

The Future Of Farming





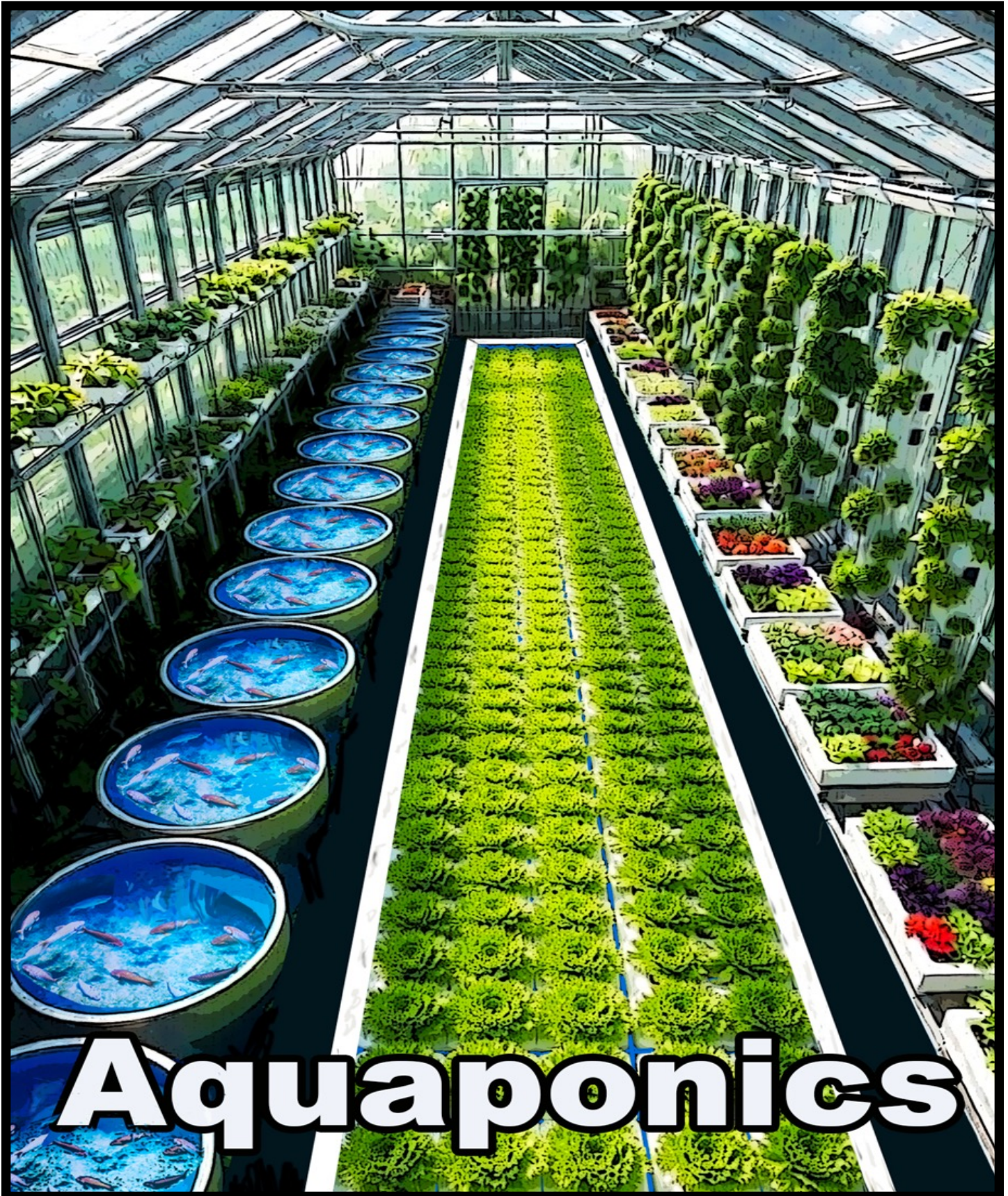
**Climate-Controlled
Greenhouses
&
Solar Warehouses
Growing Food
For Local Communities
In Place Of
Open Fields Of Crops
But why is this the Future?**



**These 5
Food
Scarcity
Culprits
Dictate
How &
Where
We
Grow
Food
In the
Future.**

**We
Talk
About
Each
One
In this
Report!**

What Food Growing Technology Will Be Happening In The Greenhouses & Solar Warehouses?



