



New Age Urban Garden



豐沛農業科技有限公司

HydroLush Agrotech Co., Ltd.

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新世代城市农乐园

公司使命

豐沛为居住在都市的消费者；不管是自身拥有房屋者或商业取向种植者，带来简单且经济所能负担的水耕技术。事实上，水耕园艺并不需要复杂且昂贵的室内植栽平台和特殊的光照设备。豐沛不仅要让园艺对每个人来说变得简单，更要藉由种植自己的食材过程中获得享受园艺的成就感。透过种植得到一种放松以及享受生活的方式。

我们的垂直水耕生长管系统是适合都会区域，并且利用在地天气及室外环境条件的优势的系统。系统使用对环境完全无害且环保的椰壳纤维作为栽培介质，让营养物及添加



物更有效率的应用。另外，垂直水耕系统不仅可以在自然光照射的环境使用，也可以在室内装设正确的人造光使用。

豐沛 在 2014 年成立于台北，在台湾是一家合法注册的有限公司。我们致力于提高我们的技术，保护环境，并提供友善、高效率的服务给我们所有的客户。

相较传统水耕

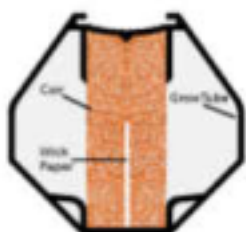
豐沛独家研发的垂直水耕生长管 GROWTUBE 系统具有以下优势客户

- * **弹性灵活的安装** - 系统能够安装在阳台，屋顶或任何的垂直墙面。
- * **符合人体工学的种植方式** - 垂直的方式让我们能够站着种植，不必再弯腰驼背。
- * **更有效率的利用空间** - 栽培管的垂直设计使其在每一公尺内比起传统的方式可以多种植 3~8 倍的植物量。
- * **更有效率的资源利用** - 减少对于能源以及水的需求。〔可省下高达 85% 之水〕
- * **对于植物根部温度、排水系统以及氧气标准有更佳的控管**。纵使有过多的雨水，根区仍会保持通风并在封闭的管内依旧有效率地进行运作。
- * **适用作物**：莴苣、菠菜、空心菜、苋菜、皇宫菜、红凤菜、茼蒿菜、草本植物等等。
- * GrowTube 生长管移动方便且容易保持植物完整。
- * GrowTube 生长管十分坚固、轻巧且容易保养。不仅如此，本产品比起任何水耕设备系统花费更加便宜。
- * GrowTube 生长管用天然椰壳纤维作为生长介质 - 具有高度的再使用性，椰子纤维介质能在自然环境中被分解，非常环保。垂直生长管在室内及室外皆能使用。
- * 使用 GrowTube 生长管将毋须在生物防治花费过多心思及金钱。



豐沛垂直水耕生长管 GrowTube™ 几项竞争对手望尘莫及的独家设计

- * 专利设计的管柱，可更换生长介质 - 条状的生长介质可以快速的滑入生长管，让您方便清洗管室或更换作物。
- * 密闭系统在生长介质两侧的空气通道 - 让根部得以呼吸，促进养分交换，并将生长介质的厌氧区压缩至最小。
- * 凹槽设计的种植面 - 有助于营养液的导入，并降低营养液漏出的机会
- * 多向安装面 - GrowTube™ 生长管可以垂直悬挂于上方的支架，也能够固定在垂直的墙面支撑物上，或者装置在独立的吊挂器上。



豐沛垂直水耕生长管 GrowTube™ 产品



产品名称：双塔 盆地型垂直水耕生长管 GrowTube™ 系统

Dual Tower Vertical Hydroponic GrowTube™ Planter System

产品编号：HL-PSYS-201

产品内： 豐沛双塔 盆地型垂直水耕生长管 GrowTube™ 系统包括：

- 2 组 GrowTube™ 和天然椰壳纤维；
- 底层水箱；
- 造型花盆一盆型；
- DC 电马达，控制器；
- 系统零配件；
- 种植工具组
- 基础营养液 1 组



产品名称：4 塔 盆地型垂直水耕生长管 GrowTube™ 系统

Quad Tower Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-411

产品内： 豐沛 4 塔 盆地型垂直水耕生长管 GrowTube™ 系统包括：

- 4 组 GrowTube™ 和天然椰壳纤维；
- 底层水箱；
- 造型花盆一盆型；
- DC 电马达，控制器；
- 系统零配件；
- 种植工具组
- 基础营养液 1 组



