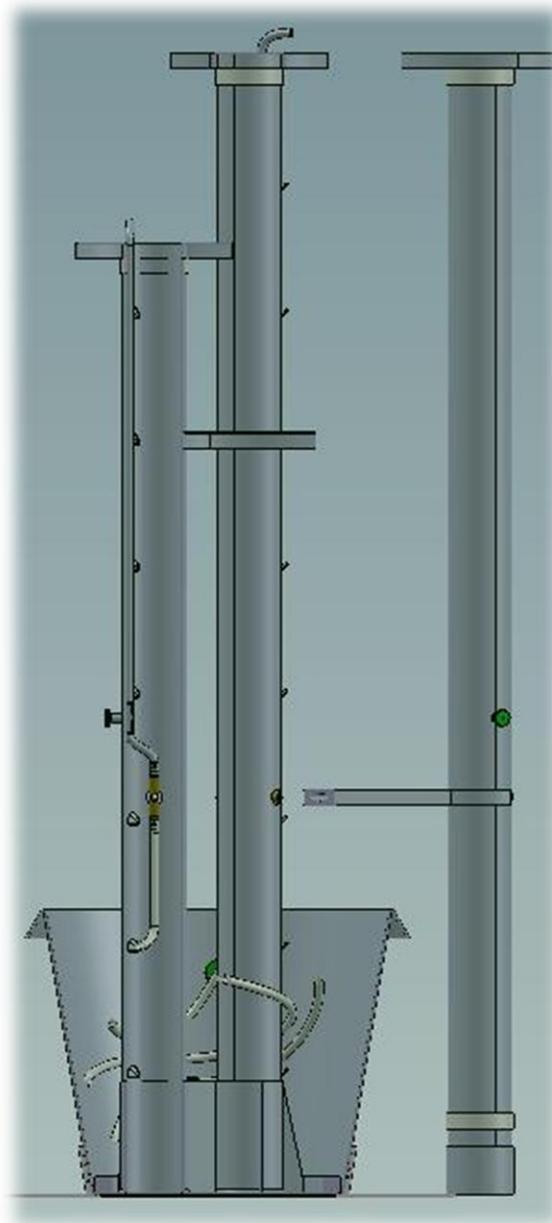




Torpedopot™ Installation Manual



[Www.torpedopot.com](http://www.torpedopot.com)

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Contents

Overview	3
Immediate Benefits	3
How Plants Grow	4
Simple Design- Powerful Tool	5
Design	6
Transfer Hose.....	8
Saturation Hose ⁴	8
Flow Control Valve ^{5, 6, and 11}	9
Base Planter ⁸	10
Spigot ⁹	10
Inlet Portal ¹⁰	11
Compost Chamber ¹³	11
Stabilization Plate ¹²	11
Soil recommendations.....	11
Seedlings.....	11
Seeds.....	12
Quick Start Guide	13
Benefits for Growers.....	14



Overview

Torpedopot™ has established itself as the world's first fully automated, self-watering, vertical gardening system. Our goals are to provide you with the most affordable and reliable modular growing systems in the world.

Torpedopot's intuitive design allows plants to grow faster, yield more density per square foot than any traditional or hydroponic gardening system available on the market. The initial setup time is less than an hour and even less time is needed throughout the season to manage your vertical garden. Once the system is set up, the self-watering, vertical gardening system can be automated using a timer or our Data Acquisition Test and Control Station.

Torpedopot's patented vertical growing technique allows gardeners and large-scale farmers to increase their yields by more than 500% when compared against traditional farming techniques and hydroponic growing methods. Your role in setting up your self-watering planter is to add dirt, seeds or seedlings, turn on the planter, select feeding schedules, and enjoy the growth for the rest of the season. You can now grow thousands of fruits, vegetables, herbs, nuts, and grains without having to touch the ground. Torpedopot™ can grow 3.5 million plants inside of 1.33 acres of land.

