



“Hydroponics Gardening”

Space and Water Efficient Gardens for
Vegetables, Herbs, and Flowers

Norman Jones

September 13, 2022

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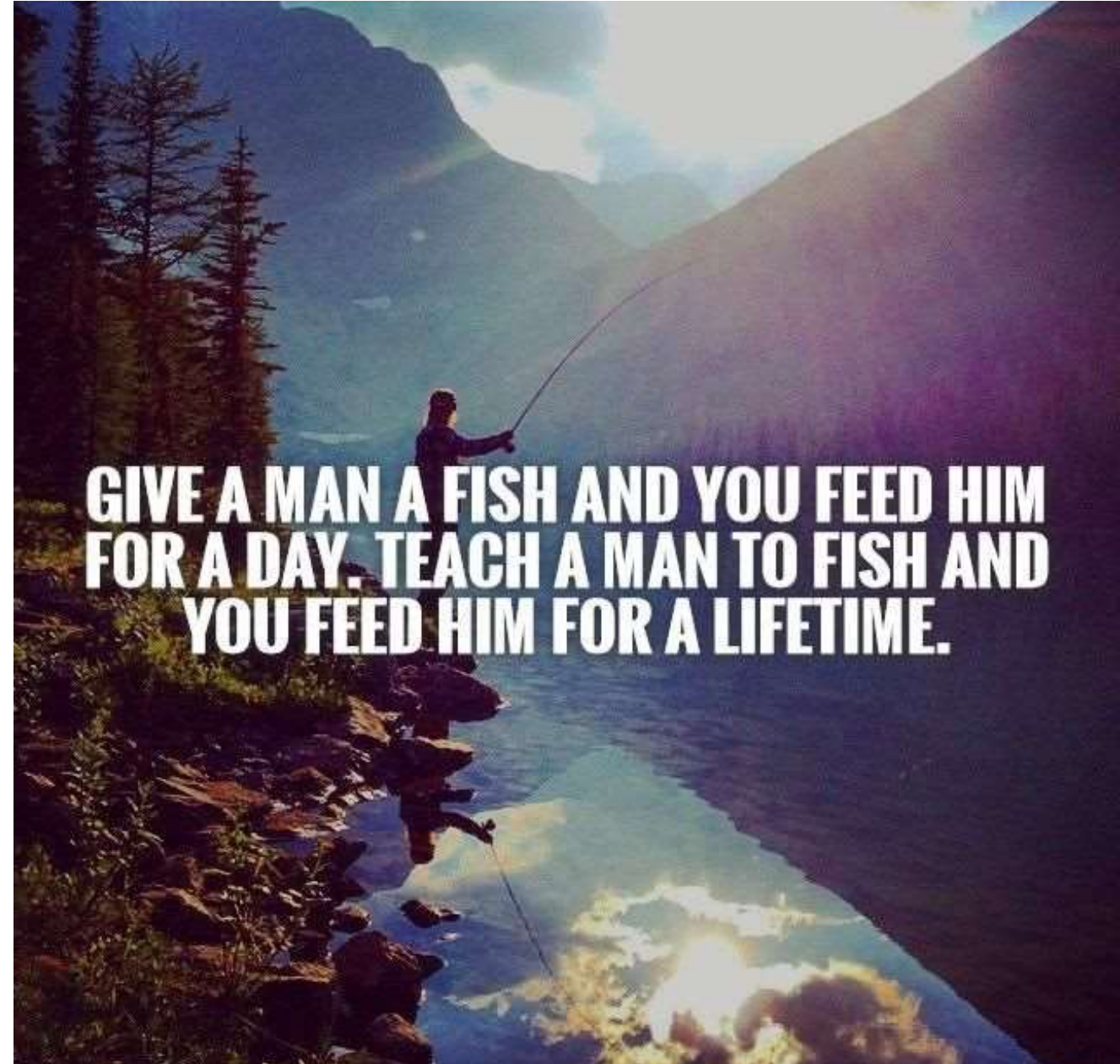


Potential Benefits and Applications of Hydroponics

- **Scalable:**
 - 1. “Do It Yourself” project
 - 2. Large scale for education of business
- Space and water efficient gardening for vegetables, herbs, or flowers
 - There are variations of Hydroponics Gardening and similar technology
- Grow plants faster
- Can have extended growing season
- Opportunity to learn innovative gardening technology
 - Can be applicable to adults of children of all ages
- Can be done by people safely during COVID restrictions

Hydroponics as Community Service Project

- People can want to grow own food but don't have space, knowledge, etc.
 - Address "Food insecurity"
- **Could be a "community service project" for a club or organization**
- Initial system in place at Bastrop Transitional Housing Shelter
<https://www.itshuh.org/>



**GIVE A MAN A FISH AND YOU FEED HIM
FOR A DAY. TEACH A MAN TO FISH AND
YOU FEED HIM FOR A LIFETIME.**

Attributes of Hydroponics for Gardeners or for Community Service Project

- **Utilize current gardening skills in an innovative way**
- **Could be approach for people in apartment, homeless shelter, etc. for “grow you own food” and learning opportunity for “innovative gardening”**
- System planned for “Towers Nursing Home in Smithville
- Hydroponics garden is compact, light weight, and modular/expandable
- A hydroponics system is less space intensive and destructive then a traditional garden and can be dismantled and relocated by a renter
 - 27 cu ft of dirt (typical raised bed can be 3'x9'x1') weighs between 2000 (dry) and 3000 lbs. (wet)
 - 30 gallons of water (four 5' PVC tubes plus pump container) weighs 250 lbs.
 - Complete system without water is lightweight