产品名称：4 管 L- 架型垂直水耕生长管 GrowTube™ 系统

4 Tube L-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-401

产品内： 豐沛 4 管 L- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 4 组 GrowTube™ 和天然椰壳纤维；
- 防锈 L 型支架；
- 底层水箱；
- DC 电马达，控制器；
- 系统零配件；
- 种植工具组；
- 基础营养液 1 组



产品名称：8 管 L- 架型垂直水耕生长管 GrowTube™ 系统

8 Tube L-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-811

产品内：豐沛 8 管 L- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 8 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈 L 型支架；
- 🌱 底层水箱；
- 🌱 DC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组



产品名称：4 管 壁挂式垂直水耕生长管 GrowTube™ 系统

4 Tube Wall Mounted Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-421

产品内：豐沛 4 管 壁挂型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 4 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈壁挂式支架；
- 🌱 底层水箱；
- 🌱 DC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组



产品名称：8 管 壁挂式垂直水耕生长管 GrowTube™ 系统

8 Tube Wall Mounted Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-821

产品内：豐沛 8 管 壁挂型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 8 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈壁挂式支架；
- 🌱 底层水箱；
- 🌱 DC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组



产品名称：8 管 X- 架型垂直水耕生长管 GrowTube™ 系统

8 Tube X-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-801

产品内：豐沛 8 管 X- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 8 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈 X 型支架；
- 🌱 上层及底层水箱；
- 🌱 AC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组

产品名称：12 管 SQ- 架型垂直水耕生长管 GrowTube™ 系统

12 Tube SQ-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-512

产品内： 豐沛 12 管 SQ- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 12 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈 SQ 型支架；
- 🌱 上层及底层水箱；
- 🌱 AC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组



产品名称：24 管 SQ- 架型垂直水耕生长管 GrowTube™ 系统

24 Tube SQ-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-PSYS-524

产品内： 豐沛 24 管 SQ- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 24 组 GrowTube™ 和天然椰壳纤维；
- 🌱 防锈 SQ 型支架；
- 🌱 上层及底层水箱；
- 🌱 AC 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；
- 🌱 基础营养液 1 组



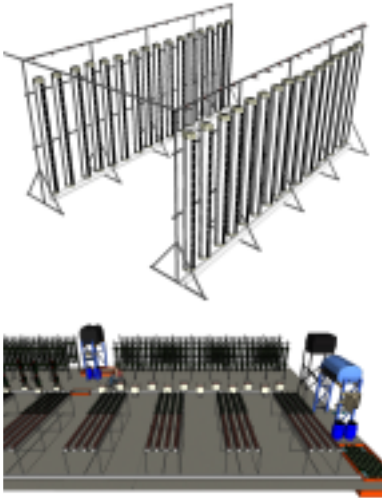
产品名称：AG- 架型垂直水耕生长管 GrowTube™ 系统

AG-rack Vertical Hydroponic GrowTube™ System

产品编号：HL-CCFI-202, 204

产品内： 豐沛 AG- 架型垂直水耕生长管 GrowTube™ 系统包括：

- 🌱 4 组 GrowTube™ 和天然椰壳纤维 / Meter；
- 🌱 防锈 L 型支架；
- 🌱 上层及底层水箱；
- 🌱 电马达，控制器；
- 🌱 系统零配件；
- 🌱 种植工具组；

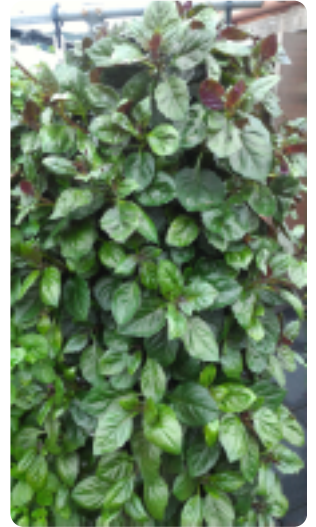


Crop Types

Many different types of leaf vegetables, herbs and even fruit can be grown in 豐沛 vertical hydroponic GrowTube™s. GrowTube™s are not suitable for growing tubers such as carrots, potatoes, sweet potatoes, etc.

Some possible crops are arugula, amaranth, basella, lettuce, spinach, kang kong (water spinach), herbs, flowers, etc.

Leaf Vegetables: Lettuce, Basella, Chrysanthemum, Gynura, etc.



Herbs: Basil, Oregano, Mint, Sesame Leaf, etc.