Immediate Benefits

- **Vertical Growing:** Grows more vertically than traditional farming or hydroponics.
- **Fully Automated:** Requires minimal human intervention.
- **Mobile:** Torpedopots are garden lego kits that erects into a large farm.
- **Capital investments:** No machinery or tools are required, and setup is easy
- **Growth:** Consistent feeding allows plants to grow fuller and reach maturity quicker
- **Organic:** Grow crops organically using your mix of fertilizers
- **Pest:** Blocks entry from rodents and other pests.
- **Germination:** Germinates seeds and manages plants throughout their full lifecycle
- **Maintenance:** Requires less than four hours of monitoring per growing season.
- **Resources:** Uses less space, water, fertilizers, fungicides, pesticides, herbicides and more
- **Weeding:** Virtually no weeding



How Plants Grow

Can you stop yourself from growing? No! You can supplement your growth or even retard your growth, but you cannot prevent a plant from growing. Cellular growth is synonymous to life. If a plant has the natural tendency to live, and develop, then it makes sense to look at the processes that tend to make it thrive. Plants are not just chemicals just as much as we are not only a name. They consist of complex biological processes. The sad truth is that only .01% of all plants grown will experience their full lifecycle. The potential for every seed to develop is inherent to the seed but the environment needed make it thrive is different in every garden.

People do not realize that underneath their feet there is a war taking place. Organisms are fighting for dominance. Just like ants, microbes will travel great distances to feed on their plants. In addition, most growing conditions prohibit plants from thriving and expressing their vibrant colors and complex behaviors. Most plants are struggling to optimize the right amount of sunlight, shade, water, bacteria, fungus, moisture, etc. Torpedopot™ is designed to reduce the shock of not having a luscious plantation or a perfect growing environment. Torpedopot™ optimizes the conditions in which plants can achieve their full potential.

Torpedopot™ allows you to automate the amount of water and nutrients needed for your plants. Our technology enables you to create an environment in which plants can thrive. Torpedopot™ scheduled watering ensures that your plant's habitat is not too wet enough to drown the plant and not dry enough to collapse plant cells. Torpedopot™ allows you to create optimal conditions for decomposition to take place. Torpedopot™ focus is on improving the biological and chemical process that affects plant productivity, thus increasing yields. Torpedopot™ isolates an environment for your plants to develop their microflora.

The red flexible transfer hose is pushed into the inlet at the back of the Torpedopot. It delivers water and nutrients to the top planter (Torpedo) and the bottom planter (Base) using dual control knobs on the front of the Base Planter. Your Torpedopot™ can connect to a timer for scheduling feeding intervals. When you turn the knob, your plant grows. You control the growth of your plants!



Torpedopot is designed to allow fungal communities to multiply so that they can provide nutrients to plants. Torpedopot enables you to adjust the water flow to induce the right microbial colonies that the plants love.

Simple Design- Powerful Tool



1,000 Banana peppers

Diameter 2-24 inches



Torpedoes are
(2- 100ft tall)

Base Pot
(2 to 20ft diameter)