Hydroponics, Aquaponics, and Aeroponics Overview

- Example info:
 - <https://www.epicgardening.com/hydroponics-for-beginners/>
 - <https://originhydroponics.com/hydroponics-vs-aquaponics-vs-aeroponics/>
- Hydroponics: The plants roots are “submerged” in a continuous flow of nutrient based water
- Aquaponics: similar except fish provide nutrients
- Aeroponics: The plants roots hang in the air & a sprinkler system sprays them with nutrient based water rather than it being submerged



- Environmentally responsible with low water usage and low power usage
- The primary inputs to the system are water and nutrients
- Small space
- Less work (e.g., no weeding)
- Low Susceptibility to pests and diseases

Some Considerations for Hydroponics Gardening

- Compact, modular size permits use of small space such as compact greenhouse or even indoors year round
- Aquaponics good for some vegetables, herb, and flower plants but probably not appropriate for most root crops
- Growing season may be extended by moving indoors or using a greenhouse
 - Water can be more readily heated or cooled than massive volumes of dirt
Also may be extended by controlling temperature of the water
 - Cool in summer, heat in winter **Might be good community support or education project**

Hydroponics Approaches

- There are multiple commercial suppliers
- Example of a DIY systems:
 - <https://www.youtube.com/watch?v=ewOsgoGQL4>
 - Uses 27 gallon plastic container, aquaponics cups, pump, and PVC pipe
 - <https://www.youtube.com/watch?v=PfylnGL-RXc>
 - <https://www.youtube.com/watch?v=EJjAWF2DfWY>
 - <https://www.youtube.com/watch?v=1oETmA6AJQk>
 - Use 4" PVC pipe (schedule 20) with 2 $\frac{3}{4}$ " holes
 - 3" cups

Hydroponics System for Home or Institution

- Five 4' long tubes of 4" PVC pipe (Lowes 24140)
- Connect tubes using 4" PVC end caps, and 1" PVC adapter and tubing
- Make frame of either wood 2x4s, PVC, or a combination
 - Space required is approximately 6' by 5'
- Install submersible water pump in 27-gallon opaque storage container under frame
 - Connect input and output to PVC tubes
- Build enclosure using poultry screen and frame
 - Protect plants from squirrels, birds, and racoons
 - Could hold plastic sheeting in cool/cold months
- Optional for extended growing season: heat or cool water to approximately 70 degs

Indoor Hydroponics System

Sept 8, 2022

- Started July 2022 at home in Smithville
- There is also an outside system



Outdoor Hydroponics System

Aug, 9 2022



Sep 8, 2022



Hydroponics Garden Project at ITS-HUH

Did project for use at [ITS HUH Ministry Giving Families Hope. Giving Everyone a Second Chance.](#) and to serve as prototype



Possible Location for Hydroponics Gardening System at Towers Nursing Home

- System will be outside for safety but visible from a main Towers meeting room
- Plant selected for viability during Texas heat and interest for residents
- Can be an “gardening activity” for residents