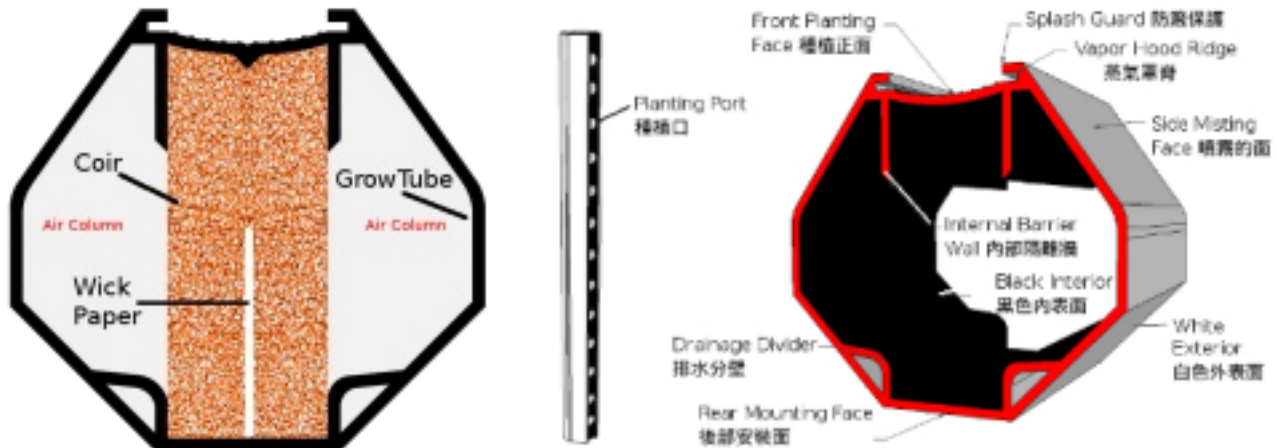


Fruit: Tomato, Melons, Peppers, Strawberries, etc.



豐沛 Vertical Hydroponic GrowTube™ Detailed Advantages

- 豐沛 GrowTubes™ are extrusion manufactured from durable PVC with a profile size of 10cm X 12cm in standard 1.3 meter lengths. Customs lengths are possible depending on quantities, the intended mounting space and the specifics of the nutrient delivery system. In most installations, the tubes are fitted top and bottom with a cap and hose fittings that connect the GrowTube™ to the plumbing network of the system.
- The GrowTube™ profile includes a front planting face, a rear mounting face and angular side faces. The front planting face is designed as a concave surface with a series of round or oblong planting ports cut at intervals along in planting face. These planting ports allow the insertion of plants into the grow media housed in the tube. Required spacing for plants on the planting face is variable dependent on plant type and maintenance requirements. Ridges on either side of the grow face act as splash guards to help prevent errant nutrient solution leaking from the planting ports.



- Narrow slots on either side of the planting face can be used to secure a vapor barrier hood or plant support inserts that can be fitted over the planting face to shield or support new plants during the incubation and rooting period.
- The GrowTube™ is internally partitioned into three cavities – a central cavity that holds the grow media strips which will anchor plant roots, and air column cavities on either side of the grow media that will provide root zone aeration and humidity protection.
- A variety of grow media materials can be fitted into the GrowTube™ including coconut coir, synthetic wool, etc.
- Air columns on either side of the grow media ensure that plant roots receive adequate aeration and humidity. These columns act as aeration zones that allow the plant roots to breathe and aerate as they grow. High humidity and aeration is maintained inside the GrowTube™ due to the constant flow of nutrient solution through the grow media.
- A emitter or dripper is fixed centrally above the grow media column that will emit nutrient solution evenly over the width of the grow media.

The system uses gravity to channel nutrient solution vertically through the grow media to the drainage plumbing installed at the bottom of the GrowTube™. Plants are inserted into the planting ports and nutrient solution is circulated through the system. Nutrient solution trickles down through the GrowTube™, over the plant roots; providing required nutrients the roots of the resident plants. As the plants mature, roots grow out of the grow media and into the air columns.

- In some installations, spray, dripper or misting nozzles maybe installed into the side faces of the GrowTube™ at various locations along the vertical length. These are used to emit nutrient solution on to the exposed roots. Runoff nutrient solution is channeled through the GrowTube™ and back to the drainage plumbing of the system.

3.3. Advantages

豐沛 Vertical Hydroponic GrowTube™ Systems help eliminate many of the problems common to horizontal NFT systems.

