



aerospring
hydroponics

aerospringhydroponics.com

**Grow with
AEROSPRING**



**Grow, eat
& share!**



**Accessible
Sustainability**



MARITIME VESSEL HYDROPONICS FARMING AT SEA

GROW WITH AEROSPRING

Hydroponic gardens on a shipping vessel is a new and affordable way for shipping companies to:



GROW FRESH PRODUCE ONBOARD

- Fresh, sustainable produce for the crew, grown by the crew
- Harvest only what is needed to reduce waste



IMPROVE MENTAL HEALTH AND WELL-BEING FOR CREW MEMBERS

- Reduce stress and anxiety
- Improve mood and cognitive function
- Foster community building and common purpose



POSITIVELY IMPACT CARBON-REDUCTION TARGETS

- Decrease carbon emissions from food packaging, refrigeration and transportation
- Decrease food wastage



IMPROVE CORPORATE SUSTAINABILITY

- Positively impact the environment, your employees and your competitive advantage

Overall, a hydroponic garden on a shipping vessel can have a powerful impact. Aerospring Hydroponics makes it easy for the crew to get growing. Read on to find out more!



GROW WITH AEROSPRING

There are over 200 Aerospring Hydroponic Systems on over 100 shipping vessels worldwide.



Shipping Clients



TEEKAY



GROW WITH AEROSPRING

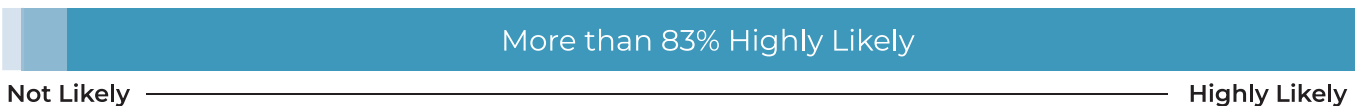


What do vessel captains and crew think about AeroSpring Hydroponics?

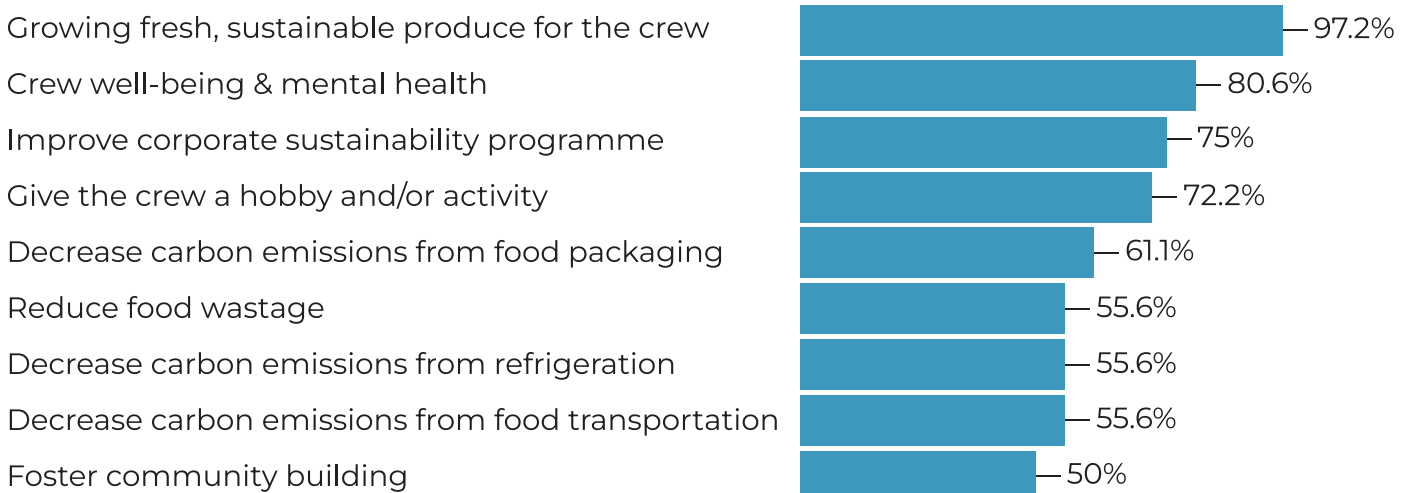
Has the hydroponic programme been a success?



How likely are you to recommend this programme to other vessels?



What are your objectives for the hydroponic gardens on your vessels?



Source: AeroSpring Hydroponics Feedback Survey [2024]

GROW WITH AEROSPRING



Testimonials From Vessel Captains and Crew

"I'm thrilled with the results achieved through the hydroponic program! The controlled environment, reduced pests, and improved water efficiency have led to remarkable plant growth. I highly recommend it to anyone seeking a sustainable approach to plant cultivation."