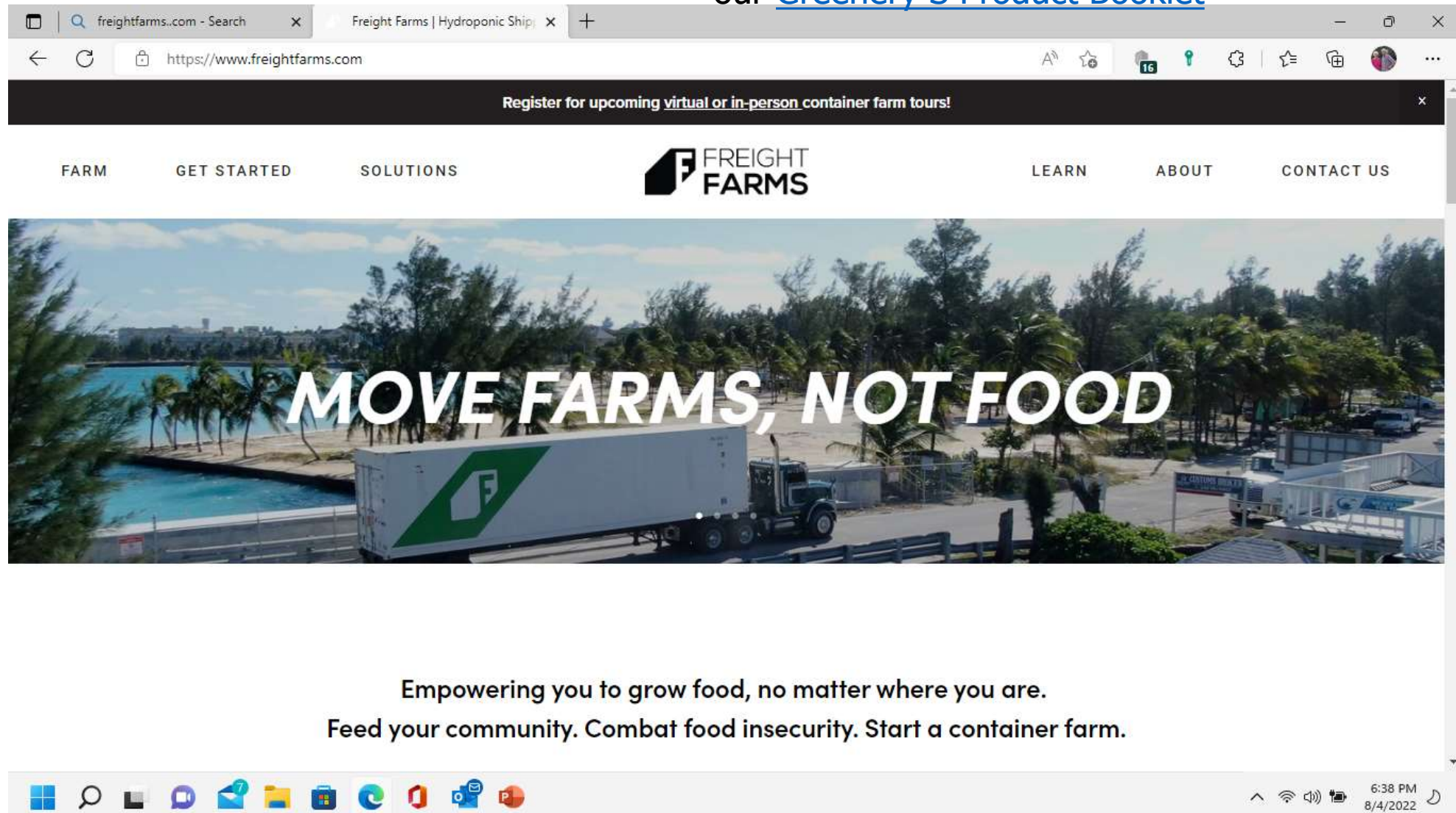


Commercial Hydroponics Gardening Facility

- Hydroponics gardening on a large commercial scale
- Grow plants in perfect environment in any climate or location all year round
 - Much more efficient in term of water, space, and time than traditional gardens
 - “Microclimate” can be established to grow specific plants
 - Example: facility can be used to emulate a specific location to grow a specific plant
- Example uses:
 - for business: Produce premium quality produce (e.g., leafy vegetables, Lettuce)
 - For education: learn “better way of producing food”

Commercial Hydroponics Gardening Facility

[Freight Farms | Hydroponic Shipping Container Farms](#)
our [Greenery S Product Booklet](#)



The screenshot shows a web browser window with the URL <https://www.freightfarms.com>. The browser's address bar and tabs are visible at the top. A dark banner at the top of the website reads "Register for upcoming virtual or in-person container farm tours!". Below this is a navigation menu with links: FARM, GET STARTED, SOLUTIONS, LEARN, ABOUT, and CONTACT US. The Freight Farms logo is centered in the navigation bar. The main content area features a large image of a white shipping container with a green Freight Farms logo, parked in a lot with trees and a body of water in the background. Overlaid on this image is the text "MOVE FARMS, NOT FOOD" in large, white, bold, sans-serif capital letters. Below the image, the text "Empowering you to grow food, no matter where you are. Feed your community. Combat food insecurity. Start a container farm." is displayed in a smaller, black, sans-serif font. The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 6:38 PM on 8/4/2022.

Register for upcoming virtual or in-person container farm tours!

FARM GET STARTED SOLUTIONS LEARN ABOUT CONTACT US

MOVE FARMS, NOT FOOD

Empowering you to grow food, no matter where you are.
Feed your community. Combat food insecurity. Start a container farm.

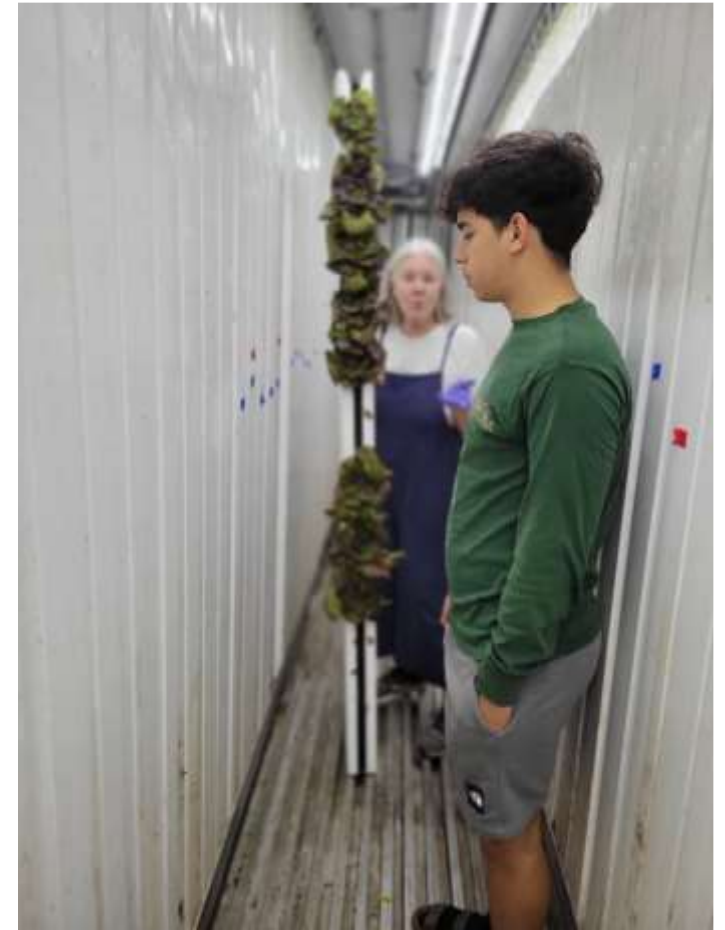
Commercial Hydroponics Facility Near Smithville/Bastrop: Tour August 4, 2022

Our thanks to Kathryn Nash



Commercial Hydroponics Facility Near Smithville/Bastrop: Tour August 4, 2022

- Kathy Nash and Garrison Borel
 - Garrison will start at TSTC in “Industrial Systems”
- [Robot farming helps grow produce using 90% less water and electricity than traditional farms - Bing video](#)
This type of farm is mostly an “Industrial System”



