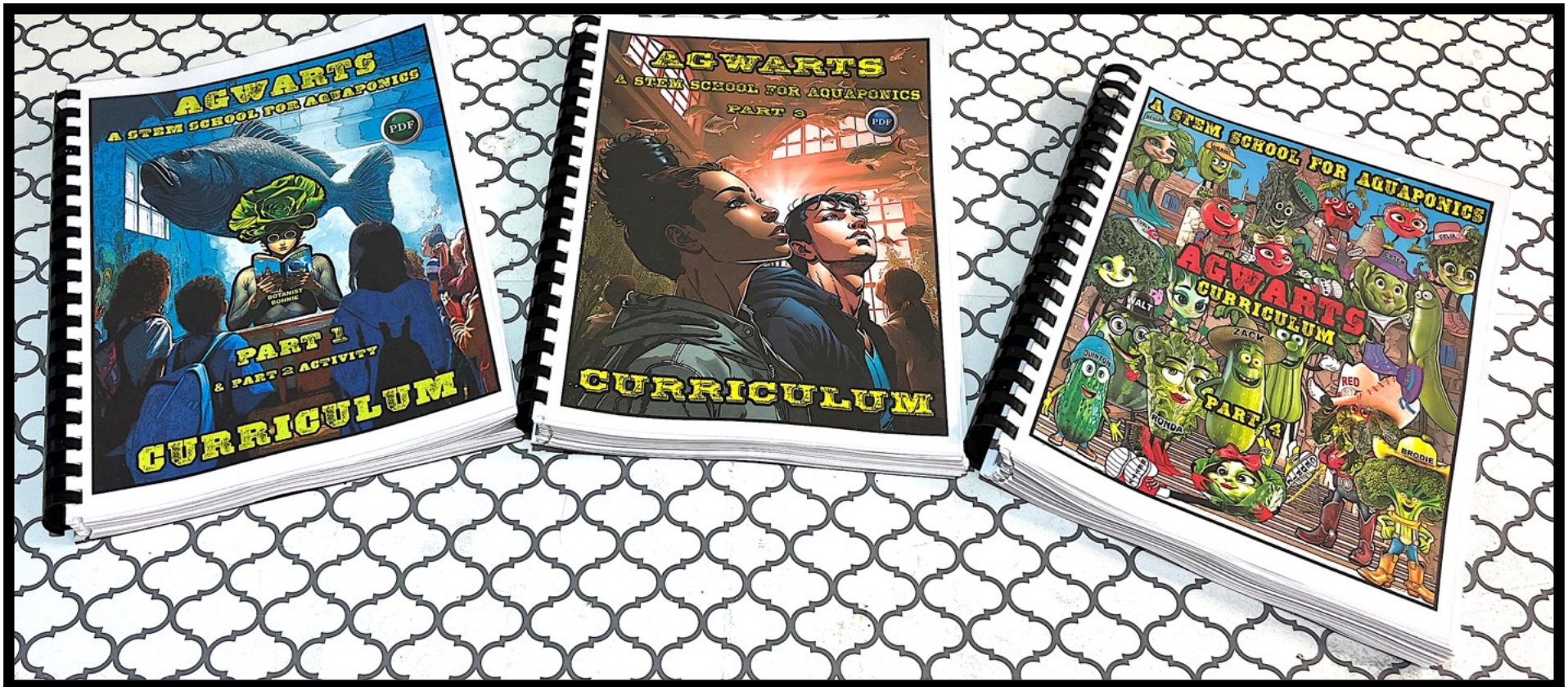
This is what we're DOING! It's a 2-STAGE Grow Out. The Seedlings are grown separately from the Mature Plants.

This is what we're NOT DOING! Floating Rafts! These Grow Boxes are full of heavy Water. It's a 1-STAGE Grow OUT!