– *Yang Ji Yong (Vessel Crew)*



"Because of Aerospring Hydroponics, crew members can eat healthy and fresh green vegetables onboard."

– *Aleinikov Vitalii (Vessel Crew)*



"Fresh vegetables are available on board all the time. Growing salads, leafy greens, and herbs is easy, and anyone on the crew who enjoys being involved can participate. It's incredibly satisfying to see all the vegetables grow."

– *Anastacio Arnold San Miguel (Chief Cook)*



"Implementing hydroponics on board vessels has had a positive impact on the crew, particularly the galley team. Whenever fresh produce runs out, they can immediately source vegetables from the hydroponics system for salads and soups."

– *Joel A. Monicardo (Captain)*



GROW WITH AEROSPRING

THE AEROSPRING INDOOR SYSTEM 2.0



Available in Gray or Black

- FULL-SPECTRUM, PROFESSIONAL-GRADE GROW LIGHTS
- DESIGNED TO MAXIMISE PLANT SPACING FOR MAXIMUM PLANT SIZE & YIELD
- DESIGNED WITH USABILITY & FUNCTIONALITY IN MIND
- MADE WITH THE HIGHEST QUALITY COMPONENTS

Grow Fresh Produce All Year Round

Grow up to 27 plants in a small space, measuring just 33cm². Grow a variety of leafy greens, herbs, vegetables, fruiting plants, and flowers. Low-pressure aeroponics allows for faster plant growth and better nutrient absorption for healthier plants.

Key Component Specifications

Aerosping Grow Lights

- Highly efficient, professional-grade grow lights at 2.05(umol/J)
- Six light bars to increase light exposure from the bottom to the top of the plants
- Suitable spectrum for all stages of plant growth
- Light intensity at 367 PPFD ($\mu\text{mol}/\text{m}^2/\text{s}$) at 20.3cm
- CRI spectrum >90, CCT = 4000k
- Estimated life span of 50,000 hours

Warranty

- 12-month manufacturer's defect warranty on all parts
- 24-months on LED grow lights
- 3+2-year manufacturer's warranty on Sicce Syncra Silent 1.5 pump

Aerosping Grow Tent

- Oxford D600 tent material
- Highly reflective interior panels
- Six zippable panels

Sicce Slient Pump

- Sicce Syncra Silent 1.5 pump

Aerosping Plastics

- Tower: PC/ABS, UV-Stabilised
- Water Reservoir & Lid: HDPE



Table Top Germination Kit (Included)

- 24W LED grow light produce 4000k spectrum
- Adjustable lights for seedling, growing and harvest stages
- Includes 2 low water indicators
- Grow up to 11 plants at once
- Perfect for growing and seed germination

GROW WITH AEROSPRING

CASE STUDIES



Photographs posted by the company on its social media channels show that the garden is supplying the crew with a steady crop of leafy greens, vegetables and herbs.

Shipping Client:



80 Vessels | 160 Aerospring Indoor hydroponic systems

Objective of project

- Wellness & Mental Health
- Crew Activities & Hobby
- Sustainable Food Source
- Sustainability/Carbon Offset

Fresh produce is a vital source of well-being for crews on long voyages. Unlike land-based jobs, sailors can't simply pop out to a grocery store for fresh fruits and vegetables. Voyages can last weeks or even months, and relying on canned and pre-packaged goods leads to a deficiency in essential vitamins, minerals, and fibre.

Fresh produce provides a crucial boost of these nutrients, keeping the crew's immune system strong and their energy levels high. This translates to better overall health, reduced illness, and a sharper focus – all critical factors for safe and efficient operation of the ship.

Beyond fresh produce, hydroponics offers crew members a positive hobby, keeping them active and engaged, promoting general well-being and mental health. It also brings a connectedness to nature, and can remind crew of their homes and families. Growing produce onboard also contributes to the bigger picture of reducing carbon emissions from food packaging, refrigeration and transportation; and the reduction of food wastage.

Aerospring Indoor Hydroponic Systems are currently on over 80 Berge Bulk vessels, with hundreds of happy and satisfied crew members.

GROW WITH AEROSPRING

Why Hydroponics & Aeroponics?