Possible Opportunities for Large Scale Hydroponics Gardening Facility

- Education at Smithville (or Bastrop) ISD: Learn “Modern farming technology” and produce vegetables (and flowers) for school use
- Career preparation at Smithville Workforce Training Center: make this a career path
- Business: A person or organization buys a system such as from “Freight Farms” and grows and sell produce (or flowers) for profit

Really Large Scale Modern Gardening

- [Food – IronOx in Lockhart](#)
 - [Robot farming helps grow produce using 90% less water and electricity than traditional farms - Bing video](#)
- [Iron Ox Breaks Ground For New Robotic Growing Facility In Lockhart, Texas | AgriTechTomorrow](#)

The screenshot shows a web browser window with multiple tabs. The active tab is titled "Iron Ox Breaks Ground For New Robotic Growing Facility In Lockhart, Texas". The address bar shows the URL: <https://www.agritechtomorrow.com/story/2021/04/iron-ox-breaks-ground-for-new-robotic-growing-facility-in-lockhart>. The website header features the "AgriTech Tomorrow" logo, the tagline "Online Trade Magazine Agricultural Technology and Precision Farming", and navigation links for "Login", "Search", and social media. A green navigation bar contains links to "Home", "Indoor & Vertical Farming", "Monitoring & Growing", "Precision Farming", "Processing & Supply Chain", and "Site Services". The main article is titled "Iron Ox Breaks Ground For New Robotic Growing Facility In Lockhart, Texas" with a timestamp of "04/22/21, 09:13 AM" and tags for "Indoor & Vertical Farming", "Processing & Supply Chain", and "robotics". The article source is listed as "Iron Ox". The article image shows a robotic arm holding a small plant. To the right of the article is a "Sponsors" section featuring advertisements for "Manage Power Flow" by Hammond Power Solutions and "AGM" batteries. The Windows taskbar at the bottom shows the time as 11:59 AM on 8/5/2022.

Company Directory

AgriTech Tomorrow
Online Trade Magazine
Agricultural Technology and
Precision Farming

Login
Search

Home | Indoor & Vertical Farming | Monitoring & Growing | Precision Farming | Processing & Supply Chain | Site Services

Iron Ox Breaks Ground For New Robotic Growing Facility In Lockhart, Texas
04/22/21, 09:13 AM | Indoor & Vertical Farming, Processing & Supply Chain | robotics
Source: Iron Ox

Manage Power Flow
Air & Iron Core Reactors
Passive Harmonic Filters
Learn more
HPS Hammond Power Solutions

AGM

Iron Ox Hydroponics-Robotics Gardening Facility



Materials for Home Hydroponics Garden


Backup slides

Will send with presentation to Club members

PVC Pipe, 4" Sewer

Amazon.com Shopping Cart x Amazon.com Shopping Cart x Amazon.com: General Hydroponics x Amazon.com: 3 inch Net Pots x 4-in x 10-ft Sewer Drain PVC Pipe x

https://www.lowes.com/pd/4-in-x-10-ft-Sewer-Drain-PVC-Pipe/3133147



\$17.41

★★★★★ 122
[View Q&A](#)

BUY 10 GET 20% OFF

4-in x 10-ft Sewer Drain PVC Pipe
Item #24140 Model #PVC 30040 0600HC

- Conforms to standards: ASTM D 1784 and ASTM D 2729
- Commonly used in leach fields and French drain applications
- White pipe used in gravity sewer and storm drainage applications

— 1 +
Qty

Add to Cart

Free Store Pickup
101 Available at
[S.E. Austin Lowe's](#) ▼
Aisle 14 | Bay 53

Delivery

**Have any questions?
Chat with an Expert.**

CHAT NOW

Feedback

Windows taskbar: Type here to search, 3:13 AM 9/19/2020

Example Tube for Model System at ITS-HUH



October 7, 2020

Hole Saw for PVC Pipe

Hordion 70mm/2.75" Hole Saw Bi-Metal Saw Drilling Tool with Twist Drill Bit & L Hex Wrench for Cornhole Boards Wood Plasterboard Plywood Plastic

Brand: Hordion
 ★★★★★ 433 ratings | 4 answered questions

Price: \$8.99 ✓prime

Size:
 70mm / 2.75"

Color: Red

- High-Quality Material: The 2.75" hole saw is made of M42 bimetal, with hardness up to 65HRC, with higher toughness, stronger wear resistance and higher performance cutting strength
- Dimensions: Cutting Diameter: 70mm / 2.75"; Cutting Depth: 32mm / 1.3"; Shank Diameter: 10mm / 0.4"; Total Length of Shank: 97mm / 3.8"
- Fast & Smooth Cutting: The sharp tooth edge design makes the cutting smooth and fast. More than that, the spring on the drill is very good because it automatically pushes the disc out of the saw after completing the hole
- Wide Application: It is very suitable for corn hole drilling and other household projects, such as corn hole, bean bag board, speaker, duct, wood, gypsum board and thin metal
- 100% Guarantee: If you are not satisfied with the product, you can get a full refund within 90 days, just contact us. We guarantee you a 100% satisfied shopping experience at Hordion Amazon Store.

See more product details

\$8.99 ✓prime

FREE delivery: Wednesday, Jan 20
 Order within 7 hrs and 3 mins
[Details](#)

In Stock.

Qty: 1

Buying in bulk?