An Aquaponics Farmer's Best Friend

The Shows Were Scheduled

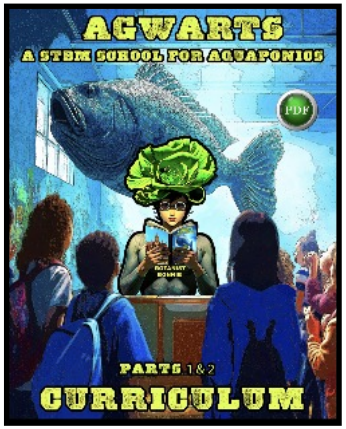
The Curriculum Was Written

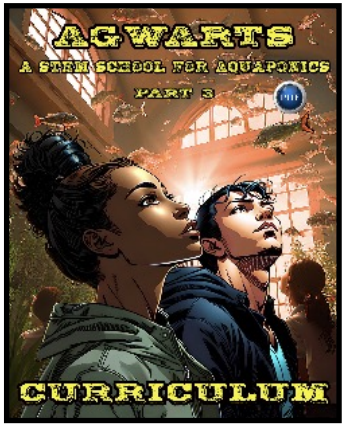


GRACE: The idea of the Curriculum popped into my head in October of 2023. The concept is to provide STEM & CTE Teaching & Food Growing Systems along with Curriculum, so what is being offered by AUSA is a **COMPLETE STEM & CTE Package**.

I had no clue what I was getting myself into. I also had no idea of how I was going to do this. I started searching for Curriculum, and at one point, I had random, totally unorganized Pages of Curriculum laying all over the floor of my Office. Then the Plan started falling into place and the Organization came into view. Above is a Bird's-Eye View of the **CURRICULUM**.

What Is AGWARTS?





Aquaponics USA calls their Curriculum **AGWARTS**, which obviously is a play on **HOGWARTS**. So what Is **AGWARTS?**

AGWARTS is their fictional STEM School by Aquaponics USA full of wonderfully weird Cartoon Characters that populate the Curriculum, which is also jam-packed full of the very serious Science that accompanies Aquaponics AgriScience including Lesson Plans, Worksheets, Labs, Definition Boxes (DB), Activities, Videos and 3 original Songs.

This Curriculum Compilation took a baby step into the popular world of Graphic Novels complete with Cartoon Characters and a loosely developed storyline.

Aquaponics USA believes this approach offers Teachers and their Students a lighthearted and fun way to teach and learn complicated Scientific Subjects like Photosynthesis, Plant Respiration, the Nitrogen Cycle, Ecosystems and so much more.

Cartoon Characters Jumped Into It

I Discovered AI & The Doors Blew Off!


Reggie
REGGIE THE RACCOON

The Puppet Show Idea Popped In

Part 2 of the Curriculum is an **Optional** PUPPET THEATER KIT. Students can Become one of their favorite Characters in Scripted Performances.

