

[SS 1] aeroponic and system

Results in EPODOC 148

[SS 2] 1 and sensor

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PN	- CN105993898	A 20161012
PR	-	CN20161507883 20160701
AP	-	CN20161507883 20160701
DT	-	I
CNOI	-	A01G31/02
CCA	-	Y02P60/216
PA	-	HUANG CHAO
TI	-	Aeroponic system
AB	-	The invention relates to an aeroponic system . The aeroponic system comprises a cultivation box evenly and densely provided with a plurality of planting holes. A hollowed planting cup is fixed to each planting hole, a pump and a liquid supplying pipe with a plurality of spraying nozzles are arranged in the cultivation box, the pump is communicated with a liquid supplying box, and the liquid supplying box is communicated with the cultivation box through a liquid returning pipe. The aeroponic system further comprises a control board for adjusting the ingredients and the ratio of a nutrient solution, a displayer, a plurality of ion sensors arranged in the liquid supplying box and a plurality of matching boxes, each matching box is communicated with the liquid supplying box through a branch pipe provided with a control valve, and a control circuit is formed by each control valve, the corresponding ion sensor , the displayer and the control board; a planting cup fixing net formed by interweaving warp yarns and weft yarns is arranged on the inner side wall of the cultivation box, and each planting cup is filled with a Pall ring. By means of the aeroponic system , liquid temperature and the ratio of parts of the nutrient ingredients can be controlled, the spray use ratio is increased, and fixing of plants and growth of root systems of plants are better facilitated.
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PN	- CN105583102	A 20160518
PR	-	CN20141659735 20141118
AP	-	CN20141659735 20141118
DT	-	I
CCA	-	Y02P60/216 ; Y02P60/12
PA	-	XI'AN KUOLI MACHANICAL AND ELECTRICAL TECH CO LTD
TI	-	Greenhouse aeroponic cultivation wireless monitoring system
AB	-	The invention discloses a greenhouse aeroponic cultivation wireless monitoring system which comprises a monitoring host, an atomization monitoring terminal, a solar energy power supplying unit, a ZigBee wireless network, a touch screen, a printing device, an alarming unit, a data server, a ZigBee wireless transceiving module and a WIFI mobile phone, wherein the ZigBee wireless network is used for achieving wireless communication between the atomization monitoring terminal and the monitoring host; the touch screen is used for setting system parameters and displaying monitoring data; the printing device is used for printing important data; when the temperature, the

humidity and the oxygen concentration inside the greenhouse exceed set values, the alarming unit sends out alarming signals; the data server and the ZigBee wireless transeiving module are connected with the monitoring host; and the WIFI mobile phone is in wireless connection with the atomization monitoring terminal. According to the greenhouse **aeroponic** cultivation wireless monitoring **system**, the wireless **sensor** network is used for monitoring and controlling the whole crop growing environment, so that a proper environment for crop cultivation and crop growth is provided, the data transmission is reliable, and the monitoring interface is vivid; at the same time, the data sever and the printing device can be used for recording, inquiring and printing data such as historical records and the like at any time; and the **system** is convenient, flexible and wide in application range.

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PN

- [CN105409750](#) A 20160323

PR

- CN20151866643 20151201

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- CN20151866643 20151201

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- || STSE (A)
[IT1289533](#) B1 19981015 [A] (COSTA GIANCARLO [IT])
[A] 1-7
* 全文 *;
[CN102090314](#) A 20110615 [Y] (HUANGSHAN XIANNONG BIO TECHNOLOGY CO LTD)
[Y] 1-7
* 说明书第7-27段，以及附图1 *;
[CN202160490U](#) U 20120314 [A] (TIANJIN JINSEDADI INVEST DEV CO LTD)
[A] 1-7
* 全文 *;
[CN202663914U](#) U 20130116 [A] (SHANGHAI FUMIN AGRICULTURAL TECHNOLOGY CO LTD)
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[CN204598898U](#) U 20150902 [Y] (DONGGUAN QIAOMEI AGRICULTURAL SCIENCE AND TECHNOLOGY CO LTD)
[Y] 1-7
* 说明书第6-35段，以及附图1-6 *;
[CN204634603U](#) U 20150916 [A] (UNIV PINGDINGSHAN)
[A] 1-7
* 全文 *;
[CN205179990U](#) U 20160427 [R] (VEGETABLE RES INST OF TIBET ACAD OF AGRICULTURAL AND ANIMAL HUSBANDRY SCIENCES)
[R] 1-7
* 权利要求1-7 *

