

GETTING STARTED WITH

CLASSROOM HYDROPONICS



Visit us online at www.CropKing.com

134 West Dr.
Lodi, Ohio 44254

Phone: 330.302.4203



“Students have been very excited working with the CropKing Hydroponic Tables and Bato Bucket Hydroponic Vine systems! Every student who has worked in the greenhouse has had a chance to practice the scientific method in action with the systems and provide food for both ourselves and the cooking class. The systems are user friendly and easy to manage. Students have shown lots of pride in their work and are very excited by their results!”

— Nathan Dick, Mayfield Middle School



ABOUT US

Since 1982, CropKing has grown to become one of the largest manufacturers and distributors of commercial greenhouse structures and equipment, hydroponic systems, and growing supplies, with customers throughout the United States, Canada, Mexico, Europe and the Caribbean.

Our hydroponic systems and greenhouses help all types of growers, from large commercial businesses, to smaller farmer's market growers, academic institutions and many school districts. We've worked with:

- The Ohio State University
- Wright State University
- Walt Disney World
- Greenswell Growers
- The Foodbank Inc.
- Many FFA Programs across the country
- Several school districts with teachers in all K-12 grade levels
- Earth Echo International
- The Salvation Army

We've seen the direct need for skilled agriculture laborers who also understand the importance of sustainable growing methods with global impact. We know that food system education is a critical component to combat the global food security crisis, and that access to fresh, nutrient-rich produce should be a basic necessity. That's why we're committed to educating the next generation of growers and providing hands-on STEM-based learning opportunities.



7,101 Gardens

A 2015 U.S. Department of Agriculture census of 18,000 public, private and charter school districts found 7,101 gardens based in schools.

Lets grow that number!



42%

of school nutrition directors reported that students ate more fruits and vegetables after the school added a garden.



79%

U.S. Bureau of Labor Statistics, which shows employment in STEM occupations has grown 79 percent in the past three decades.

In 2021, there were over 10 million workers in STEM occupations!



3-10x

Hydroponic farming increases production between 3-10x in the same amount of space as traditional farming.



DECREASING the time between harvest and consumption
INCREASES the nutritional value of the end product.



90%

Some hydroponic crops can use up to 90% less water than the same crops in traditional soil farming.



Students can learn STEM, project based learning, meeting education standards in **SCIENCE AND MATH**, while also learning **HUMANITIES, BUSINESS PLANNING, ENTREPRENEURSHIP**, and more.

FUNDING

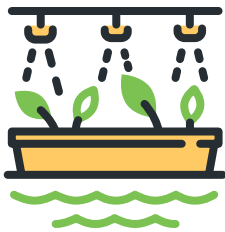
Get creative! If your school, non-profit or academic organization does not immediately have the budget for a hydroponic classroom lab, there are several ways to source funds. By partnering with your school nutrition staff, developing a relationship with a local food pantry or restaurant or working with a local STEM co-hort or other departments within your network, you may be able to find resources to support your project and initiatives.

CropKing also has a grant writer on-staff to help identify potential opportunities for funding. Our grant writer is actively looking for grant applications to support students, educators and administrators in hydroponic education across the country.

In addition to identifying grant programs, our grant writer can also aid in the application process by providing supporting information and details, helping to develop the budget and offering ideas to strengthen the application. This free service makes CropKing a valuable partner to help save time and energy in a grant application process.



WHAT WE OFFER



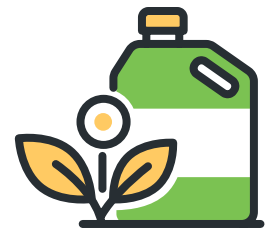
HYDROPONIC SYSTEMS

Our Hydroponic Systems are designed to fit classrooms and other small-spaces.



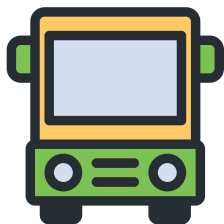
WORKSHOPS & TRAINING

We offer educator-specific training on-site and at our Lodi, OH headquarters.



GROWING SUPPLIES

From lighting, fertilizers, and growing media to seeds and testing supplies, we have everything you need.



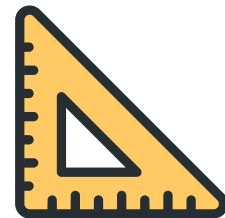
FIELD TRIPS

Visit our research greenhouse and learn industry-leading, hands-on hydroponic practices in Lodi, OH.