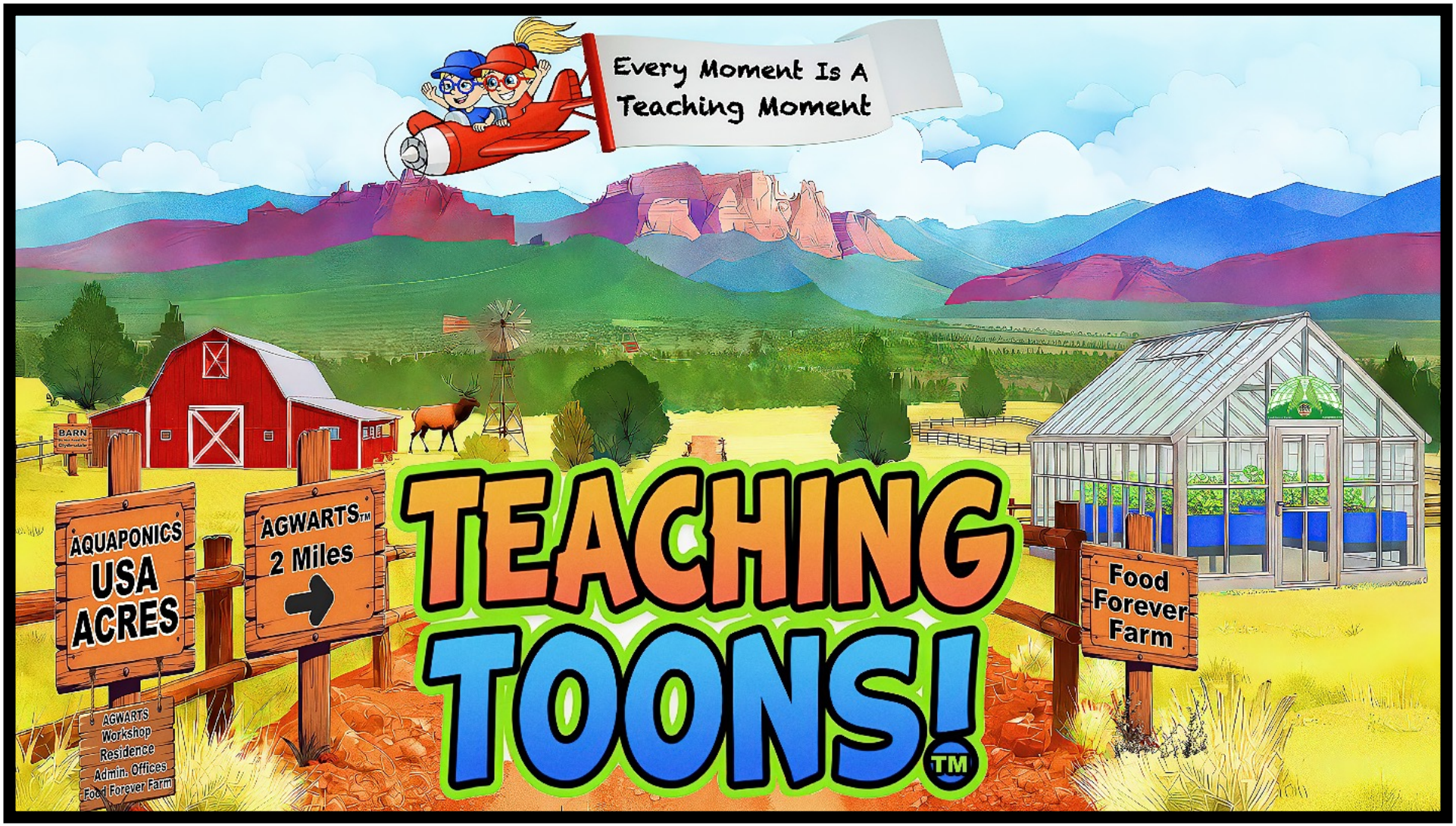
On the left, are six of the over 40 Characters that appear in the AGWARTS™ Curriculum.

One unique Character is “Handy-Helper”, which is animated by your Students’ hands in a White Plastic Glove with Eyes. “Handy-Helper” helps the Paper Puppets hold things during a Performance.

The Theater is 31 x 67 inches with a main performance window in the Center and an extra window at the top to add variety to the show.

At the top of the Theater is **Rita Radish**, who is **one of 20 Cartoon Vegetable Characters**. In the center is the **Professor** who is the Principal of AGWARTS™, and on his left is **“Tommy Tilapia”** with the **“Can Of Worms”** on his right, which represents **Photosynthesis**. Billy is at the bottom announcing PUPPET Shows.

Then Came TEACHING TOONS™



This is where we are Now. About a Month ago, **I was Downloaded with the Awareness that I could actually bring the Curriculum Characters to Life** using Grok's Imagine, and, of course, I couldn't resist trying so I jumped in with both feet drug Oliver's feet in too and this is where we are. **Creating a YouTube Channel called Aquaponics USA ACRES where we are Producing TEACHING TOONS™!** This one is a real DOOZY with a Steep Learning Curve and no end in sight.

The Science Behind Aquaponics

In an Aquaponics System, you're actually growing 3 Organisms, the Fish, the Plants and Beneficial Bacteria. The Beneficial Bacteria arrive naturally and play an important role. There are two kinds of Beneficial Bacteria. One kind convert ammonia to Nitrites and the second kind convert Nitrites to Nitrates.