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Secure transaction


Ships from Amazon
 Sold by Umlccy

☐ Add a gift receipt

Deliver to Norman - Bastrop 78602

Add to List

Have one to sell?
[Sell on Amazon](#)



Roll over image to zoom in

27 Gallon Storage Tote for Water and Pump

- Needs to be opaque to exclude light which could lead to algae
- Hold water pump (and optional aerator)
- Place under frame

Lowes 44066

\$10.98



★★★★★ 2644

[View Q&A](#)

COMMANDER 27-Gallon (108-Quart) Black/Yellow Tote with Standard Snap Lid

Item #44066 Model #44066

Perfect for storing camping, hunting or sports gear
Heavy duty construction for garage and workshop use
Recessed lid improves stacking stability



Capacity in Gallons
27

— +

Qty

Could use 23 gallon size

Bulkhead Fitting for 4" PVC cap for Tubes

Amazon \$12.99



XMSSIT 4 Pieces 3/4 Inch PVC Bulkhead Fitting with Plugs and 4 MM Thick Silicon Seal Gasket for Rain Barrels, Aquariums, Water Tanks, Tubs, Pools

Brand: XMSSIT



18 ratings

Price: \$12.99  FREE One-Day & FREE Returns

- Dimensions: 47 mm x 58 mm, 3/4 inches, Material: PVC, Color: Grey; Applicable models: Suitable for most rain buckets, water tanks, ponds or aquariums
- Function: The lock nut is reverse-threaded, and its contour will be consistent with the shape of the round barre
- Durable: Compared with standard plastic separator joints, PVC is durable and has a longer life without discoloration, cracking or peeling
- Easy to install: One-time installation, screwed from the front, can be used for commercial and industrial purposes
- Packaging including: 2 pieces of 3/4 inch PVC partition accessories, enough to use on the water tank, you can share with family and friends, they are a good tool

[Compare with similar items](#)

☐ [Report incorrect product information.](#)

to zoom in



Plastic Fittings

Caulk to prevent leaks

Lowes 24132
\$2.48



\$2.48

★★★★☆ 14

[View Q&A](#)