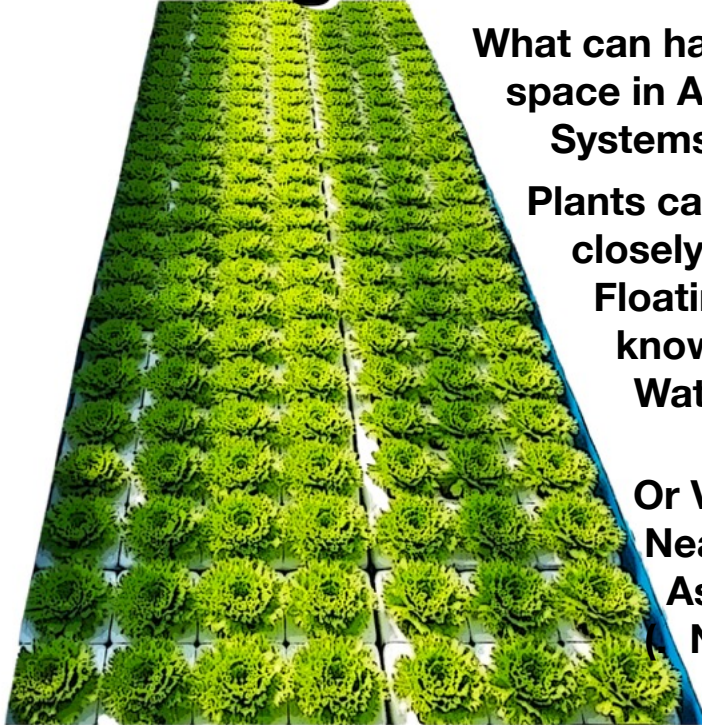
Aquaponics

Aquaponics is a Food Growing Technology In which Live Fish Fertilize Plants, and the Plants Clean the Water for the Fish. It's a man-made Ecosystem that Grows two Crops while it Conserves Water.



Aquaponics Is The Farming Of The Future Because It Solves Every Food Growing Challenge Listed On Page 3 We will get to those details on Pages 10-13, but now let's share something else that makes **Aquaponics the Farming Of The Future** and that is **SPACE UTILIZATION!**

Floating Rafts & Vertical Towers



What can happen with space in Aquaponics Systems is amazing.

Plants can be grown closely packed on Floating Rafts also known as Deep Water Culture (DWC)

Or Vertically on Towers or Near Vertical Arrays known As Nutrient Film Technique (NFT).



Rafts alone allow much denser planting (often 4–6× soil density for leafy greens, with near-100% surface coverage minus minimal paths and roots suspended in nutrient water).

Towers/vertical ducts stack plants upward, using the greenhouse height for multiple "layers" or sides without expanding the footprint. Real-world examples of exactly this combo (**rafts + towers in a greenhouse**) show 10× overall production vs. conventional soil methods in the same space.

Aquaponics grows Plants year-round with no Seasonal limitations, and it grows two crops, both Food Fish and Vegetables.



Flood & Drain

Is another popular way to Grow Plants like Tomatoes, Peppers, Squash and others that need to be contained in Grow Beds with Siphons that time the water flow.

Aquaponics is High-Tech Farming of the Future that doesn't need Soil or even the Sun.

HYDROTON



In place of Soil is expanded clay Grow Bed Media. One popular brand is called Hydroton. The pebbles have neutral buoyancy in water, do not compact, are inert, contain no nutrients and are completely reusable.

The Media also holds the friendly bacteria the plants need to grow and be healthy. When it's time to clean the beds, you fold the bed to the top and reaching and remove old roots.