The fish produce waste, which contains nutrients that the plants need to grow. But the waste can be harmful to the fish if it builds up in the water. That's where the Beneficial Bacteria come in!

The Beneficial Bacteria in the Aquaponics system help break down the fish waste. They turn it into a form of nutrients that the plants can use. The Beneficial Bacteria are the Conversion Team of the system! They convert the waste into food for the plants.

When the plants take in these nutrients, they grow big and healthy. At the same time, the plants help clean the water for the fish. The plants act like natural filters, removing any harmful substances, like Nitrates, and keeping the water clean and safe. So there's both a Conversion Team and a Filtering Team that make the Aquaponics Ecosystem work flawlessly.

What Is Photosynthesis?

- **PHOTOSYNTHESIS** is a Scientific Cycle that almost all of Life on Earth depends.
- **PLANTS, ALGAE and AUTOTROPHIC BACTERIA** capture energy from Sunlight to produce Oxygen (O2) and Chemical Energy stored in Glucose.
- **AUTOTROPHS** from the Greek words: “autos” = self and “troph” = nourishing, are the only organisms that can nourish themselves through Photosynthesis and, thereby, **they feed all of the rest of us**. **Autotrophs make up only 5%** all organisms on the Planet.
- **HETEROTROPHS** from the Greek word: “heteros” = “another or different” and “trope” = nourishing, is the word that describes and encompasses the other 95% of organisms, including us Humans, that depend on the Autotrophs for Food & Oxygen. This is worth Repeating!
- **AUTOTROPHS** can use energy from sunlight or inorganic compounds to produce Organic Compounds such as Carbohydrates, Fats, and Proteins. **95% or more of all types of living organisms are Heterotrophs**.Thank goodness for the **5% of Living Organisms that are Autotrophs** or the rest of us would not only all starve, we also wouldn’t be able to breathe as Oxygen is also produced in the process.

What Can Be Grown In Aquaponics?







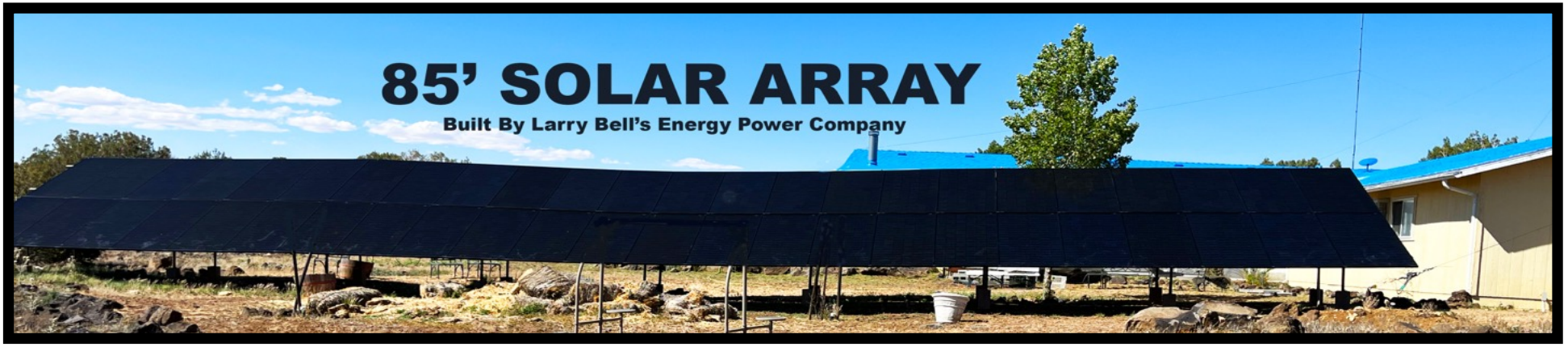





Just A Funny Story

What Is Powering This Operation?

A Solar Array by Energy Power & No Grid!



What Else Is Powering It All?

And Few More Things Are The Power


THANK YOU
THE END