CNOI

- [A01G31/02](#)

CCA

- [Y02P60/216](#)

PA

- VEGETABLE RES INST OF TIBET ACAD OF AGRICULTURAL AND ANIMAL HUSBANDRY SCIENCES

TI

- Vegetable **aeroponic** cultivation rhizosphere environment monitoring **system** for solar greenhouse

AB

- The invention relates to a vegetable **aeroponic** cultivation rhizosphere environment monitoring **system** for a solar greenhouse. The vegetable **aeroponic** cultivation rhizosphere environment monitoring **system** comprises a signal acquiring device, a nutrient solution pond, at least one vegetable **aeroponic** cultivation rack, a nutrient solution monitoring **sensor**, **aeroponic** cultivation vegetable root **system** monitoring

sensors and an intelligent terminal; the nutrient solution pond is arranged under the ground of an indoor environment of the solar greenhouse; the nutrient solution monitoring **sensor** is arranged in the nutrient solution pond, and is electrically connected with the signal acquiring device; the at least one vegetable **aeroponic** cultivation rack is arranged in the solar greenhouse, each **aeroponic** cultivation vegetable root **system** monitoring **sensor** is arranged on the corresponding vegetable **aeroponic** cultivation rack respectively, and the **aeroponic** cultivation vegetable root **system** monitoring sensors are electrically connected with the signal acquiring device; and the signal acquiring device is in communication connection with the intelligent terminal. According to the vegetable **aeroponic** cultivation rhizosphere environment monitoring **system** disclosed by the invention, various environmental factors of vegetable **aeroponic** cultivation rhizosphere are monitored, and the monitoring and controlling capability of an **aeroponic** cultivation environment of the solar greenhouse is improved, so that automatic production degree of vegetables of the greenhouse is improved.

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PN	- CN204482606U U 20150722	
PR	- CN2015222062U 20150113	
AP	- CN2015222062U 20150113	
DT	- I	
CCA	- Y02P60/216	
PA	- UNIV JILIANG CHINA	
TI	- Household aeroponic vegetable cultivation device	
AB	- The utility model discloses a household aeroponic vegetable cultivation device, structurally comprising a frame, a flip cover, a sealing device, cultivation cups and a microcontroller, wherein the microcontroller is used as a main control chip for controlling a liquid supply pump to spray a nutrient solution to a trapezoidal cultivation bracket from a liquid storage tank through hoses and nozzles; the trapezoidal cultivation bracket is uniformly provided with the cultivation cups; the cultivation root system part of each plant is positioned at the lower part of the corresponding cultivation cup, so that the cultivation root system part can sufficiently absorb the atomized nutrient solution; a temperature sensor is used for monitoring the internal temperature of the aeroponic vegetable cultivation device; a humidity sensor is used for monitoring the internal humidity of the aeroponic vegetable cultivation device; an LED (light emitting diode) light supplementing lamp is used for differentially providing illumination for different plants under the action of a micro control chip; a fan is used for internal ventilation for plant growth. According to the household aeroponic vegetable cultivation device, a scientific cultivation condition can be provided for urban families; due to the adoption of the household aeroponic vegetable cultivation device for cultivating plants, the problems of pesticide residue and difficulty in maintenance caused by soil cultivation can be prevented; the household aeroponic vegetable cultivation device is especially suitable for cultivating various types of leafy green vegetables, can be placed on a balcony or indoors, and can realize the advantage of shortening the plant growth cycle.	