CURRICULUM

Utilize our K-12 lesson plans, or use them as a starting point to build your own.



LAB PLANNING ASSISTANCE

Not sure where to start? Our education team (real, classroom teachers!) can make recommendations.

NFT SYSTEMS

Nutrient Film Technique (NFT) is a hydroponic growing method where a shallow stream of water containing all of the dissolved nutrients required for plant growth is re-circulated past the bare roots of the plant in a watertight gully, or channel.



DESKTOP NFT SYSTEM
NFTDESK8

Our hydroponic desktop NFT system has all the capabilities of a traditional sized NFT system allowing you to grow fresh, high-quality leafy greens within a small footprint. Set up 3-5 desktop systems for small group learning, plant trialing, experiments and more!

FEATURES

- 8 plant sites. Two growing channels that hold four plants each
- Food grade, UV-stabilized grow channels
- Standard 110 volt plug with no additional power source required
- Measures 21 in. x 13 in. x 6 in.

See page 9 for Desktop LED Grow Light and ask about saving when purchased together!



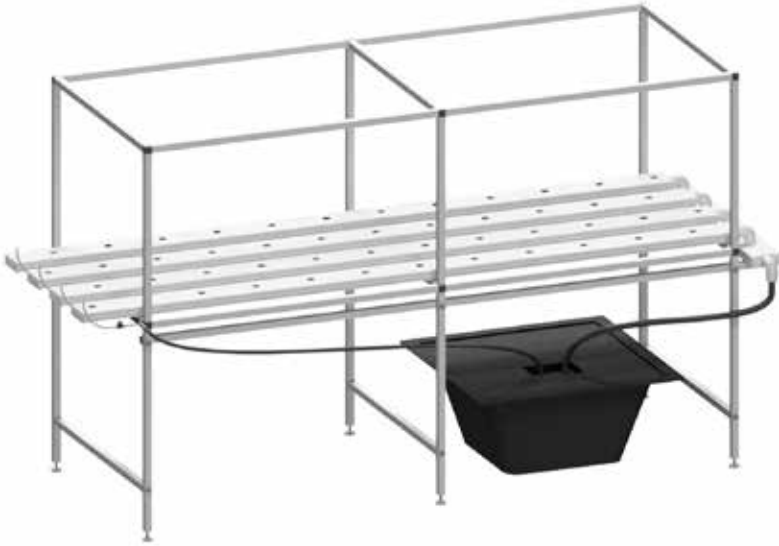
NFT 4-6 SYSTEM
NFT0406

The perfect introductory system for educational purposes, this system fits well in any lab or classroom. Allows several students to be engaged in transplanting, harvesting or other hydroponic practices. Reservoir and optional light rack (shown in photo) sold separately.

FEATURES

- (6) 4 ft. long growing channels
- Food grade, UV-stabilized, PVC grow channels
- 36 total plant spaces
- Measures 55 in. x 55 in. x 31 in.

NFT SYSTEMS



NFT 8-4 SYSTEM
NFT0804

Grow a larger, wide variety of leafy vegetables and herbs using the recirculating hydroponic NFT system. Optional light rack (shown in photo) sold separately.

FEATURES

- (4) 8 ft. long growing channels
- Food grade, UV-stabilized, PVC grow channels
- 48 total plant spaces
- Reservoir Included
- Measures: 104 in. x 42 in. x 31 in.
- Measures w/optional light support rack: 104 in. x 42 in. x 56 in.



FLEX FARM
FLEXFARM

The Flex Farm is an efficient, scalable and transformative indoor, vertical hydroponic growing system. By carefully controlling everything plants need to thrive, each Flex Farm can grow more than 394 pounds of produce annually. They're portable and only require a standard electrical outlet and less than

FEATURES

- 288 plant spaces
- Standard 110 volt plug with no additional power source required.
- Fits within 10 square feet of floorspace

NFT SYSTEMS



MICROGREENS SYSTEM
MGSCHOOL

The Microgreen system simplifies the process of growing microgreens by providing a self-contained growing system capable of holding standard 10 x 20 trays. You can also use a single length of your choice of growing media (jute, burlap, felt, etc.) in each channel.