Grow Light



Product Dimensions: 25.2x22.8x2.7 inches = 64x58x6.8cm

In place of the Sun are LED Grow Lights. LED stands for Light Emitting Diode, and the Science behind how they work is explained in Part 4 of our AGWARTS Curriculum

These incredible LEDs emit White Light that is very similar to Sunlight, which is what allows Aquaponic Farmers to build Food Growing Environments in Solar Warehouses as seen on the Cover. The Brightness is adjustable from 10%-100%.



In place of boring Text Book only Educational Resources are Living, Hands-On Aquaponics Learning Labs.

These Classroom Aquaponics Systems are actually Ecosystems that come right to the Students so they can learn Botany, Aquaculture, Agriculture, Horticulture, Biology, Chemistry and so much more from a Teaching Tool like no other.

The Compact-7 comes with 688 Pages of Science Curriculum.

Aquaponics, this High-Tech Future of Farming requires Education—School Classes & Programs to teach the Courses that will prepare the Farmers of tomorrow. Entirely new Career Paths will be forged for not only Building and Running these new Farm Systems, but also developing the Branch-Off Careers like Marketing the ultra healthy, Fish-Fertilized Vegetables and Fish that will be coming from these Farms and turning this new beyond Organic Food into delicious ready to eat Meals for the Marketplace.

Every **CTE, AG, STEM** and **FFA** Program in our Schools needs to be offering **Standalone Aquaponics Courses** for their Students to prepare them for this exciting Future Of Farming.





Introducing Aqui, our Emoji for Aquaponics. Aqui is going to Guide you through Pages 10-13 where he explains how Aquaponics solves all of the 5 Food Growing Challenges Listed on Page 3.

But first he wants to share a photo of himself standing in front of his favorite School, AGWARTS, a STEM School By Aquaponics USA, which is named after Hogwarts because there's a lot of Science Magic going on there.





Aqui is our Narrator, and he's going to explain how Aquaponics solves all 5 of the Food Challenges pictured on Page 3.

Water Shortages: Water covers 70% of our planet, but only a paltry 3% is fresh water, and modern industrial agriculture utilizes 70% of that. Agriculture uses more water than any other consumer and wastes much of it through ground absorption and run off. Is it any wonder that we're dealing with Worldwide Water Shortages? Rivers, lakes and aquifers are drying up or becoming too polluted to use. More than half of the world's wetlands have disappeared.

Bill Werkheiser, United States Geology Survey (USGS) Associate Director for Water Resources from the U.S. Dept. of the Interior, warned in January 2025 that, "By integrating data on water quantity, quality and usage, we are uncovering valuable insights that will help researchers and policymakers address the **critical challenges related to our water resources.**" This USGS Report states that "nearly **30 million Americans** live in areas where available surface-water supplies are limited relative to water use. There's a high level of water limitation." ([USGS News Release](#))

Aquaponics is here to save the day and bring this High-Tech Merging of Agriculture and Aquaculture into your AG, CTE, FFA & STEM Programs. Aquaponics Systems use Recirculating Aqua-culture System (RAS) Technology in which the Water is Recirculated through the System in multiple, endless passes, where no water is lost in the ground, making Aquaponics 90% more water efficient than soil Farming. The only water loss is through plant uptake and evaporation.

Arizona Water Shortages are of particular concern. Arizona shares water from the Colorado River with six other states, designated as Upper and Lower Basin States. There have been ongoing disagreements about fair proportions of the Colorado River water between these two groups since the first Colorado River Compact Agreement of 1922, and there is nothing

indicating those fights will abate in the future. The unique situation regarding Water Shortages in Arizona needs to be taught in our Schools so every citizen of our State understands the importance of water conservation and voluntarily participates.