Flow
control
Knobs



Thousands of herbs

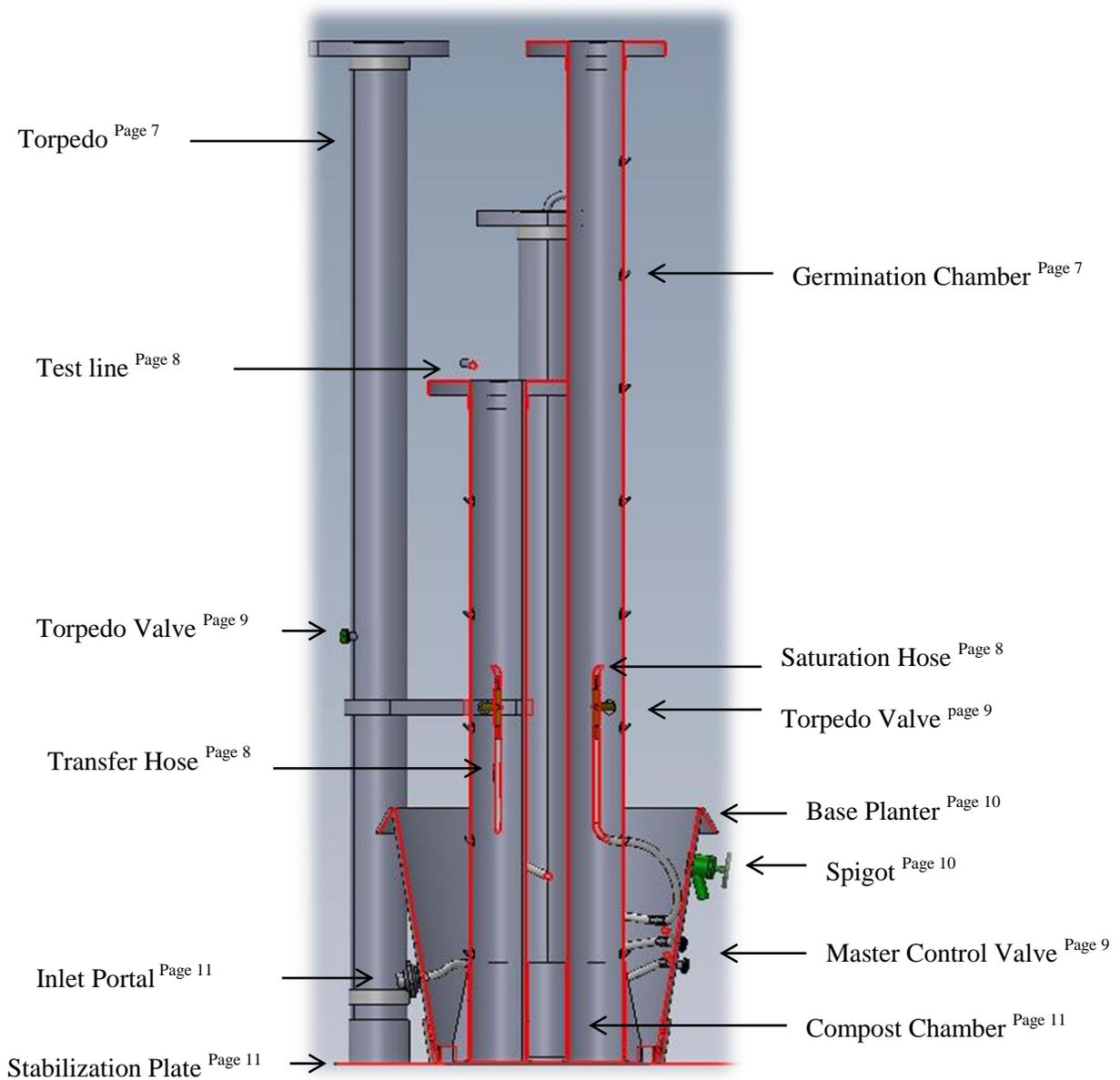


Fifty-two Eggplants



Design

Torpedopot™ provides an inline irrigation solution that is designed to cause your landscape to thrive. Torpedopot™ eco-friendly technologies are designed to reduce dependency on gardening tools, agricultural equipment, fertilizers, and water. You can grow more crops doing less work! Before you begin setting up and implementing your fully automated, self-watering, vertical gardening system, take time to familiarize yourself with the components of the system.





