

1) Family number: 69563031 (US2018116131A)

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Title: CANNABIS FARMING SYSTEMS AND METHODS

Priority: US20170600714 20170520 US20170609472 20170531 US20170639437 20170630
US20170667022 20170802 US20170784112 20171014 US20170841923 20171214
US20180904044 20180223 US20180029627 20180708

Family:

Publication number	Publication date	Application number	Application date
US2018116131 AA	20180503	US20170841923	20171214
US2018332786 AA	20181122	US20170600714	20170520
US2018343806 AA	20181206	US20170609472	20170531
US2018343812 AA	20181206	US20180029627	20180708
US2018343900 AA	20181206	US20170784112	20171014
US2018343901 AA	20181206	US20180904044	20180223

Probable Assignee: INSECTERGY LLC

Assignee(s):(std): FREITAS SHAWN ROBERT ; INSECTERGY LLC ; LEO DANIEL MICHAEL

Inventor(s):(std): FREITAS SHAWN ROBERT ; LEO DANIEL MICHAEL

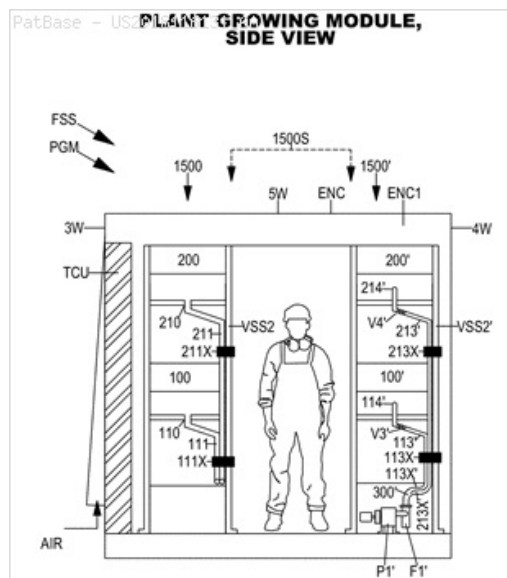
International class (IPC 8-9): A01C23/00 A01C23/04 A01G1/00 A01G22/00 A01G27/00 A01G3/00 A01G31/00 A01G31/02 A01G7/02 A01G7/04 A01G9/02 A01G9/10 A01G9/14 A01G9/18 A01G9/20 A01G9/24 A01G9/26 A01H5/12 A23B7/153 A23L5/20 A23N15/00 B01D11/02 B26D3/00 C05B17/00 C05C11/00 C05D1/00 C05D3/00 C05D5/00 C05D9/00 C05G1/00 F02C3/04 F25B13/00 H02K7/18 (Advanced/Invention); A01G24/00 A01G24/18 A01G24/23 A01G24/48 A01G7/02 A01G7/04 (Advanced/Non-invention)

CPC: A01G9/24 A01G2003/005 A01G7/045 A01G7/02 A01G9/246 A01G3/00 A01G9/26 A01G9/14 A01G9/20 A01G27/006 A01G9/18 H02K7/1823 A01G22/00 A01G24/00 A01G24/18 A01G24/48 A01C23/008 A01C23/042 A01G31/02 A01G31/00 A01G9/022 A01G7/04 A01G9/02 A01G25/16 A01G27/005 A01G31/06 A01G2031/006 G05B15/02 A01G1/001 A01G9/1066 A01G9/247 C05G1/00 C05B17/00 C05C11/00 C05D1/00 C05D3/00 C05D5/00 C05D9/00 A01G27/003 B01D11/0288 F02C3/04 A23N15/00 F25B13/00 B26D3/00 F05D2220/76 B01D11/0296 A23L5/23 A23B7/153 A01G9/1033 A01H5/12 A01G24/23 A23V2002/00

[Classification Explorer](#)

Abstract:

Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer-operated farming superstructure systems (FSS) may be used to produce *cannabis* for human consumption with minimal water and environmental impact. A system for producing electricity, heat, and *cannabis* includes a power production system (PPS), a farming superstructure system (FSS), and a temperature control unit (TCU). Methods to method to separate volatiles from *cannabis* are described. Methods to asexually clone a plurality of *cannabis* plants are also provided.