FEATURES

- 3 growing tiers
- Reservoir included
- Can also be used as a seedling or young plant rack
- 4.5 ft. x 2.5 ft. footprint

RECOMMENDED ACCESSORIES



DESKTOP KIT LED LIGHT
LIGDESK8

Broad-Spectrum 45W LED Grow Light with no harsh purple glare. Pairs perfectly with the Desktop NFT system



10/20 SEED TRAY WITHOUT HOLES
TRA1101



pH CONTROL KIT
PHT4000

OTHER ACCESSORIES:

- Light rack for NFT 4-6 (NFT0406LR)
- Light rack for NFT 8-4 (NFT0804A)
- 5# HydroGro Leafy (FER5005)
- 5# Calcium Nitrate (FER3025)
- Lettuce Seeds Pack of 50 (LET2001)
- Rockwool AO25/40 (ROC1004)



HYDROPONIC STARTER KIT FOR NFT 4-6
NFT0406A

AQUAPONICS & AQUACULTURE

Aquaponics is a combination of aquaculture (the growing of fish and other aquatic animals) and hydroponics (the growing of plants without soil).



**300 GALLON
AQUACULTURE SYSTEM**
AQUHS300

Simple to set up and maintain, the Aquaculture System is a great teaching tool, as it incorporates all of the aspects of aquaculture on a smaller scale. The system is suitable for many species such as tilapia, catfish and ornamentals. Shown with optional window installed.

FEATURES

- Efficient system uses less than 10 gallons water per day
- Uses less electricity than a 60 watt light bulb
- Simple flush valve for easy daily system maintenance
- 8 ft. x 10 ft. footprint



**200 GALLON
AQUAPONIC SYSTEM**
AQUHILM01

The Aquaponic System combines fish culture and true hydroponic plant production into one integrated ecosystem. The fish waste provides the nutrients for the plants, and the plants clean up the water to make it a better place for the fish to live in. Teach students of this beneficial arrangement that occurs in nature, but with tools that are within your control.

FEATURES

- 200 gallon fish tank
- 4 ft. x 8 ft. hydroponic growing bed
- Designed for energy efficiency
- 5 ft. x 14 ft. footprint

RECOMMENDED ACCESSORIES BOTH SYSTEMS:

Viewing Window (AQUHWIN01); Tank Heater (AQUHEAT01); Float Valve (FLOV001); Beneficial Bacteria (AQUHBENBACPDR-1); Dip Net (AQUINET01); Digital Thermometer (AQUHTHER); pH Test Strip Kit (PHK2000)

300 SYSTEM ONLY:

Stand for Growing Bed (AQUHSTANDI); Seed Starter Kit (SEEDSTR01)

BATO BUCKET SYSTEMS

Bato buckets are designed to be fed by an emitter and measure 12" long x 10" wide x 9" tall. Two small siphon elbows are included to keep a small reservoir of nutrients in the bottom of the bucket, about 2" in depth. This nutrient reservoir keeps the growing media from drying out and prevents water stress on the plant between irrigation cycles.



**4-BUCKET BATO SYSTEM
W/STAND & RESERVOIR**
BAT1004

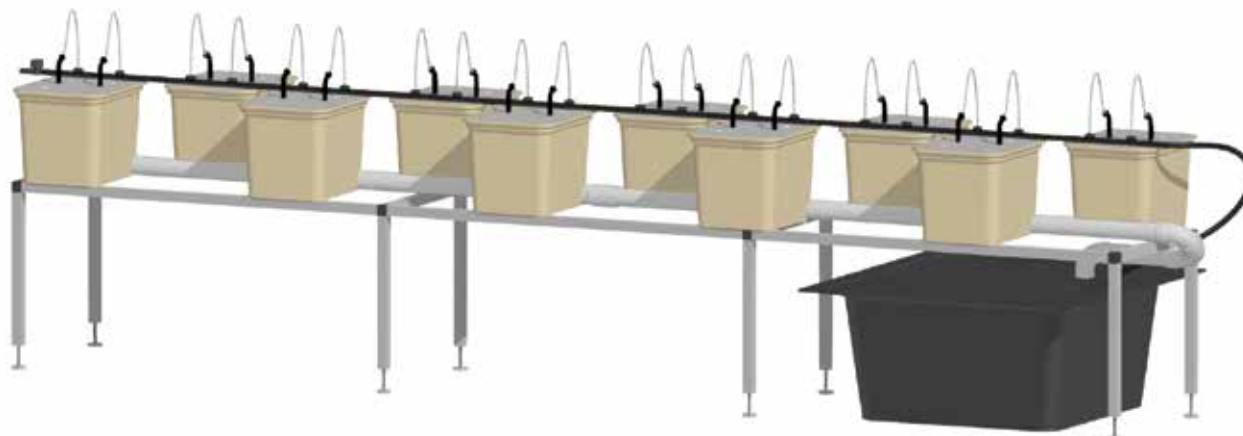
This entry level bato bucket systems is perfect for vine crops like tomatoes, cucumbers, peppers and more! The reservoir and stand are included to make this a turn-key, ready to use system in the classroom. Learn about different growing medias, basic seed starting, transplanting and more!

