How to Prepare Your School for Aquaponics & Community Gardening

Aquaponics & Earth Sustainable Living, Inc.
314 West Belt Line Road,
Desoto, TX 75115
Phone: 469-275-8652
AquaponicsandEarth.org/Schools
Customers@AquaponicsandEarth.org
To Whom It May Concern:

For several years, I have had a vision for starting an aquaponics fish and crop-training center for our high school in Seagoville, Texas.

In the spring of 2010, I was appointed as the coordinator for the new Environmental Science Magnet at Seagoville High School for Dallas Independent School District. With new funding, I set about finding the right systems to go with.

In spring of 2010, through Google and the AESL website, I came in contact with John Musser, founder of AESL, and toured his cycle of life farm. With great excitement we learned about his methods of aquaponics and crop raising. I found them extremely interesting. His growing operations interested me, because as a producer of beef cattle, I know how much time and energy it takes to produce a crop. His crop yield was phenomenal! That was one part. The other and even harder part is being able and willing to pass this on to other people. His enthusiasm for his work and love for people have helped make that possible.

After conversations and research, my principal accepted my plan to proceed with a greenhouse and brand new teaching model for sustainability.

At the beginning of 2011, we launched Phase I of our project. John and Teresa Musser set up several tank systems for us. It was evident that much thought was put into the details of my school's system. They were efficient, knowledgeable and helpful and they understood that the needs of a teaching model are different from a strictly commercial enterprise and set it up accordingly.

The students have been participating at every stage with great interest. We also have had the parents of students and teachers already inquiring about setting up small systems in their backyards and farms. I am showing them how funding is available for potential producers to start their own farms.

We urgently need what AESL represents to train our educational systems for our young people and the farm of the future.

Sincerely,

Gay Leigh Bingham
Environmental Science Magnet Coordinator,
Seagoville High School
15920 Seagoville Road
Dallas, Texas 75253

To get started with your aquaponics system or school garden, contact Jonathon Musser | 469-275-8652 | Customers@Aquaponicsandearth.org
THE SCHOOL GARDENING REVOLUTION

School gardens grow more than plants. Research has proven that young people who participate in school garden programs improve their academic achievement, improve their knowledge of good nutrition, broaden their tastes in terms of food choices, and increase their intake of vegetables and fruits. School gardens also enhance community and social development.

Schools want Aquaponics and Community Gardening because:

- Urban gardens – are changing the perspective of how to best educate kids.
- Hands on environmental science, botany, biology, and math are all part of these systems.
- On the job training programs can center around agriculture.
- There is a need to localize what we are doing with our food systems.
- Schools need to feed kids better, in a local, affordable way. Several schools around the country are using what they are growing in their own school cafeterias.

For many schools, aquaponics is a great complement or alternative to traditional gardening because there are no soil testing requirements for toxins or lead around the school, and because the fish and bacteria add a new element of biological learning.

AQUAPONICS IS AS EASY AS A, B, C!

a) When the fish are fed, they produce waste! The fish waste provides nutrients for the plants.

b) The bacteria turn the fish waste into absorbable plant nutrients.

c) The plants clean the water for the fish in an endless cycle of life. As long as the tender eco-system has been established and maintained, it is food and fish for your dinner table, also fertilizer for your garden.

To get started with your aquaponics system or school garden, contact Jonathon Musser | 469-275-8652 | Customers@Aquaponicsandearth.org
THE MANY USES OF AN AQUAPONICS GARDEN

For schools, the biggest bang for the curriculum buck is an aquaponic garden. Herbs grow great in aquaponics systems. And you can combine many elements into one garden.

___ Science Lab.
___ Setting for spontaneous learning.
___ Food production, “snack” destination, source for food service.
___ History gardens (Shakespeare, colonial, Three Sisters).
___ Herb Garden.
___ Shade plants.

___ Native grasses and plants.
___ Butterfly or pollinator gardens.
___ Ecosystem.
___ Heirloom.
___ Nutrition and Health.
___ Flowers.
___ Math gardens.

Perhaps your school doesn’t have a community garden or you know nothing about Aquaponics, but you like the idea so much that you want to get started. No problem! Aquaponics and Earth Sustainable Living Inc. (AESL) has helpful resources and would love to help you put your garden program together.

Additional Helpful Resources

In addition to the information covered in this guide, here are some helpful resources:

- **Checklist for Starting A School Garden** – This comprehensive checklist comes courtesy of Dorothy Mullen of The Suppers Program and is available as a pdf [here](http://www.farmtoschool.org/state-home.php?id=20). You can take Dorothy’s word: thanks to her hard work and leadership, the Riverside Garden of Princeton, NJ has grown into the largest public school garden in her state.