2) Family number: 72075119 (US2018338430A)

© PatBase

Title: AEROPONIC IRRIGATION SYSTEM

Priority: US20170511384P 20170526 US20180990879 20180529

Family:

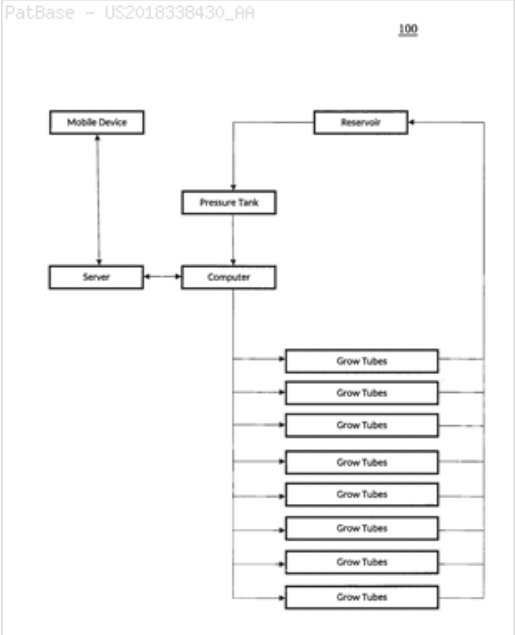
Publication number	Publication date	Application number	Application date
CA3006196 AA	20181126	CA20183006196	20180525
US2018338430 AA	20181129	US20180990879	20180529

Probable Assignee: GNOMEWORKS GREENHOUSE INC

Assignee(s):(std): GNOMEWORKS GREENHOUSE INC

Assignee(s): PAHWA SHAWN K ; COBZEV ANTON N
Inventor(s):(std): COBZEV ANTON N ; PAHWA SHAWN K
Agent(s): DICKINSON WRIGHT LLP
International class (IPC 8-9): A01G31/02 A01G9/24 G05B19/042 (Advanced/Invention)
CPC: A01G9/247 A01G29/00 A01G31/02
[Classification Explorer](#)

Abstract:
A microponic irrigation system is formed using a plurality a grow tubes, a pressure manifold, and a drainage manifold. Each of the plurality of grow tubes defines a grow chamber within the interior of the grow tube and is provided with at least one cradle assembly to support of a plant disposed with its roots suspended in air within the grow chamber. The pressure manifold fluidly couples a reservoir to each of the plurality of grow tubes and delivers nutrient solution housed in the reservoir to the plurality of grow tubes under pressure. The pressurized nutrient solution delivered to the grow tubes is misted into each grow chamber to be absorbed into the roots of each rooted clone supported in the grow tube. The drainage manifold collects unabsorbed nutrient solution from each of the plurality of grow tubes and circulates the unabsorbed nutrient solution back to the reservoir.



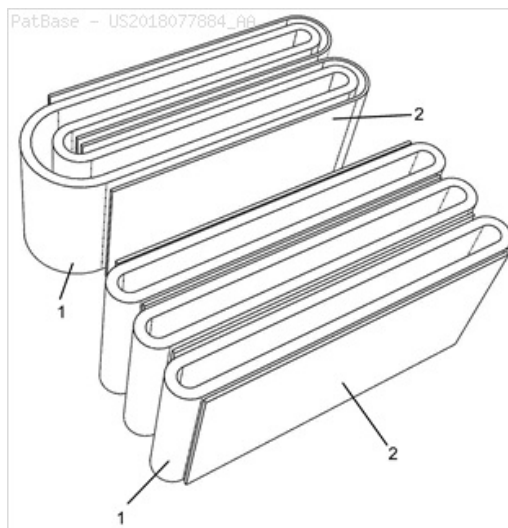
3) Family number: 68940134 (US2018077884A) © PatBase

Title: APPARATUS AND METHOD FOR AUTOMATED AEROPONIC SYSTEMS FOR GROWING PLANTS
Priority: US20160495556P 20160919 US20170707899 20170918
Family:

Publication number	Publication date	Application number	Application date
US2018077884 AA	20180322	US20170707899	20170918

Probable Assignee: ECONOW SYSTEMS LLC
Assignee(s):(std): ECONOW SYSTEMS LLC
Inventor(s):(std): BARKER STEPHEN F ; KAPLAN YAKOV
International class (IPC 8-9): A01G31/04 F21V33/00 (Advanced/Invention)
CPC: A01G31/042 A01G2031/006 F21V33/00 A01G27/00 H05B37/02 Y02P60/216
[Classification Explorer](#)

Abstract:
The present invention may relate to Aeroponic Systems and their individual elements. More particularly to automated systems capable of monitoring and adjusting some if not all of the light, nutrient, water quality and environmental factors required for the propagation and sustained growth of all types of plants. It may also describe methods to support the plants during propagation from seeds and for growth and harvesting. It may describe various methodologies for reducing space requirements and for increasing plant density without detriment to the growth cycles.



4) Family number: 56544139 (US2014144078A)

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Title: MODULAR AUTOMATED AEROPONIC GROWTH SYSTEM

Priority: US20120729754P 20121126 US20130090869 20131126 US20160376080 20161212

Family:

Publication number	Publication date	Application number	Application date
US2014144078 AA	20140529	US20130090869	20131126
US2017099790 AA	20170413	US20160376080	20161212
US9516822 BB	20161213	US20130090869	20131126

Probable Assignee: GONYER DAEGAN

Assignee(s):(std): GONYER DAEGAN ; JONES SHAUN

Inventor(s):(std): GONYER DAEGAN ; JONES SHAUN

Agent(s): DENNIS B; WOODS OVIATT GILMAN LLP

International class (IPC 8-9): A01G27/00 A01G27/02 A01G31/02 F21S2/00 F21V33/00 H05B33/08 H05B37/02 (Advanced/Invention)

CPC: A01G31/02 Y02P60/216 F21V33/00 H05B37/0218 H05B33/0872 F21S2/005 F21Y2113/13 F21Y2115/10

US class: 47/62A

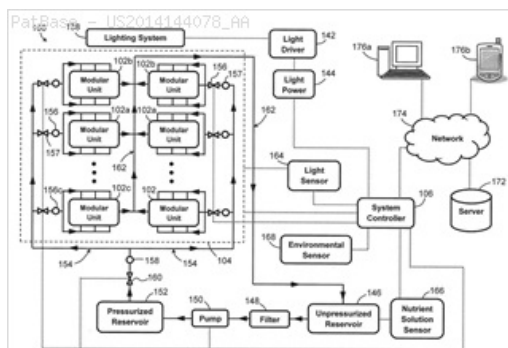
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Cited documents: US6233870 BA, US5771634 A, US5394647 A, US4937969 A, US4332105 A, US3053011 A, US2009223128 AA, US2009126269 AA, US2009007486 AA, US2008229661 AA,

Forward Citations: WO18132779, WO17205523, WO16018767, USD829471, US9986697, US9974243, US9807949, US9693512, US9603316, US9532516, US9374951, US2018007845, US2016286736, US2016255781, US2016044879, US2015289463, US2014182203, US10123491, US10070600, US10064347, EP3187039,

Abstract:

An aeroponic growth system comprising a plurality of modular aeroponic units each including at least one spray nozzle directed into a root zone; a lighting system associated with the plurality of the modular units and configured for emitting light in a vegetative zone; a pressurized reservoir configured for housing a nutrient containing fluid; and a nutrient feeding system configured for fluidly and selectively connecting each of the modular units to the pressurized reservoir in parallel, wherein the nutrient feeding system includes a pressure stop valve associated with each of the modular units. When one of the modular units are disconnected to the associated pressure stop valve, the pressure stop valve is configured for preventing the fluid from flowing from the pressurized reservoir through the pressure stop valve, and the other modular units connected to the nutrient feeding system remain fluidly connected to the pressure reservoir.