Torpedo¹ - The Torpedo is a vertical planter that gives your plants the space to grow as tall as possible. There is no build-up of water in the Torpedo. The Torpedo promotes stable soil temperatures through its thermal insulative materials. The thermal protection enhances the germination process. Your Torpedopot provides an isolated temperature controlled environment for your plants to grow. Each Torpedo is a vertical planter that has been designed to make available the maximum growing area for your plants. Commercial Torpedos can go as high as 100 ft. Each torpedo contains a series of germination chambers which provides growing space for placing seeds or transplants. Every plant in the Torpedo has equal access to water and nutrition. Fertilizers are the leading form of water pollution. Seventy percent of fertilizers runoff into our lakes. Water and nutrients entering into the torpedo are applied directly to the roots. Nothing is wasted. Torpedopot™ patented inline watering technology is the most economical and efficient watering system in the world. The Torpedopot™ provides:



- Larger growing area
- Better Drainage
- Equal access to water and nutrients
- Direct access to the plants root system

Torpedo Diameter inches	Torpedo feet Tall ¹						Comments
	2ft	5ft	10 ft	20 ft	50 ft	100ft	
2	5	20	40	80	200	400	2-inch - are for plants with shallow root systems.
4	10	40	80	160	400	800	4-inch Can handle most plants root systems
12	16	28	112	252	560	1,120	12-inch For high capacity growing

¹This chart is only a guide. Capacity is based upon root systems, access to light, and other variables. Every plant responds differently to their environment. Please, consult with you agronomist for an accurate assessment. These are projections based upon the performance of a six-foot Torpedo.

Germination Chamber² - Moisture availability in soil is the single major factor determining the rate of germination. For most seeds germination takes place if the soil moisture content is one and a half times above what a typical mature plant requires. If sufficient moisture is available germination can proceed. When water and nutrients are released in the torpedo, the exothermic process helps distribute heat evenly throughout the chamber and keeps the humidity at an optimum level for maximum speed germination. There is no need to replant your seedling because Torpedopot™ manages your plants throughout its full lifecycle





Let your Torpedopot™ germinate your seeds for you. You do not have to purchase a separate germination tank to grow your seeds only to move them into your garden. Replanting compromises plant vitality. With the Vertical Torpedopot, push your seeds into the 1/1/2 in perch holes in the walls of the Vertical Torpedo, turn on the water to the appropriate wetness set your timer and walk away.



Transfer Hose³

The flexible transfer hose is specially formulated with Sanitized® to resist degradation from mildew, algae, fungi, and biofilm that can accumulate on the inside or outside of the tubing. The transfer hose protects both the inner and outer surfaces from degradation, foul odors, microorganisms, and discoloration. It is resistant to environmental stress cracking and has a maximum working pressure of 100 psi. At 60 psi home water pressure, the 4-foot high Torpedopot™ can drop the pressure in the system by 3psi. You can easily operate twenty Torpedopots from one spigot by rotating feeding schedules using a timer.



The 3/4" garden hose thread pressure gauge is used to determine pressure for the Torpedopot™ distribution system. Water enters into the Torpedopot™ through the transfer hose that's plugged into the back or the bottom inlet portal. The gauge's red indicator hand holds at the highest reading registered for detection of thermal expansion pressure surges.

The flexible transfer hose is easy to use. It can bend around obstructions, and the manifolds can speed installation and improve performance. The flexible transfer hose is cost effectiveness and less labor-intensive and can optimize system performance. Our flexible transfer hose minimizes heat transmission through the pipe wall, and is resistance to freeze damage. In-line tubing is environmentally sound because it does not contain volatile organic compounds (VOCs).



Saturation Hose⁴

The saturation hose runs around the rim of the base planter pot and if equipped with a torpedo, up through the center of the Torpedo. It allows for the dispersion of water and nutrients directly to the plant's roots beneath the soil. Water and nutrition are distributed to the Torpedopot via the flexible transfer hose. The flexible transfer hose is plugged into the inlet portal. It ensures consistent distribution of water to the plant's root system.

Don't let the size of the Torpedopot™ fool you. You can feed hundreds of plants using one planter. Each class of planters has its unique pressure release specifications. Torpedopot™ is designed to dispense water and nutrients through the saturation hose only when a specific water

gradient is achieved. As you add Torpedopot's to the network, the pressure in the system drops.