WHAT TO LOOK FOR IN A GARDENING PARTNER

It is important to work with a company that understands education, training, and long-term partnership. We have heard and seen firsthand stories of Aquaponics and gardening companies in Texas that have installed a faulty system for a school or organization, took the money and ran. They left their frustrated buyers to figure it out on their own. Months later, when the plants were dying they were nowhere to be found.

You also want a partner that understands the long-term support and commitment that a garden needs, an organization that is willing to work with your staff and train them to take proper care of the garden. Finally, you want to work with an organization that offers growth and professional development opportunities for your school’s staff and students.

If you want to expand your garden system later on, you want a team that can help you do that. You need a committed team with a good track record.
HOW TO PREPARE YOUR SCHOOL FOR AQUAPONICS AND COMMUNITY GARDENING

To get started with your aquaponics system or school garden, contact Jonathon Musser | 469-275-8652 | Customers@AquaponicsandEarth.org

WHO WE ARE AND HOW WE CAN HELP

Aquaponics and Earth Sustainable Living Inc. (AESL) is a non-profit that teaches people in need around the world how to live sustainably through aquaponics and organic farming. Our 1/10th acre Cycle of Life micro farm is based in Desoto, TX.

Started by sustainability pioneer John Musser in 2006, AESL has trained orphanages, humanitarian organizations, and governments on cutting-edge organic farming techniques, to provide job skills, a nutrient-rich food supply, and self-empowerment to those that need it most. This training opposes the hunger, poverty, and dependence by giving the economically disadvantaged the ability to feed themselves pure, healthy food.

To further accomplish our mission of “Sustainable Hope”, we work with local TX organizations, schools, and universities by installing aquaponics systems and training on how to use less land and water to establish organic gardens and micro-farms that recycle waste from the office, kitchen, and lawn. We desire to build a new agricultural future, where everyone has easy access to healthy food choices.

We’ve trained and/or installed systems for educational institutions such as

Girls Inc. of Metropolitan Dallas exploring the Aquaponics & Earth Cycle of Life Farm

Students from SMU being trained on our methods

Haiti Orphans supported by our Sustainability Water Project

Whether you want a small aquaponics garden for classroom demonstration or a larger organic micro farm in your school’s land area, we’ve got you covered.
THE 5 STEP AQUAPONICS AND COMMUNITY GARDENING CHECKLIST

Here is a checklist of the 5 most important items to consider moving forward. It is critical that you have get clear on these items before you contact an organization to purchase a system or installation.

STEP 1. DECIDE ON YOUR GARDEN’S PURPOSE:

What do you want to do with your aquaponics system?

The answer to this single question will determine everything else – including location, budget, the type of system you get, who is on your gardening team, etc.

Your garden can have singular or multiple purposes ranging from teaching students biology and horticulture at the basic level to providing fresh vegetables to your school cafeteria. If you would like a small demonstration for each science classroom – we offer our Mini Eden Aquaponics Kit (pictured to the right) that is easy to maintain and teach from. Students will be able to view the new plants growing every day, and see the fish grow as well.

On the other hand, we offer larger Endless Food Systems, which can be configured according to the size of the space you already have. A larger unit like this could be used for teaching, demonstration, and healthy, organic food supply for the students.

STEP 2. FIND POSSIBLE LOCATIONS:

When considering the best place to put your aquaponics school garden, you will want to consider the following necessary factors to determine your location:

- An enclosed area with climate control options available
- An area available to some sunlight for a garden
- Easy access to water
- Electricity and/or solar access
- Size of your facilities and the system you are considering
STEP 3. DETERMINE YOUR BUDGET:

When computing the cost for your aquaponics system, don’t just include the cost of the system itself. You will need to budget a reasonable amount, which includes:

- Purchasing the system itself
- Installation of the System (Labor)
- Building of an enclosure to ensure year round use – (Greenhouse, or Hoop House). Hoop Houses are used more for strict food production, while Greenhouses provide more options for aesthetics, research, and heating and cooling.
- Food for the fish
- Heating and Cooling Costs
- Ongoing System Maintenance

STEP 4. RALLY THE RIGHT PEOPLE FOR YOUR TEAM

If you want your aquaponics or community garden to be successfully integrated into your school – you’ve got to assemble the right team!