5) Family number: 60721142 (US2015313104A)

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Title: VERTICAL PLANTER

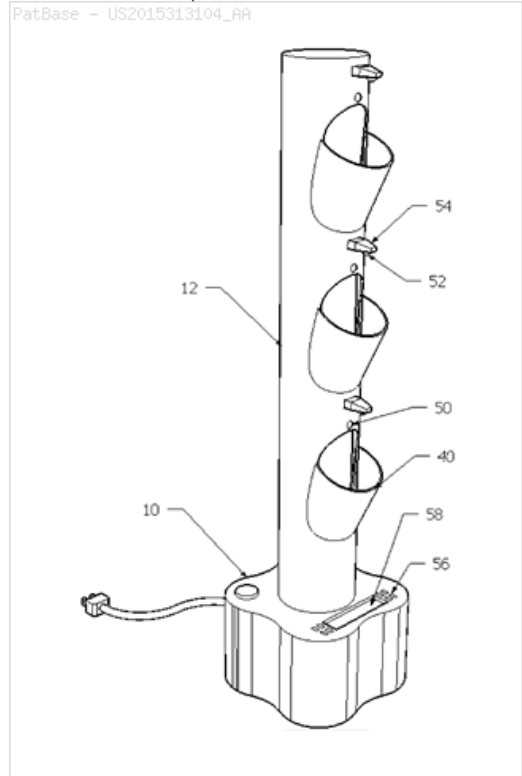
Priority: US20140267703 20140501

Family:

Publication number	Publication date	Application number	Application date
US2015313104 AA	20151105	US20140267703	20140501

Probable Assignee: COTTRELL BRIAN
Assignee(s):(std): COTTRELL BRIAN
Inventor(s):(std): COTTRELL BRIAN
International class (IPC 8-9): A01G1/00 A01G31/00 A01G31/06 A01G9/02 (Advanced/Invention)
CPC: A01G31/06 A01G9/022 A01G22/00 Y02P60/216
US class: 1/1 47/59R 47/62A
[Classification Explorer](#)
Cited documents: US8484890 BB, US8250809 BB, US8225549 BB, US7531350 BB, US5937575 A, US5724768 A, US5555676 A, US5136804 A, US2015334930 AA, US2014000162 AA, US2009293357 AA,
Forward Citations: WO18039921, WO18013161, USD829471, USD809965, USD795130, US9986694, US9668434, US9433203, US2017013787, US2016066525, US2016021837, US2014345196, DE102016013728,

Abstract:
A self contained decorative planter for cultivating and displaying plants that comprises; a power supply, a hollow structure for accepting plants oriented with the root or base of the plant facing the inside of the structure, a reservoir in contact with an ultrasonic transducer for producing a water or nutrient vapor to distribute throughout the inside of the hollow structure, and a lighting system in which light is directed towards the outside surface of the structure. The hollow structure may take on wide range of decorative shapes with plants artistically arranged throughout with the leaf or flower portions oriented outward.



6) Family number: 57710162 (US2014325908A)

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Title: HIGH DENSITY THREE DIMENSIONAL MULTI-LAYER FARMING
Priority: US20130887333 20130505 US20130887334 20130505 US20130887336 20130505
Family:

Publication number	Publication date	Application number	Application date
US2014325908 AA	20141106	US20130887334	20130505
US2014330406 AA	20141106	US20130887333	20130505
US9606553 BB	20170328	US20130887333	20130505
WO14182600 A1	20141113	WO2014US36754	20140505

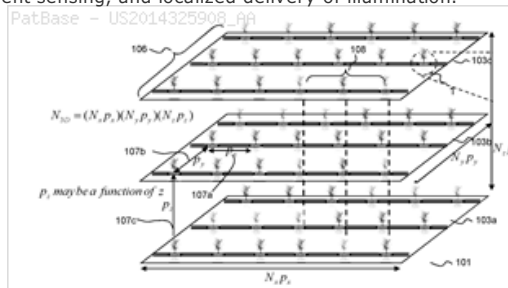
Probable Assignee: FARIS SADEG M
Assignee(s):(std): FARIS SADEG M
Inventor(s):(std): FARIS SADEG M
Agent(s): ABELMAN FRAYNE AND SCHWAB; CRISPINO RALPH J
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): A01G1/00 A01G3/00 A01G31/00 A01G31/02 A01G31/06 G05D27/02 (Advanced/Invention)
CPC: A01G31/02 A01G31/06 Y02P60/216 G05D27/02 A01C1/02 A01G31/00 Y02P60/12 A01G22/00
US class: 47/62A 47/62N 47/62R 700/90
[Classification Explorer](#)
Cited documents: US9137874 BB, US8731734 BB, US8074397 BB, US7617057 BB, US6122861 A, US6105309 A, US5724768 A, US5323567 A, US4932158 A, US4823517 A, US4780989 A, US4583321 A, US4493163 A,