Aquaponics USA has prepared a Report called “**Colorado River Basin Water Wars**” to address this important issue, and included it in their Curriculum. Much of this Report is a Recreation of a Presentation by Mr. Tom Buschatzke, Director of the Arizona Department of Water Resources that was given to the AZ House of Representatives Committee on Natural Resources, Energy and Water on January 27th, 2026. ([See our “Colorado River Basin Water Wars” Doc](#))

Fertilizer Shortages: In this decade, starting in 2020, there have been Fertilizer Shortage scares on three occasions. The first one happened when the entire world was shut down due to the Covid Pandemic.

Once the world was reopened, and the production of Fertilizers started ramping up again, Russia invaded Ukraine, February of 2022, and the Fertilizer Shortage reared its head again. Russia and Belarus are major global exporters of fertilizers accounting for a significant share of the world supply which led to direct disruptions in the production of Fertilizer and in Black Sea export routes followed by sanctions on Russia leading to a reduction of up to 15% of global supply.

Now the war in Iran is causing a renewed Fertilizer Shortage scare for two main reasons of which the first is the Persian Gulf region (Qatar, Saudi Arabia, UAE, Iran, Bahrain) is a major global hub for the production of nitrogen-based fertilizers. This fertilizer needs to be exported through the Strait of Hormuz, which, in March of 2026, was being blocked by Iran. As of this writing It remains a fluid situation.

Aquaponics solves the Fertilizer Shortage issue in the simplest way possible. **It creates its own Fertilizer.** The Vegetables grown in an Aquaponics System are fertilized by the second crop in Multi-Crop Aquaponics Farms. That second crop is the Fish, which fertilize the Plants. Gone is the dependence on Fertilizers produced in or near war torn countries and needing to be exported through at risk marine locations like the Black Sea or the Strait of Hormuz.

Fish Shortages: We are destroying our Marine Ecosystems in many ways with **Overfishing, Oil Spills, Waste (mostly Plastic) Pollution** and **Agricultural Runoff**.

“Beneath the ocean’s surface, an unprecedented crisis is unfolding. Our marine ecosystems—home to millions of species and essential to human survival—are experiencing biodiversity loss at an alarming rate. Recent studies indicate that over 50% of marine populations have declined since 1970, with some species facing extinction within our lifetime.” (Quote from the [Marine Biodiversity & Sustainability Learning Center](#))

Aquaponics can help alleviate our dependence on Marine Fish to give our Marine Ecosystems time to recover. (See our [“Marine Ecosystems Crisis” Doc](#))

Soil Degradation: In the U.S. Midwest Corn Belt (a major agricultural region), studies estimate that 35% ($\pm 11\%$) of cultivated area has completely lost its A-horizon topsoil due to historical erosion, with convex hilltops most affected. This leads to measurable yield reductions (around 6% on average) and billions in annual economic losses. (Quote from PNAS.org Article called [“Soil Loss across US Corn Belt”](#)).

Globally, 33% of soils are considered moderately to highly degraded (due to erosion, compaction, salinization, nutrient loss, etc. per FAO (UN’s Food & Agriculture Organization) and related assessments. The U.S. situation is generally better than many regions due to conservation efforts since the Dust Bowl era, but intensive agriculture has still caused substantial topsoil loss (**e.g., estimates of 57+ billion tons lost in the Midwest over 160 years**).

Aquaponics solves the Soil Degradation issue the same way it solves the Fertilizer issue. **Aquaponics doesn’t use Soil**. Aquaponics crops grow right in the Nutrient rich water or they are contained in raised Hydroponic Grow Beds where expanded clay Grow Bed Media is used in place of Soil.

Climate Change: For the most part, Agriculture takes place out-outdoors, and that's also where the weather is, which is why Climate Change can greatly affect food production. However, in most locations, Aquaponics takes place in indoor, protected environments like Greenhouses or Warehouses, and the Aquaponics Farmer is in charge of those Climate-Controlled environments.

Air Conditioning Systems, Propane Heaters and even the warmth from the highly efficient LED Lights that replace sunlight contribute to the ideal climate that is created inside Aquaponics growing environments.

Given the fact that huge Big Agra Farms with thousands of acres of crops cannot be replaced by climate controlled Aquaponics Farms, what can and will happen in the near future is the return of the small Family Farm in great numbers.