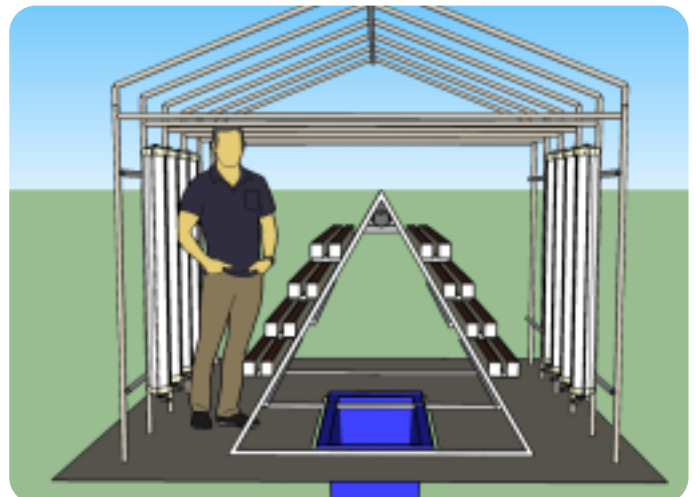
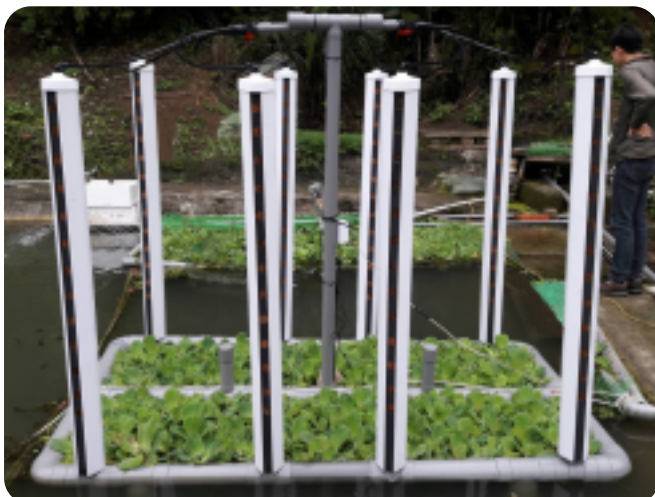
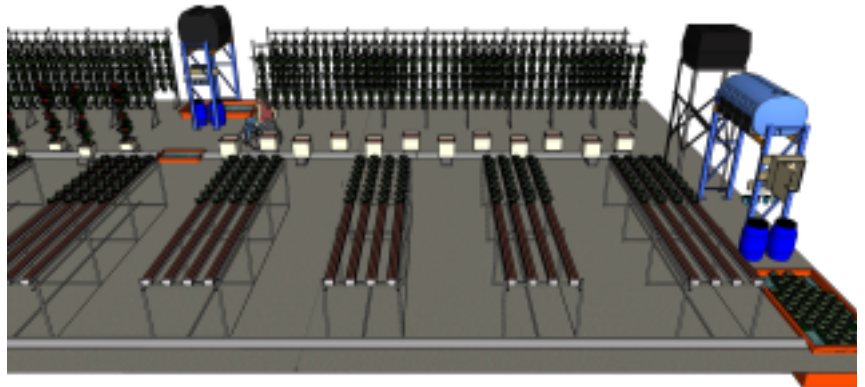
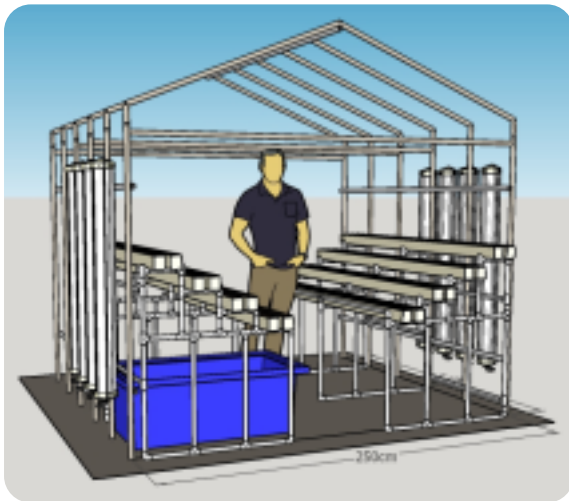
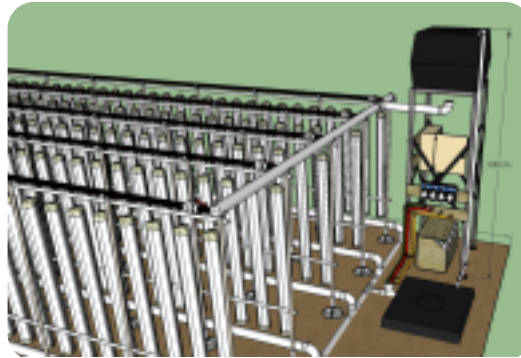
- * A Vertical Flow Path Eliminates the Damming Effects of Root Growth in the GrowTube™ and allows the nutrient solution to flush any old biological material from the media without restricting nutrient solution