Each Torpedopot added to the system can decrease pressure by 3psi. If you use a timer, you can efficiently operate over 20 Torpedopots. Water and nutrients released in the Torpedopot™ mimic how water is delivered when it rains. Nutrients are carried throughout the Torpedopot™ and released in a way that does not disturb the soil matrix or resettles the soil based on particle size.

Each plant believes that they exist on a horizontal plane. Water and nutrients travel through the saturation hose and are delivered directly to the plant's root system. No water is wasted.

If you notice water at the bottom of the Torpedopot™ you are giving your plants too much water. Turn back your knob or decrease scheduled watering times. Water is used as a delivery conduit for supplemental nutrition. The saturation hose allows water to rinse the plant's roots so that they can quickly absorb water without drowning. In the Torpedopot™ each plant receives an equal amount of water and nutrients. As the water moves down the vertical Torpedo, it forces the roots to push downward to reach vast amounts of water in the pores of the soil, thus promoting plant growth. The rates at which water penetrates and absorbed by the soil depends mainly on soil texture. The saturation hose keeps the soil at a constant optimal moisture level and allows for extremely high levels of seed germination.

Flow Control Valve ^{5, 6, and 11}

The flow control valves on the front of the Torpedopot™ distributes water and nutrients to the base planter and the tall Torpedo. The standalone Curved Planter Series have one valve that controls the flow of water into the base planter. In the Torpedopot™, the top flow control knob delivers water and nutrients into the base planter. The bottom knob provides water to the torpedo.

Both knobs are reasonably accurate. The dual knob systems allow you to meet water and nutrient requirements for different varieties of plants contained in the planter and the Torpedo. For example, you can grow orchids in the torpedo while at the same time growing tomatoes in the base planter. If you were growing a variety of petunias, all of them can have the same scheduled watering times. However, the genius of the flow control valves is that you can control the amount of water being dispensed for each planter during each feeding cycle.

The system can withstand a maximum pressure of 100 psi and maximum temperature ratings up to 140°F. The control valve is a critical part of the growing process. It allows users to actively control how much water and nutrients enter into the pot and flow up through the torpedo.



Base Planter⁸

The curbed series has a broader base to help stabilize the pot in high winds. Our company uses recycled polypropylene in the construction of Torpedopots. The Curve Series features a matte outside texture with an upper rim and a pronounced lip. The Curve Pots range in size from 9 to 25-inches.



Our recycled high-grade polypropylene plastic planter does not leach and is crafted with a rubberizing additive to eliminate brittleness and enhance flexibility virtually. The Curved Series has a resistant, eco-friendly terracotta color and is designed to be placed outside on the deck or patio. The color is bleed resistant and UV resistant. Our design is extremely durable and very reliable. The Curved Series Torpedopot™ is a great size to plant perennials, annual plants or flowers, and small trees. The saturation hose grows with your plants. As your plants grow and consume more nutrients and water, you can adjust your feeding amounts and schedules to accommodate their growth. As the plant matures, the saturation hose allows the foliage to produce a fuller root system.



	Diameter		Depth		Liquid Volume		Dry Volume
	in	cm	in	cm	US	Metric	C u. Inches
6" Curve Pot	6	15.24	4.25	10.79	2 pt	946 mL	57.75
9" Curve Pot	9	22.86	6.75	17.14	7.2 pt	3.4 L	207.9
12" Curve Pot	12	30.48	9.25	23.49	2.7 gal	10.22 L	623.7
16" Curve Pot	16	40.64	12.2	31	6 gal	23.25 L	1418.8
20" Curve Pot	20	50.8	15.5	39.37	13.5 gal	51.1 L	3118.8
25" Curve Pot	25	63.5	18.5	47	21.37 gal	80.9 L	4938.1

Spigot⁹

Our Single Spigot Curved Planter Series allows you to attach a hose for washing your plants and your hands. The system provides access to water where there is no dispensing. If your planter is in an open field where no clean potable water is accessible, our Single Spigot Curved Planter Series has been designed to provide clean drinkable water. Simply attach an approved drinking hose to enjoy clean drinking water. Make sure you purchase a garden hose that meets both FDA and NSF standards for drinking safe water applications — preferably made with top quality UV-stabilized polyether-based polyurethane that is 100% lead-free and phthalate-free. Our single sink spigot allows you to: attach a hose for washing your



plants, dog or your car. Use our shower attachment to clean perennials and annual plants or flowers, or washing down steps, porches, greenhouse or patios.