If enough of those 160,000 Family Farms that disappeared between 2017 and 2022 return, they could give Big Agra a run for their money by joining the Local Food Movement and capitalizing on the advantage of not needing to transport their food production over hundreds of miles.

So just like with Fertilizers and Soil Degradation, Climate Change doesn't affect Aquaponics because Aquaponics Farms are not exposed to the Climate and are cloistered safely inside Climate-Controlled Greenhouses and Warehouses.



Now AQUI is going to show you how easy it will be to bring a Complete Aquaponics Program into your CTE, AG, STEM & FFA Courses

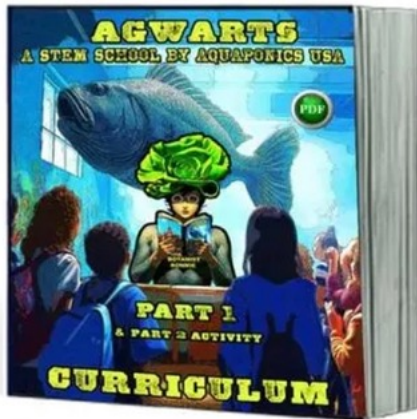


Aquaponics USA has done all of the work for you. Below are the Covers of their 688 Pages of Curriculum that was two years in the making.

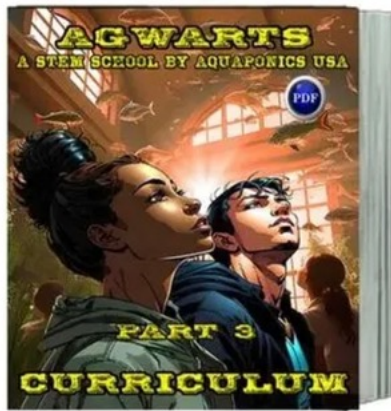
It's not only a Compilation of rigorous Science, it's also written in the style of Graphic Novels with weirdly wonderful Cartoon Characters to help lighten up all of that heavy Science, and it's for all Grade Levels. Plus, it Comes Free with a System purchase.

[\(See our "Curriculum Tour" Doc\)](#)

Our AGWARTS Curriculum



Parts 1 & 2 with 219 Pages



Part 3 with 210 Pages



Part 4 with 259 pages

You simply choose which of the 8 Systems, Aquaponics USA is offering based on your space and budget, **REQUEST A QUOTE**, which includes the Shipping to your School, and place your Order.



[\(See our "8-Systems Brochure" Doc\)](#)

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.

Puppet Theaters Are So Much Fun!

Below are Blue-Eyed Red Bird, Reggie, OC Cat, Casey Cabbage and Quinton Cucumber.

To Learn More, ([See our “Curriculum Tour” Doc](#))