**When we install larger systems, we require every school we work with to have a team of at least 3 to 5 adult advocates.** This team can include administrative leaders such as principals, teachers, community members, and other staff committed to seeing the project successfully implemented and maintained. The team should include a district level leader- such as a superintendent, who should sign off as a part of this advocacy team. These are individuals committed to bringing the Aquaponics unit to the school, and helping to create a sustainable food culture among students.

Here’s our reasoning – a garden is a living thing. Principals may switch positions, teachers may transfer, and therefore the initiative should not be based on a sole person. If something happens to that one person, the learning and food culture development basically stop. Thousands of dollars of school funds are wasted, and nobody benefits. A core team ensures that a sustainable food culture has a chance to actually thrive within your school for years to come.

**We strongly encourage you to budget for at least 1 outside manager to maintain your aquaponics unit or community garden during weekends, holidays, summer breaks, etc.** This may be a role that can be fulfilled by one of your school janitors. Aquaponics units require around the clock care, monitoring, and maintenance. The best system in the world will break down if it is not consistently checked and monitored. Aquaponics and Earth will offer training to the manager so that they are thoroughly equipped to understand the system. Starting out, this person or team of persons must check the Aquaponics unit at least 3x a week. If you do not have a manager to train, we do offer interim management of your system until you are able to appoint someone.
STEP 5. CLARIFY PROCEDURES FOR ACCESSION
If you are considering a larger aquaponics system or garden, there may be several times a week when adults not related to the school need to access the unit for new installation, follow-up maintenance, etc. Make sure you know the policies for your school district concerning the entry of such persons, and have a clear process outlined for how you will be able to facilitate them.

Will your garden be open to the community as well? If so you will want to start thinking about how to manage the balance between openness and safety. We have come across several cases of schools investing in a garden, only to have it vandalized and destroyed. You will want to consider safety if your garden is in an open area. Also consider ways to protect all your hard work!

6. BE POSITIVE ABOUT PERSONAL AND TEAM COMMITMENT
Installing a larger aquaponics garden or school garden system is a commitment, because a garden is a living thing. It doesn’t take off winter break or summer vacation. It will take 3 to 6 months to get your teachers and students acclimated to a full aquaponics system or community garden, and another 6 months to a year to integrate the garden into the curriculum and everyday learning of your school. Since we are interested in partnering with schools to create successful food sustainability education, and know that success takes time and mastery, we require a 2-year written commitment for our larger custom systems and organic farm planning.
The Aquaponics and Earth Sustainability Alliance

Services Offered to Schools and Community Organizations

“Creating Cultures of Food Sustainability, Empowerment and Hands-On Learning”

We’re here to partner with you to make your school’s project a success.

Because our mission is more than money, we have several requirements to begin working with schools.

We are not just another company interested in installing an aquaponics unit or greenhouse. We are an alliance of organizations committed to creating a culture of food sustainability and education in schools that sparks and strengthens the local sustainable food movement in communities nationwide! We’re looking for selective, serious, organizations that are ready for a top-notch holistic solution to education and food sustainability.

HOW WE CAN HELP YOUR SCHOOL

In order to serve our local Texas area, we created the AESL Sustainability Alliance—to personality source and facilitate the best installation services, aquaponics systems, organic gardens, and training to get your school garden started. Whether you want a small aquaponics garden for classroom demonstration or a larger micro farm in your school’s land area we’ve got you covered.

Products We Offer

- Eden Mini Aquaponic Garden Kit (the Perfect Size for Classrooms)
- Endless Food Systems (our premium Aquaponics systems perfect for schools)
- Coco Fiber, Vermiculite and Living Compost for Raised-Bed Gardens
- Compost Tea Brewer for Creating Organic Fertilizer
- Cinderblock Gardening DVD Training
- Tilapia Fish Food
- Premium Organic Tilapia Fish for Breeding or Aquaponics
- Journey to Sustainability Greenhouses

To get started with your aquaponics system or school garden, contact Jonathon Musser | 469-275-8652 | Customers@Aquaponicsandearth.org
Services We Offer

- Aquaponics or Tilapia Fish Breeding System Installation
- Organic Garden Installation and Development
- Raised Bed Installation
- Journey to Sustainability Greenhouse Installation
- Micro Farm Design and Layout
- Educational Trainings, Seminars, and Workshops on Aquaponics and Organic Gardening
- Garden Consultations and Planning

Contact Us To Get Started Today!

Call Jonathon Musser
Director of Customer Service
Phone: 469-275-8652 or
Submit a Project Contact Form at: www.AquaponicsandEarth.org/Schools