US4337986 A, US4216618 A, US4166341 A, US4146993 A, US4028847 A, US3931695 A, US2014352211 AA, US2014318012 AA, US2014259920 AA, US2014115958 AA, US2014083007 AA, US2012054061 AA, US2011252705 AA, US2009265986 AA, US2009223128 AA, US2005252078 AA, US2005076563 AA, US2004109302 AA, US2004003538 AA, US2002088173 AA, US1121722 A, GB2121263 A1,

Forward Citations: WO18220011, WO17060800, WO17049263, US9943042, US9844116, US9788387, US9622426, US2015134395, EP3251499, CN106227280, CN105052716,

Abstract:

In order to achieve food and energy security, while at the same time eliminating the "food vs. biofuel" conflict, a transformational three dimensional multilayer farming, MLF, is presented. This exploits the third dimension. This goal is realizable by the disclosed means and methods to increase the 3D plant productivity, 3D yield, ton/m³/year, using ultra-compact ultra high density vertical structures. Each layer in the MLF system comprises at least one string of SanSSoil Growth Elements, SGEs, each designed to carry out multiple functions essential to sustain plant growth, and constructed in a manner to integrate these functions at low-cost. The networked strings of SGEs in each layer provide near self-sufficiency for growth, and in an integrated MLF system, achieve maximum vertical compactness and highest growth density. The multi-functions of each integrally made SGE include: germination, growth sustenance, localized delivery of nutrients, environment sensing, and localized delivery of illumination.



7) Family number: 51715187 (WO12104789A1)

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Title: PLANT GROWING POT AND CARTRIDGE FOR PLANT GROWING POT POT DE CULTURE DE PLANTES ET CARTOUCHES POUR CELUI-CI

Priority: EE20110000008 20110131

Family:

Publication number	Publication date	Application number	Application date
EE05706 B1	20140415	EE20110000008	20110131
EE201100008 A	20121015	EE20110000008	20110131
WO12104789 A1	20120809	WO20121B50457	20120131

Probable Assignee: OUE CLICK AND GROW

Assignee(s):(std): LEPP MATTIAS ; OUE CLICK AND GROW

Inventor(s):(std): LEPP MATTIAS

Inventor(s): MATTIAS LEPP

Agent(s): KOPPEL MART ENN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A01G25/16 A01G27/00 A01G7/00 A01G9/02 (Advanced/Invention)

CPC: A01G9/02 A01G7/00 A01G27/008

European class: A01G27/00G A01G7/00 A01G9/02

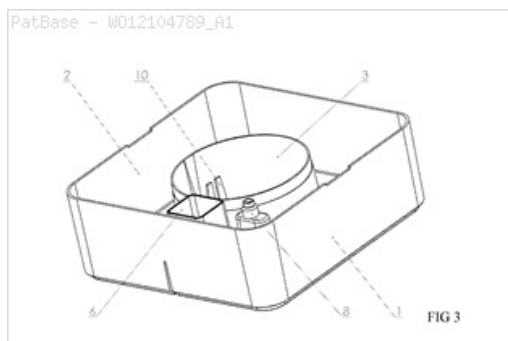
[Classification Explorer](#)

Cited documents: WO10097689 A1, WO09072868 A1, US7400975 BB, US2008276534 AA, US2002088177 AA, EP2108250 A1,

Forward Citations: US10104845,

Abstract:

Plant growing pot comprises a liquid vessel, comprising a slot for a plant growth cartridge, removably containing a plant growth cartridge. Plant growing pot is equipped with automatic control block, comprising an electronic control block and sensors and actuators for providing conditions necessary for growing a particular plant. For each plant, the cartridge has a coding corresponding to the particular plant, e.g., an ID code identifying the particular plant, or code for controlling the operation of the automatic control block.