flow to other parts of the GrowTube™. This prevents anaerobic areas forming in the GrowTube™ around the root zone of the resident plants.

* The GrowTube™ Housing is Designed to Minimize Nutrient Solution Leakage from the system using a Concave Planting Face with Splash Guards. The planting face is formed concave to the interior of the tube to direct nutrient solution to the internal cavity of the tube. The splash guards on the side of the planting face are raised sufficient height to direct any nutrient solution that escapes from the tube along the exterior length of the tube and back to the drainage plumbing installed at the bottom.

* The GrowTube™ Fiber Pocket Design with Enclosed Air Columns on Each Side of the Grow Media Allows Roots to Breathe, Provides Even Nutrient Exchange and Minimizes Anaerobic Areas in the grow media. Regardless of weather, the enclosed tube with air columns allows the root zone to breathe, exchange nutrients and dissipate heat. This improves growth in hot weather (35 degree C) and during heavy rains (typhoons).

* Vertical GrowTube systems maximize use of natural sunlight in extreme northern and southern locations. Because of the sharper angle of the sun, vertical systems are better suited to make full use of any available usable light.



Warranty

Products Warranty.

豐沛 warrants all plastic parts including GrowTubes, plumbing components, hoses and tanks to be free from defects in material or workmanship under normal use and service for a period of one year; (365) days from the date of delivery.

豐沛 warrants all metal parts including rack pipe, connectors and fittings to be free from defects in material or workmanship under normal use and service for a period of one year; (365) days from the date of delivery.

豐沛 warrants that all fiber inserts to be free from defects in material or workmanship under normal use and service for a period of three months (90) days from the date of delivery.

豐沛 warrants that all electrical components (pumps, adapters, float swithes, cords) to be free from defects in material or workmanship under normal use and service for a period of one month (30) days from the date of delivery. The buyer agrees to provide power source that is of compatible voltage and stability to ensure the longest lifetime for the components supplied.

Any defective in the above parts and components found within respective warranty period and agreed to be within the scope of the warranty will be repaired or replaced by 豐沛 and all charges for labor and material, will be borne by 豐沛.

All repair covered by this warranty must be done after the consent of 豐沛 at such warranty repair facilities and by service personnel as designated by 豐沛.

If it is determined that either no fault exists in 豐沛, or the damage to be repaired was caused by negligence of the BUYER, its agents, employees or customers, the BUYER agrees to pay all charges associated with each such repair.

THIS CONSTITUTES THE SOLE WARRANTY MADE BY THDC either EXPRESSED OR IMPLIED. There are no other WARRANTIES EXPRESSED OR IMPLIED WHICH EXTEND BEYOND THE FACE HEREOF, HEREIN, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THDC BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND THE BUYER'S REMEDIES SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF NONCONFORMING UNITS OR PARTS.

Misuse of Products

Any tampering, misuse or negligence in handling or use of Products renders the warranty void. Further, the warranty is void if, at any time, the BUYER attempts to make any internal changes to any of the components of the Products; if at any time the power supplied to any part of the Products exceeds the rated tolerance; if any external device attached by the BUYER creates conditions exceeding the tolerance of the Products; or if any time the serial number plate is removed or defaced. OPERATION OF THE Products THAT RENDER THIS WARRANTY VOID WILL BE DEFINED TO INCLUDE ALL OF THE POSSIBILITIES DESCRIBED IN THIS PARAGRAPH, TOGETHER WITH ANY PRACTICE WHICH RESULTS IN CONDITIONS EXCEEDING THE DESIGN TOLERANCE OF THE Products.

Spares

Availability. 豐沛 shall make Spares available for purchase by the BUYER for the length of this cooperation. Such spares will be available to the BUYER at prices, terms and conditions in effect at the time such spares are purchased.