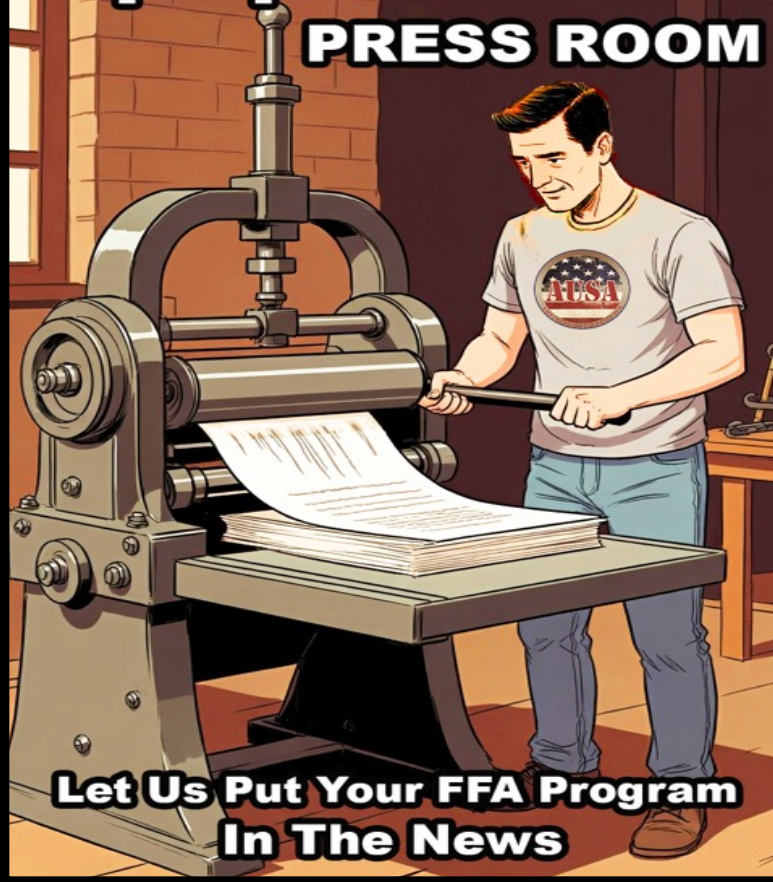
Now there is just ONE MORE THING you need to **Uplevel your CTE, AG, STEM & FFA Programs** and get your Students ready for the Future Of Farming with Aquaponics, and that is a Great Teacher.

Here are some helpful Hints about how to go about finding the ideal Teacher.



1. The Teacher needs to be over the Moon about have something like this happening in her/his Classroom.
2. The Teacher preferably has been teaching in the same School for a minimum of 5 years so that Teacher Turn-Over doesn't leave your new Aquaponics Program orphaned.
3. The Teacher needs to feel comfortable with the responsibility of keeping Living Fish and Plants alive.
4. The Teacher is eager to Teach Science and wants to instill the Love of Science in his/her Students.
5. The Teacher loves seeing Living Things Grow.

Aquaponics USA PRESS ROOM

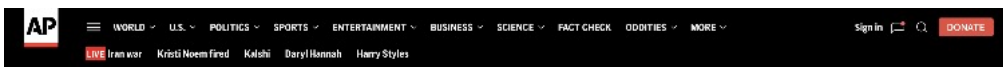


**Let Us Put Your FFA Program
In The News**

Your Stories Are Our Stories

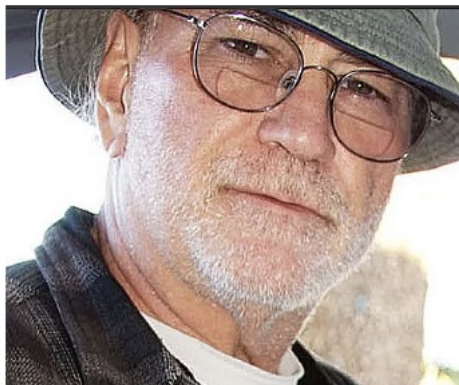
And we know where to send them. Let us share your Aquaponics FFA Program like we know how in Press Releases that reach across the Nation. We'll drop an Announcement Release for every one of your FFA Classroom Labs, SAEs and Leadership Opportunities that are doing Aquaponics. Then we'll add more Releases once your Systems are up and running showing your Teachers, your FFA Students and their Veggies and Fish.

WE'RE Geared Up With A Press Room



PRESS RELEASE: Paid Content from EIN Presswire | Newsomatics. The AP news staff was not involved in its creation.

Aquaponics USA Poised To Enhance Arizona CTE Programs



[\(See Our "AUSA Press Room" Doc\)](#)

This was only our 2nd Press Release, and it made it into the [Associated Press!](#) We're showing only the Headline. See our Press Room Information Package for the whole story. This Release also went out to the [Global Education Journal](#) along with about 100 other places.

Thank You for Viewing The Future Of Farming

You may want to Go to the [“Curriculum Tour”](#) Next



Created by Aquaponics USA

**And Distributed to District Superintendents,
Principals and Teachers**

**For More Information or To Schedule a Tour,
Email: urbanfarmer@aquaponicsusa.com or
Call: 760-671-3053**