Hydroponics



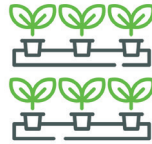
Less Water

Hydroponic systems use 90-95% less water than conventional soil gardens



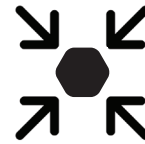
Faster Growth

Many crops can be produced twice as fast in a well-managed hydroponic system



Higher Yield

Hydroponic plants produce a greater yield compared to the equivalent size of land



Less Space

3 to 10 times more crops in the same amount of space as conventional gardens



Automation

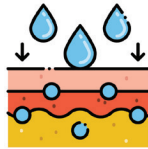
Irrigation and lighting (indoor systems) is automated for a more hands-off approach

Aeroponics



Less Water

Up to 30% less than hydroponics



Water & Nutrients Absorption

Water and nutrient use efficiency in an aeroponic system are higher



Better Oxygenation

Increases the plant's access to oxygen

Benefits of a Garden on a Shipping Vessel



Relieve stress

Nature helps the body recover after periods of stress, and stress accounts for 13.8 million days of work each year!



Make crew members happier

Tending to plants, or 'green exercise' has been shown to improve your mood and increase self-esteem



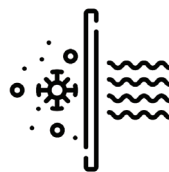
Create a sense of place

Plants contribute to placemaking, creating an inviting atmosphere that fosters collaboration, creativity and productivity



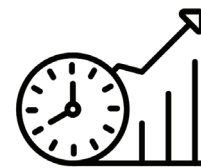
Foster community

Bring people together with a common activity and shared purpose



Purify the air

Plants can remove nasty toxins from the air we breathe, they absorb CO2 and release oxygen



Improve productivity

Enriching the workplaces with plants has been shown to increase productivity by over 15%

GROW WITH AEROSPRING

FAQs

What does each vessel get?

2 Aerospring Indoor System, 1 Vessel Pack, 1 Table Top Germination Kit.

What is contained in the vessel pack?

The vessel pack contains essential spare parts in case anything malfunctions. In addition, it contains seeds, grow medium, and nutrients for 12 months, plus a germination kit for germinating seeds. Other accessories are also included to optimize growing.

How are the systems secured on the vessel?

Most of our vessel customers have secured the systems with a band (plastic or metal) secured to the walls.

What type of water is recommended?

For vessels, RO or filtered water is recommended.

What is the water consumption per system?

Each system uses approximately 60L of water per month.

What is the energy consumption per system?

0.15 Kilowatt hours (150w) for 14 hours a day = 2.1Kwh

How many systems per vessel is recommended?

We recommend two Aerospring Indoor systems and a Table Top Germination Kit per vessel.

What is the footprint of the system?

The size of each system is 74cm (w) x 85cm (l) x 187cm (h). The footprint of each system is 85cm².

What is the cost per vessel in the first year?

As per the recommendation of two systems per vessel, plus the vessel pack, the cost is approximately SGD4,300.

What is the cost per vessel after the first year?

The resupply of the vessels in the second year onward is approximately SGD300 - SGD500 (nutrients, seeds, grow cups, grow cubes).

GROW WITH AEROSPRING

Is there a grow guide?

Yes, the vessel pack includes an Aerospring Grow Guide that the vessels can follow to guide them and teach them the process of growing with the hydroponic system.

Is there a germination guide?

Yes, the vessel pack includes an Aerospring Germination Guide that the vessels can follow to guide them and teach them the process of germinating with the hydroponic system.

How much should we expect to harvest monthly?

The ship will be able to harvest an estimated 5kg per month, per system. The monthly harvest will be determined on what is being grown and whether they are growing annual, perennial or fruiting plants.

What can be grown in the system?

The systems are designed to grow a wide spectrum of plants including leafy greens, herbs and fruiting plants such as tomato and chilis. Temperature plays an important role and this will determine what the vessel can grow.

How will the vessels get support?

In addition to the grow guides, the Aerospring team can support the vessel via email and WhatsApp, and also video calls.

Have there been any problems with the port authorities?

To date we haven't heard of any problem with the port authorities around the world. However, the crew need to ensure that the produce is kept on the vessel and not brought off the vessel into the port.

Where does it ship from?

All Aerospring products and vessel packs ship from Singapore, and can be delivered to port in Singapore.

For more FAQ, visit:

<https://aerospringhydroponics.com/pages/frequently-asked-questions>



GROW WITH AEROSPRING

grow, eat & share

TO PLANT A GARDEN IS TO BELIEVE IN TOMORROW

Find out more, visit:

<https://aerospringhydroponics.com/pages/connectwithus>



For more information, contact:

Mark Newton

COO

Aerosping Hydroponics

mark@aerospringgardens.com

aerospringhydroponics.com

100E Pasir Panjang Road

#02-01 B&D Building

Singapore 118521

T: +65 8112 0067



A vertical garden for everyone

www.aerospringhydroponics.com | [f](#) [y](#) [in](#) [@](#) [d](#) aerospringhydroponics
+65 81120067 | info@aerospringgardens.com
Founded 2015