PVC 4-in dia Cap

Item #24132 Model #4P00

Hub

Permanently or tempc

Use on sewer lines, si

Type
Cap

1
Qty

Ad



Free Store
52 Availab
S.E. Austin

Lowes 22203



\$.80

Genova 3/4-in D

Item #22203 Model

- Use in cold water
- Connects to poly
- Install with hose

Size - Diameter
3/4-in

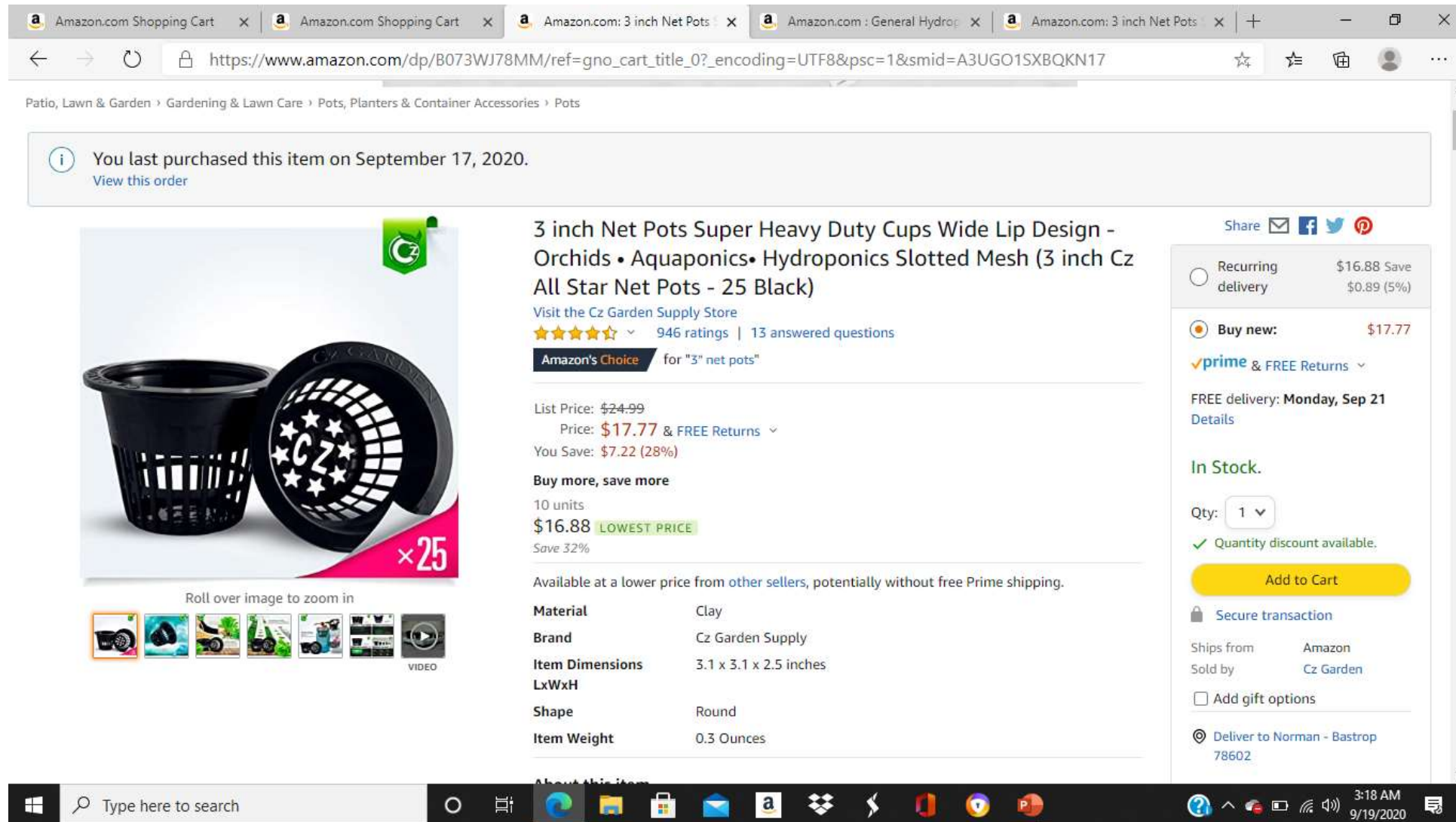
1
Qty

Add to Cart



Free S
21 Ava
Bastro
Aisle E

Net Pots

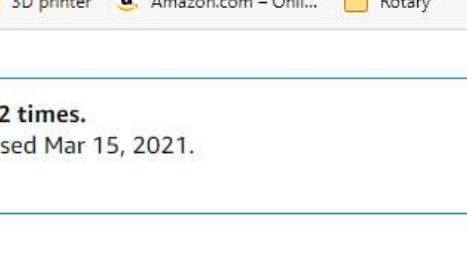


Better Plant Starter Plugs

Purchased 2 times.
Last purchased Mar 15, 2021.
[View order](#)

1.5" Rockwool Starter Plugs for Hydroponics, Rockwool Grow Cubes, 1 Sheets of 28 Plugs

Brand: MI0512
★★★★☆ | 1,683 ratings | 9 answered questions
Amazon's Choice for "rockwell cubes for seeds"



Price: **\$8.09** ✓prime FREE One-Day & FREE Returns
May be available at a lower price from [other sellers](#), potentially without free Prime shipping.

- Inorganic & Sterile Growing Medium, great for Rooting Cuttings clone plants, germination start seeds and more. Encourages Faster Initial Rooting & Its Firmness Is Guaranteed
- Much easier than starting in soil! Predrilled planting holes make seeding and plant propagation a breeze. Great for hobby and commercial growers
- Provides 20% Air Space When Saturated - Absorbs nutrient solution while retaining plenty of oxygen for rapid root growth!
- Made from good selection of natural rocks, neutral pH and sterile. Cubes Measure: 1.5" x 1.5" x 1.5"
- SELLER WARRANTY** - Any support you need please email us via your order page, we'll respond to your request within 24 hours, and we promise 100% fund back if you do not like it, WHY NOT HAVE A TRY?

[Compare with similar items](#)
New (2) from **\$7.97 & FREE Shipping**
[Report incorrect product information.](#)

Frequently bought together

Share

\$8.09
✓prime FREE One-Day & FREE Returns
FREE delivery: **Tomorrow**
Order within 9 hrs and 9 mins
[Details](#)

In Stock.

Qty: 1
[Buying in bulk?](#)

Add to Cart

Secure transaction
Ships from Amazon
Sold by MI0512

☐ Add a gift receipt for easy returns

Deliver to Norman - Bastrop 78602

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Plant Starter Plugs

Seed starter plugs
Amazon \$18.99



Seed Starter - 2 Inches Smart Seeds
Starter Plugs Soil Seedlings Cuttings
Organic Dry Out Rooting
Hydroponics Supplies Rapid Root (1
Pack of 50 Counts)

Visit the COLMO Store

19 ratings | 5 answered questions

Price: **\$18.99**

FREE One-Day & FREE Returns

- **【Standard PH Soil】** : COLMO Seed starter are cultivated with US standard pH values and contain environmentally friendly and biodegradable micronutrients. It is recommended to soak the smart seeds in hot water for 10-15 minutes, and squeeze the soil sponge appropriately to make it fully absorb the water, which can be slightly increased to 2 " square and 1.6 " deep.
- **【Reserved Seed Hole Design】** : The reserved seed hole design is used for the seed screwdriver plug. In order to ensure the germination rate and survival rate of seeds, we studied the appropriate depth, otherwise it will cause the seeds to be exposed to the outside. After we have soaked all of our soil, we just need to tuck the seeds into the soil surface.
- **【Unique Drying Design】** : Seed starter plugs use drying technology to avoid moldy because of moisture. It only needs to be immersed for 3-5 minutes before use. Seed driver plugged. These smart seed starter plugs are recommended for use with the COLMO Indoor Herb Garden Kit to ensure reliable seed rooting and successful seed germination.
- **【Soil Size and Planting Range】** : Smart seed plugs screwdriver plug size: 2 "square X 1.6" deep. The size of the soil after soaking: 2.2 " square X 1.6 " deep. If you use

Amazon \$18.99 for 50



Roll over image to zoom in



General Hydroponics HGC714135 Rapid Rooter Plant Starters, 50 Plugs, Black

Brand: General Hydroponics

★★★★☆ 3,622 ratings | 211 answered questions

Amazon's Choice for "rapid rooter"

Price: **\$18.99 & FREE Returns**

- Rapid rooter plugs are fortified with general hydroponic micronutrients for abu root growth
- The optimal air-to-water ratio within the plug matrix results in explosive early r growth
- Use rapid rooter for robust early rooting that supports explosive plant growth
- 50 Plugs per bag, bags sold individually
- Measures 10-1/2-inch length by 12-inch width by 3-1/2-inch height

Compare with similar items

New (14) from \$18.99 **prime** FREE Shipping

☐ Report incorrect product information.