FEATURES

- (4) Bato Buckets with elbows and covers
- Buckets made of high-quality, UV-resistant plastic
- Reservoir & Stand included
- Can be used for a variety of vine crops
- 3.5 ft. x 3 ft. footprint



BATO BUCKET SYSTEMS



10-BUCKET BATO SYSTEM

BAT0010

The CropKing 10 Bucket Bato System is great for growing vine crops and other tall growing plants. Suitable for tomatoes, cucumbers, peppers, squash, and many other fast growing fruiting and flowering plants. The Bato Bucket is ideal for drip irrigation, and is made from high quality, UV-resistant plastic.

FEATURES

- (10) Bato Buckets with elbows and covers
- Square aluminum stand and hardware with adjustable legs for creating slope
- Measures: 124 in. x 22 in. x 26 in.



10 - BUCKET BATO SYSTEM W/PLANT SUPPORT BATOSCH

Grow even more, even easier, with the CropKing 10 Bucket Bato System! Our largest Bato education system features 10 buckets while still fitting within a manageable classroom footprint. Learn leaning and lowering techniques, pruning and more hydroponic practices with the included plant support.

** Shown with green custom powder coated frame, but available in your school color.*

FEATURES

- (10) Bato Buckets with elbows and covers
- Welded steel plant support system included
- UV-resistant plastic
- 8.5 ft. x 3.5 ft. footprint

RECOMMENDED ACCESSORIES



20 BATO BOBBINS
TOM1015



**10/20 SEED TRAY
WITHOUT HOLES**
TRA1101



100 VINE CLIPS
VIN8003



BLUELAB COMBO METER
PHM3000

OTHER ACCESSORIES:

- pH Control Kit (PHT4000)
- 5# HydroGro Vine (FER5105)
- 5# Calcium Nitrate (FER3025)
- 1# Potassium Nitrate (FER3012)
- Rockwool AO36/40 (ROC1008)





Cropking's products are very user friendly, and something that my students can operate and manipulate. The incorporation of technology is very interesting to them as well, since they are in the technology generation. The innovative growing methods helps to show students how we can feed our growing population today and in the future.

— Brian Prewitt with Whitley High School



FIELD TRIPS AND WORKSHOPS

Our Lodi, OH facility features a 3,000 Sq. Ft. research greenhouse that we use to trial different seed varieties, test new hydroponic systems and the latest in technology. We also use this space to host hydroponic grower workshops and training, and field trips for students! Our education programs can be tailored to fit a half-day or can be spread over multiple days depending on your preference.



Half-Day Field Trip

Students will spend time in the both the lettuce and vine crop sides of the greenhouse, learning about pollination, harvesting, pruning and trying their hands at other basic hydroponic growing techniques. We'll also spend some time in our on-site classroom learning about the history of hydroponics, global food chain impact and career pathways in controlled environment agriculture.



Multi-Day Workshop (Students)

This option is perfect for more advanced, or specialized groups like FFA programs, university extension agents and non-profit organizations. Our team of horticulturists will provide demonstrations and education about hydroponic growing best-practices and greenhouse management, while also teaching the hands-on skills required for the lettuce and vine crop greenhouses.



Faculty and Staff Training

CropKing can tailor a customized workshop based on your needs, either at your location or ours. Whether you need to train teachers to run hydroponic equipment, need assistance with setup and the first growing cycle, or something more, our team can provide technical assistance and education. These customized programs are available in half, full and multi-day formats.

INTERESTED IN HYDROPONIC CLASSROOM EDUCATION? LET'S TALK!



Paul Brentlinger, President
pbrent@cropking.com



Aaron Favri, Sales
afavri@cropking.com



Jim Trogdon, Education Team
jtrogdon@cropking.com



Karen Burke, Sales
kburke@cropking.com



Megan Dusek, Sales
mdusek@cropking.com



Heather Newman, Sales
hnewman@cropking.com



Olivia Lang, Sales
olang@cropking.com



Gio Hesley, Grant Writer
jhesley@cropking.com



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134 West Dr.
Lodi, Ohio 44254

Phone: 330.302.4203