Inlet Portal¹⁰



Torpedopot™ can be built using multiple inlet options. The 3/4-inch garden hose thread brass fitting is corrosion resistance. This allows for a tight seal. The brass fitting provides a secure connection to the hose. These fittings do not contain lead and are permitted by federal law to be installed for potable water use in the U.S.A. and its territories.

The 1/4-inch polypropylene fittings Torpedopot utilizes Push-fit technology. You can easily quickly disconnect the planter without tools. The connections have high chemical resistance and are acceptable for food grade projects potable liquids and pure water applications.



To make a connection, the distribution merely is pushed in by hand. The unique locking system then holds the tube firmly in place without deforming it or restricting flow. To disconnect, ensure the system is depressurized, push the collet square against the fitting. With the collet held in this position, the tube can be removed.



Compost Chamber¹³

Our internal composting chamber is designed to convert organics into compost. Food waste and bulking material (such as wood chips, sawdust, ash or paper) are placed in the chamber. The base adaptor is an extension of the base of the pot and therefore contains a moist dark environment for decomposition to take place. Before filling the Torpedo with soil add any material, you'd like to be decomposed. Organic material provides food for organisms to accelerate plant growth and development. These organisms need water to live. The base adaptor has as much as six inches of available moisture in the base of the pot that can be used for composting. The composting chamber is inaccessible to garden pest and rodents because it is buried into the heart of the compost chamber in the pot/adaptor.

Stabilization Plate¹²

The stabilization plate is an optional component. It prevents the planter from tipping over in windy areas

Soil recommendations

Seedlings

The pH of mushroom compost is within a range that will help most plants thrive, and it has the rich, dark appearance of healthy soil, making it an attractive compost choice for any gardener. Mushroom compost can be used as a mulch or worked into your garden beds as a soil



amendment. The bacteria multiply, forcing the temperature inside the pile up to more than 160 degrees, killing any weed seeds or pathogens that might have been present in the straw or animal wastes. Mushroom compost can supply nutrients and increase the water-holding capacity of the soil.

Seeds

Mushroom compost is rich in soluble salts and other nutrients and can kill germinating seeds and harm salt-sensitive plants. We recommend mixing mushroom compost with one-quarter of the volume of soil.

Quick Start Guide

1. Your Torpedopot comes shipped in two parts.
 - a) Vertical Torpedo: The Torpedo is a tall vertical planter.
 - b) Base Torpedopot: The round base planter.



2. Operate your Torpedopot on a leveled surface.

3. Find the long red hose with a white cap in the Base Torpedopot. Push the long red hose with a white cap into the hole at the bottom of the Vertical Torpedo. Push it upwards towards the top until the red tube with the white cap protrudes through the top end of the Vertical Torpedo. Pull the cap an inch above the top of the Vertical Torpedo.

4. Slide the base of the Vertical Torpedo into the circular cavity at the bottom but the middle of the Base Torpedopot. Fill the Base Torpedopot three-fourths full of soil. The growth will be so extreme that in areas where you are experiencing high winds; you might consider adding stones into the Base Torpedo to weigh it down.



5. Start filling the Vertical Torpedo with soil. While filling, push your fingers into the 1-1/4" holes in the Vertical Torpedo, compacting the soil just a little to help remove air so that the soil can settle quicker.