Title: DEVICE AND METHOD FOR NON-INVASIVE DETECTION OF GROWTH PROCESSES AND SIMULTANEOUS MEASUREMENT OF CHEMICAL-PHYSICAL PARAMETERS

Priority: DE201110118619 20111116 WO2012DE001023 20121024

Family:

Publication number	Publication date	Application number	Application date
DE102011118619 A1	20130516	DE201110118619	20111116
DE102011118619 A8	20131002	DE201110118619	20111116
EP2780695 A1	20140924	EP20120798135	20121024
WO13071902 A1	20130523	WO2012DE001023	20121024

Probable Assignee: FORSCHUNGSZENTRUM JUELICH GMBH

Assignee(s):(std): FORSCHUNGSZENTRUM JUELICH GMBH

Inventor(s):(std): BLOSSFELD MICHAEL ; BLOSSFELD STEPHAN ; MIELEWCZIK MICHAEL ; NAGEL KERSTIN ; NAGEL KERSTIN A ; PFEIFER JOHANNES ; SCHARR HANNO ; SCHARR HANNO DR ; SCHURR ULRICH ; SCHURR ULRICH PROF DR ; WALTER ACHIM ; WALTER ACHIM PROF DR

Inventor(s): WALTER PROF DR

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A01G7/00 G01J3/44 G01N21/64 G01N21/75 G01N21/77 G01N21/84 G01N33/00 (Advanced/Invention)

CPC: A01G7/00 G01N21/6408 G01N21/6428 G01N21/6456 G01N21/77 G01N21/783 G01N21/80 G01N21/84 G01N33/0098 G01N2021/6417 G01N2021/6439 G01N2021/6471 G01N2021/6497 G01N2021/773 G01N2021/7786 G01N2021/8466 G01N2201/0627 G01N2201/0642 A01G2/00

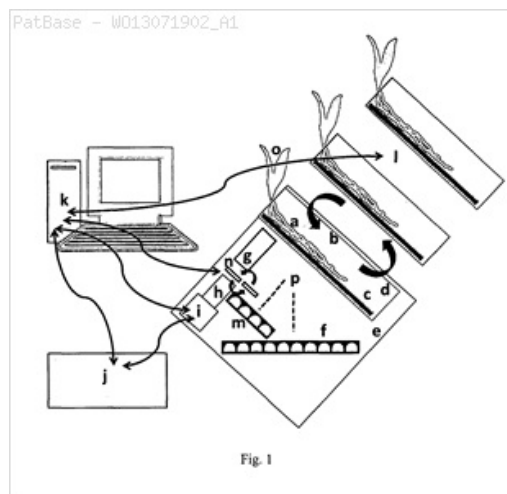
[Classification Explorer](#)

Cited documents: US5372784 A, US2006105174 AA, EP0702228 A2, EP0425587 B1, DE69123619 T2, DE3213183 A1,

Forward Citations: DE102017109968, DE102016204541, DE102014212657, DE102014212657, DE102014000816, DE102013022032, DE102012105291,

Abstract:

The invention relates to a device for the non-invasive detection of growth processes and simultaneous measurement of chemical and/or physical parameters, comprising the following components: a) a lighting unit (f, m), b) an optical detection unit (i, h, n, g), c) at least one growth container (b, I) containing a growth medium (d), d) at least one transparent, planar optode (c), e) a control unit (j), and f) an electronic data acquisition and evaluating unit (k). The invention relates further to a method for the non-invasive detection of growth processes and simultaneous measurement of chemical and/or physical parameters, comprising the following method steps: a) detecting the growth processes by means of imaging methods; and b) detecting the chemical and/or physical parameters by using a planar, transparent optode (c), wherein the data from a) und b) is obtained simultaneously and in parallel.