Submersible Pump for Water and Nutrients



Roll over image to zoom in



UPMCT 60-400 GPH Adjustable
Submersible Water Pump, Ultra Quiet
High Lift Detachable Cleanable Water
Pump with 2 Nozzles for Aquarium,
Pond, Statuary, Hydroponics (200-400
GPH)

Brand: UPMCT



204 ratings | 16 answered questions

Amazon's Choice for "250 gph submersible water pump"

Price: \$17.99 ✓prime FREE One-Day & FREE Returns

Size: 200-400 GPH

60-120 GPH

\$13.99

✓prime

120-200 GPH

\$15.99

✓prime

200-400 GPH

\$17.99

✓prime

400-800 GPH

\$21.99

✓prime

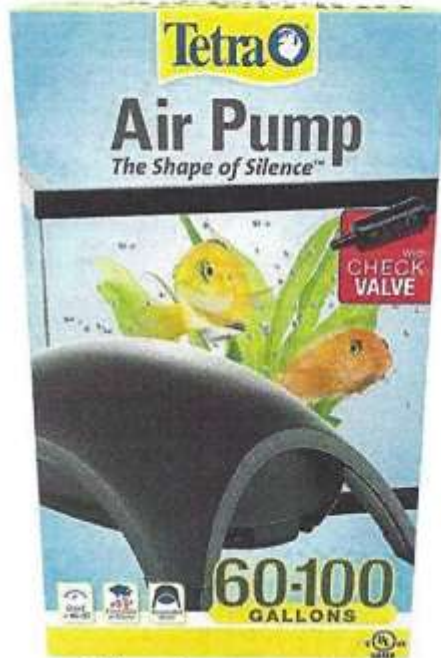
Color: Black

- Circulates water through the PVC pipes
- 400 gph = 6.67 gpm
- 27 gallon system gets recirculated every 4 minutes

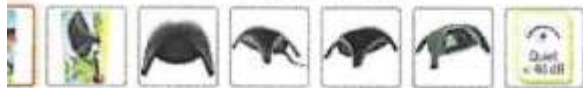
Aeration of Water (Optional but Desirable)

You last purchased this item on May 11, 2020.

Size: 60 to 100-Gallons | [View this order](#)



Roll over image to zoom in



Tetra Whisper Air Pump with Minimal Noise and Maximum Air Flow

[Visit the Tetra Store](#)

4,356 ratings

Amazon's Choice for "tetra whisper air pump with minima..."

Price: **\$25.68** & FREE Returns

Available at a lower price from other sellers, potentially without free Prime shipping.

Size: **60 to 100-Gallons**

10 to 20-Gallons

2 options from \$9.99

20 to 40-Gallons

2 options from \$10.19

40 to 60-Gallons

9 options from \$11.96

60 to 100-Gallons

8 options from \$22.26

- **POWERFUL:** Tetra Whisper Air Pump provides dependable airflow to your aquarium.
- **QUIET:** Patented dome shape, suspended motor and sound-dampening chambers for quiet operation.
- **ELIMINATES VIBRATION:** Designed with a wide footprint and rubber feet.

Air pump for aeration of water

\$25.68 from Amazon

Air Stone for Water Aeration

Amazon \$15.99



Roll over image to zoom in

VIVOSUN 2 Pcs 4X2 I Air Tubings Combo for Air Pump

Visit the VIVOSUN Store

★★★★☆ 4 ratings

Price: ~~\$21.98~~

Bundle Price: **\$15.99** ✓prime

You Save: \$5.99

- Designed to add oxygen and circulate water
- Extend the life of your nutrient solution
- Produce fine bubbles for oxygenation
- Air Stone Size: 4" X 2" X 2" ; Air Tubing Length: 10ft
- Fit for hydroponic systems, ponds, and aquariums

🔍 Report incorrect product information

Volume and Weight Calculations

- 10' of 4" PVC pipe hold 6.5 gallons and weighs 54 lbs. when full
 - With Hydroponics assume pipe is 75% full (4.9 gallons)
- Four 5' sections will hold 9.8 gallons
- 27 gallon tote holds about 22 gallons when about 80% fill
- **Total volume of system is approximately 30 gallons**
- 30 gallons of water weights 250 lbs.
 - 1 cu yd of soil (typical raised bed 9'x'3'x1') bed weighs between 2000 and 3000 lbs.

Hydroponics Nutrients

Hydroponics plant food
Amazon \$79



Roll over image to zoom in



General Hydroponics Flora Grow,
Bloom, Micro Combo Fertilizer, 1
gallon each, Pack of 3

Brand: General Hydroponics

331 ratings | 14 answered questions

Price: **\$79.00** & **FREE Shipping**

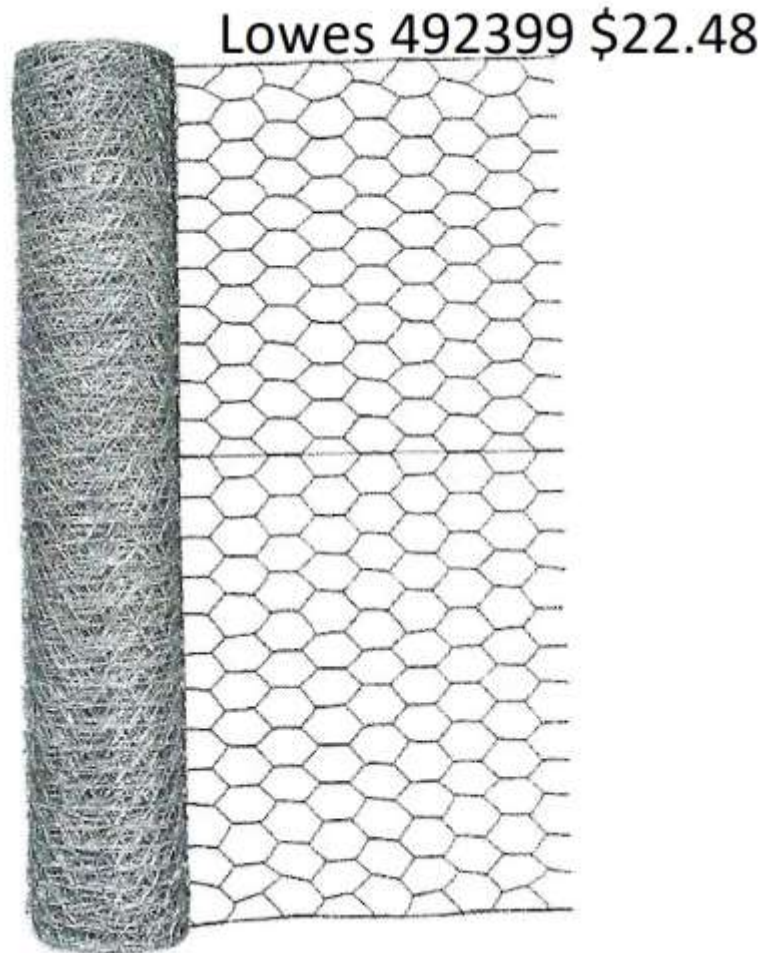
Not eligible for Amazon Prime. Available with free Prime shipping from other sellers on Amazon.