Once the Vertical Torpedo is full of soil began filling the Base Torpedopot with soil. You can bury the saturation ring in the base planter under the dirt to water the roots.

6. Make sure the Flow Valves, located on the front of the Torpedopot clockwise to the off position. The top flow control feeds water and nutrients into the Base Torpedopot and the bottom knob to the Vertical Torpedo.

7. Ensure that a filter is placed into the hose inlet. This will prevent debris from clogging up the saturation hose. Screw the female end of the garden hose onto the male outlet on the Torpedopot or connect the 1/4 inch hose to the polypropylene connector on the back of the Torpedopot. Turn on the water from the source or spigot and ensure there are no leaks.
8. Turn the flow valves counter-clockwise on the Torpedopot to start watering. If you Torpedopot has a spigot it will provide clean drinkable water. Purchase a garden hose that meets both FDA and NSF standards for drinking water safe applications. Preferably made with top quality UV-stabilized polyether-based polyurethane that is 100% lead free and phthalate-free.
9. Let the water run at medium flow until the soil is saturated. Once saturated add seeds and seedlings set the timer (optional).

Benefits for Growers

1. Nutrients can be transported through Torpedopot™ patented feeding system. It prevents your nutrients from polluting the air and lakes and applies it directly to the plant's root system. Nutrients that are absorbed by the plant can be collected and recycled. This process eliminates waste and reduces cost. Torpedopot™ patented feeding process reduces environmental hazards due to over fertilization.
2. Any deficiencies in the soil such as salinity, pH, organic matter, moisture, drought, warm soil can drastically impact germination rates and early plant growth. Rapid changes in soil conditions can be addressed immediately. Torpedopot™ watering and nutrient technology allows growers the ability to make field adjustments and change soil pH within minutes. You don't need to dig up or inoculate the whole garden
3. Growers conduct extensive field preparations to eliminate weeds. Weeds can impact affect plant growth. In the Torpedopot™ weeds are virtually nonexistent. You don't have to wait for the wind to calm down before applying herbicides because in the Torpedopot™ weeds and herbicides have a negligible impact on plant growth.
4. Torpedopot™ allows you to tailor your feeding schedules. In Growing spaces where there is reduced lighting, you can supplement your plants with nutrients. Also, you can funnel nutrients to growing zones and see the effects immediately. You can also create unique feeding schedules, portions, and application. You can easily manipulate conditions that affect the plant's height, maturity, and seed size and make them more uniform. You can develop more robust grain varieties for higher fiber and nutrient content.
5. The most finicky part of the growing process lies in satisfying the seed. Most seeds require moistened soil with a depth of about .5 to .74 inches in depth. Variations in moisture, temperature and seed depth can be easily controlled using Torpedopot™. You can germinate seeds directly in Torpedopot™.
6. Eliminate the use of fungicides and herbicides. Fungicides create residues that may affect the seed germination. Here are three dominant out of pocket expenses that are practically eliminated
7. The average household spends over 400 dollars on gardening supplies every year. Hand Trowel, Light Work Gloves, Watering Can, Pruner, Cultivator, Tiller, Border Spade, Soil Knife, Long-handled pruner, Round-headed shovel, Bow rake, Digging fork, and protective clothing. Torpedopot™ is a giant Lego set. Just snap the parts in place, and you are ready to grow.
8. Organic growing can be challenging. Organic growers don't get good yields because the soil lacks fertility but at the same time don't get good fertility because the weed is sucking all of the nutrients out of the ground. Torpedopot™ is ideal for organic growers. Torpedopot™ eliminates almost all of the variables that impact the success of your crops. Weeds are practically nonexistent. You can organically fertilize and achieve high yields.



Torpedopot's executive team is comprised of five individuals that bring in excess of 100 years of combined business experience to the marketplace that will allow the company to thrive. These expertise cover core strategic areas such as accounting and cash management, risk management, process improvement, IT security, communication, and sales. The core team of executive's propriety networks includes high-ranking government officials both in the US and abroad.

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