Title: HYDROPONIC SYSTEM WITH ACTUATED ABOVE-PLANT PLATFORM

Priority: US20140078315P 20141111 US20150937789 20151110

Family:

Publication number	Publication date	Application number	Application date
US2016128289 AA	20160512	US20150937789	20151110

Probable Assignee: AESSENSE TECHNOLOGY HONG KONG LTD

Assignee(s):(std): AESSENSE TECHNOLOGY HONG KONG LTD

Inventor(s):(std): CHEN TIANSHU ; HSUEH WENPENG ; KANG PEI ; LU GUOHUA ; WONG SIMON ; WU CHAO HSIEN

International class (IPC 8-9): A01G31/02 G05B19/04 (Advanced/Invention)

CPC: A01G31/02 G05B19/041 A01G2031/006 G05B2219/25022 Y02P60/216

US class: 47/59R 47/62A

[Classification Explorer](#)

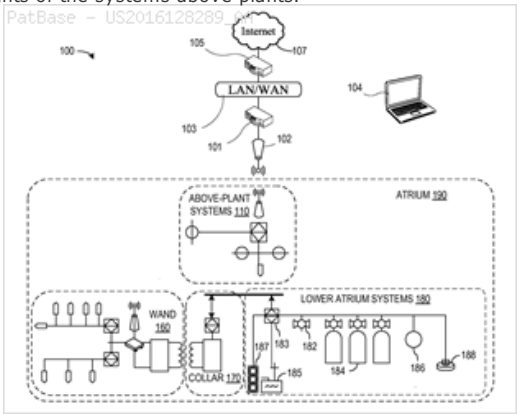
Cited documents: US2015289328 AA, US2014259920 AA, US2012060416 AA,

Forward Citations: US9693512, US2016255781,

Abstract:

A hydroponic growth system may be integrated into a programmable system providing for the growth of plants. An upper section

of a system may include a lighting system able to vary lighting characteristics such as the intensity or spectral content of light provided to the plants and atmospheric systems to control the temperature, flow, or humidity of air around the plants that are mounted on an actuated platform. A control system may execute a program to control the available systems including the actuated above-plant platform to programmably control the height or heights of the systems above plants.



10) Family number: 71788239 (US2018317410A)

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Title:

AUTOMATED VERTICAL PLANT CULTIVATION SYSTEM

Priority:

US20170589845 20170508 US20170592246P 20171129 US20180885157 20180131
US20180973212 20180507

Family:

Publication number	Publication date	Application number	Application date
US2018317410 AA	20181108	US20170589845	20170508
US2018317411 AA	20181108	US20180885157	20180131
US2018325038 AA	20181115	US20180973212	20180507
WO18208686 A1	20181115	WO2018US31429	20180507

Probable Assignee:

SPIRO DANIEL S

Assignee(s):(std):

SPIRO DANIEL S

Inventor(s):(std):

SPIRO DANIEL S

Agent(s):

ENOS SEAN K ET AL

Designated states:

AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU
ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG
MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC
SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9):

A01G1/00 A01G25/16 A01G27/00 A01G29/00 A01G31/06 A01G7/04 A01G9/02 A01G9/04 A01G9/12
A01G9/20 A01G9/24 (Advanced/Invention)

CPC:

A01G31/06 A01G7/045 A01G27/005 A01G9/022 A01G25/16 A01G1/001 A01G22/00 A01G9/023
A01G9/20 A01G9/247 A01G27/003 A01G2031/006 A01G9/24 A01G29/00 A01G9/045 A01G27/001

[Classification Explorer](#)

Abstract:
An automated plant cultivation system is provided having multi-tiered vertically arranged horizontal magazine structures each employing seed or plant capsules with a fluid circulation and illumination and communication network controlled by an on-board processor. Particularly, the system includes a magazine structure having seed/plant capsules within seed/plant reservoirs alternately arranged between at least one of a light source substantially concealed from direct viewing. A fluid channel extends across a long axis of the magazine structure, wherein the magazine structure is adapted for use of seed/plant capsules with nutrient composite plant growth cultivation, hydroponic plant growth cultivation, aeroponic plant growth cultivation methods or combinations thereof.