- Gh flora series is the original building block nutrient system imitated but never duplicated. Contains complete primary, secondary and micro nutrients for enhanced yields and better crop quality
- Users can adjust mixtures to suit specific plant needs. Enhances flavor, nutrition, aroma and essential oils in both hydroponic and soil cultivated plants
- Contains highly purified concentrates for maximum solubility
- Ph balanced for ease of use. Nasa and Antarctic research scientists choose flora series -- because of its superior formulation and reliability

400:1 ratio with 27 gallon system translates to 1 cup of nutrient to system (16 cups in gallon)

Poultry Screen: Make Enclosure to Protect Plants from Squirrels and Birds

Lowes 492403 is 3'hx25' long for \$21



★★★★★ 80

[View Q&A](#)

Garden Zone 50-ft x 2-ft Gray Steel Chicken Wire Garden Poultry Netting Rolled Fencing

Item #492399 Model #162450S

Constructed of durable welded steel wire

Roll measures 24 In. H x 50 ft L

Ideal for chicken and animal containment, lawn and garden fence, plant protection, erosion control, craft projects and more



1

Qty

+

Add to Cart



Free Store Pickup

2 Available at
S.E. Austin Lowe's ✓

Nutrient Solution Cooler

Amazon.com: Active Aqua AACH10HP-Chiller-Cooling/dp/B07BHHQLKR/ref=asc_df_B07BHHQLKR...


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Home & Kitchen › Heating, Cooling & Air Quality › Air Conditioners



Active Aqua AACH10HP Water Chiller Cooling System, 1/10 HP, Rated per hour: 1,020 BTU, User-Friendly, Black

Brand: Active AQUA
★★★★★ 236 ratings | 162 answered questions
Amazon's Choice for "water chiller"

Price: \$382.99 ✓prime & FREE Returns

Earn 5% Back on this purchase when you pay with your Amazon Business Prime American Express Card.
Eligible Prime membership required. Terms and cap apply.

Color Black
Material Plastic
Brand Active AQUA
Power Source Corded Electric

\$382.99 ✓prime & FREE Returns

FREE delivery Monday, August 15. Order within 10 hrs 13 mins

Deliver to Custom - Bastrop 78602

In Stock.

Qty: 1

Buying in bulk?

Add to Cart

Secure transaction

Ships from and sold by Amazon.com.

Return policy: Eligible for Return,

96° 14

2:15 PM 8/11/2022

Plastic Sheeting for Cold Weather

20-ft x 100-ft Clear 6-mil Plastic

https://www.lowes.com/pd/20-ft-x-100-ft-Clear-6-mil-Plastic-Sheeting/50414238

Shop Savings Services Ideas sheet plastic rolls Clear

My Lists Sign In Cart

Building Supplies / Insulation & Accessories / Plastic Sheeting & Film

BUY IN BULK AND SAVE

6 MIL EXTRA HEAVY DUTY

20 ft x 100 ft CLEAR PLASTIC SHEETING

\$89.00 **22** [View Q&A](#)

~~\$98.00~~ **Save \$9.00**

BUY 4 GET 15% OFF

20-ft x 100-ft Clear 6-mil Plastic Sheeting

Item #16964 Model #CFLW0620C

- 6 mil thick
- 2000 Sq Ft
- Heavy duty

1 Qty

Add to Cart

Free Store Pickup
14 Available at
[Bastrop Lowe's](#)

Feedback

Type here to search


7:54 AM 11/11/2020

Temperature Controller: heat or cool

Browser tabs: peltier cooler amazon, Diy 120w Tec Peltier S, Amazon.com: Inkbird, peltier cooling for li, cooling for hydopoinc, How to Keep Water C

URL: https://www.amazon.com/gp/product/B01HXM5UAC/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

Last purchased Sep 10, 2020.
Size: ITC-308 | View order



Roll over image to zoom in

Inkbird ITC-308 Digital Temperature Controller 2-Stage Outlet Thermostat Heating and Cooling Mode Carboy Homebrew Fermenter Greenhouse Terrarium 110V 10A 1100W

Visit the Inkbird Store

★★★★★ 7,083 ratings | 439 answered questions

Amazon's Choice for "inkbird"

Price: **\$35.00** prime One-Day & FREE Returns

Buy more, 100 units
save more: **\$33.25** LOWEST PRICE
Save 5%

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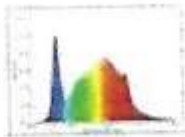
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