

PATENT SEARCH REPORT

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| Technology <i>Compact hydroponics system self-assembly kit</i> |
| Summary The report summarizes a patent search done for a hydroponics system self-assembly kit. This compact kit, made mostly from recycled materials, allows households, even those with small homes, to have their own hydroponics system at costs that would be affordable. This kit can encourage urban farming and encourage the concept of food self-sufficiency in the society. |
| Cooperative Patent Classifications ● A01G 24/00 - Soilless cultivation, e.g. hydroponics |
| Keywords Hydroponics, Soil-less, Kit, Urban, Recycled, Compact |

| SEARCH STRINGS AND DATABASES | | |
|--|---|----------------|
| Date of Search: 2 March 2020 | | |
| Search Conducted by: Tiu, Sherwin Adrien K. | | |
| Database | Search String | Number of Hits |
| Google Patents | (hydroponics) | 45009 |
| Google Patents | (hydroponics)(soilless) | 3710 |
| Google Patents | (hydroponics)(soilless)(kit) | 2149 |
| Google Patents | (hydroponics)(soilless)(kit)(urban) | 168 |
| Google Patents | (hydroponics)(soilless)(kit)(urban)(indoor) | 101 |
| Google Patents | (hydroponics)(soilless)(kit)(urban)(indoor)(recycled) | 34 |
| Espacenet | (hydroponics) | 15213 |
| Espacenet | (hydroponics)(soilless) | 2149 |
| Espacenet | (hydroponics)(soilless)(kit) | 31 |
| Espacenet | (hydroponics)(soilless)(kit)(urban) | 3 |
| Espacenet | (hydroponics)(soilless)(kit)(urban)(indoor) | 2 |

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|-------------------------------------|------------------------|---|------------------|
| No. | Document Information | | |
| | Patent No. | Title | Publication Date |
| 1 | US20150068121A1 | Tiered hydroponic growing stand | 2015 MARCH 12 |
| 2 | CN207653224U | Household small-size multiclass plant culture cabinet | 2018 JULY 27 |
| 3 | CN104012396A | Indoor hydroponic plantation device | 2015 DECEMBER 16 |

Comments from the Patent Searcher:

US20150068121A1 uses a vertical method for the hydroponics system to allow for compactness of the system and encourage the home gardener to use hydroponics. The shelves containing the plants are hollow and they also contain openings allowing for liquid nutrients to be pumped and supplied to the plants. The arms, openings and shelves can be configured to support plants that are tilted in their orientation. This can help save space inside homes while increasing productivity. This system can be combined with the systems below.

CN207653224U puts a soilless system of plant-growing to a compact area, similar to a cabinet. It includes light compensating lamp, liquid reserve tank, planting spaces and monitoring systems which include temperature, humidity and electrochemical sensors. The “cabinet” also has wheels for movement and a braking mechanism for these wheels. This system might be quite expensive, but the advantage is the ability to constantly monitor situations inside the hydroponics system and making adjustments according to the data.

CN104012396A is an indoor planting device that is like a cabinet, with closing doors. It includes air-circulation system, artificial lighting device that utilizes LEDs and nutrient-solution circulation device which adopts the technique of intermittent watering. This, like the previous patent, is similar to a cabinet. Knowing that it is a cabinet can be helpful in converting the hydroponics system into an easy to assemble “cabinet” and at the same time make it simple for the ordinary household to use. This can make the product more marketable to the people.