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PN	- CN203204341U U 20130918	
PR	- CN20132188014U 20130415	
AP	- CN20132188014U 20130415	
DT	- I	
PA	- UNIV ZHEJIANG A & F	
TI	- Intelligent control system for aeroponic cultivation	
AB	- The utility model belongs to the technical field of the intelligent control over agricultural equipment and relates to an intelligent control system , in particular to an intelligent control system for aeroponic cultivation. Due to the adoption of the system ,	

the technical problems in the prior art that existing control systems for **aeroponic** cultivation are poor in efficiency and incapable of controlling and adjusting environmental factors in real time, and the reasonable choice of a control mode thereof cannot be realized, are solved. The intelligent control **system** for **aeroponic** cultivation comprises a PC unit used for programming and providing control commands, and an MCU used for storing and sending out the commands. The PC unit and the MCU are connected together through a USB connection module to realize the command transmission. The MCU is connected with a power supply module and a power utilization unit. The MCU is also connected with a mode selection unit, an electronic display unit, a temperature **sensor**, an illumination **sensor** and a humidity **sensor**. According to the utility model, the intelligent control **system** can be adapted to a plurality of soilless culture modes, wherein the control mode thereof can be reasonably selected. Meanwhile, the intelligent control **system** is convenient in operation and high in control efficiency.

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PN

- [CN102845293](#) A 20130102

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- CN20121364241 20120926

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- || STSE (A)
[CN101803561](#) A 20100818 [Y] (ZHI JIN)
[Y] 1-4
[CN102172207](#) A 20110907 [Y] (SICHUAN RONGYI TECHNOLOGY CO LTD)
[Y] 1-4
[CN2589091Y](#) Y 20031203 [Y] (HUANG YUNXING [CN])
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[JP2008154512](#) A 20080710 [A] (DAITSU KK)
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[A] 1-4
[CN2383324Y](#) Y 20000621 [A] (LU YIGONG [CN])
[A] 1-4

CCA

- [Y02P60/216](#)

PA

- UNIV JIANGSU

TI

- **Aeroponic** cultivation and water cultivation combined cultivation device for use on balcony

AB

- The invention belongs to cultivation equipment in the agricultural engineering field, which comprises an ultrasonic atomizer, an atomization chamber, a water storage tank, an axial-flow fan, a solenoid valve, a water level detection **sensor**, a control box, a fog conveying and nutrient solution return pipe, a cultivation box, a cultivation plate and a bracket. The cultivation device can perform **aeroponic** cultivation and water cultivation simultaneously, and is characterized in that fog drops enter the cultivation box under the wind action, the unabsorbed nutrient solution is deposited in the cultivation box and kept at a stable height, and the cultivation device can also ensure the height of the nutrient solution in the atomization chamber to be kept at a proper position, so that the ultrasonic atomizer can work at the maximal efficiency. The cultivation device has the advantages of sufficient oxygen gas for the crop root **system** in **aeroponic** cultivation and rapid production, can ensure the normal growth of crops in case of power-off or device failure, and can provide crops with sufficient water and nutrient through water cultivation when fog drops are hard to reach the interior of a dense root **system** or fog drops can not provide sufficient nutrients required for the plant growth.

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PN - [CN201928765U](#) U 20110817

PR - CN20102694243U 20101231

AP - CN20102694243U 20101231

DT - I

CCA - [Y02P60/216](#)

PA - BEIJING PHOTON SCIENCE & TECHNOLOGY CO LTD

TI - **Aeroponic** culture type desk lamp flower pot planting **system**

AB - The utility model relates to an **aeroponic** culture type desk lamp flower pot planting **system** which comprises a bottom plate, a base, a culture bowl on the base, a lifting bar, LED lamps and the like; permanent planting cups, a conduit, an atomization spray head, a circulating pump and the like are arranged in the culture bowl which is connected with a microcomputer control chip; a heat preservation cover is arranged at the upper part of each permanent planting cup; a planting label and a planting hole are formed in the middle of each permanent planting cup; each permanent planting cup is wrapped by fresh-keeping film, and culture cotton covers each cup body; a water leakage hole is formed at the bottom of each cup body; and a liquid level **sensor** for detecting the liquid level is mounted in the culture bowl. The **aeroponic** culture type desk lam flower pot planting **system** is compact and beautiful and can be used for planting vegetables, flowers and grasses; and the lifting bar provided with the LED lamps plays the role of novelty, attractiveness, energy conservation and lighting. According to the utility model, plant nutrition is supplied through atomization, so that gas and fertilizer are balanced to facilitate the growth of plants; and the growing demands of different plants can be met through the adjustment and controlling of the microcomputer controller.

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PN - [JPS6471422](#) A 19890316

PR - JP19870228866 19870911

AP - JP19870228866 19870911

DT - I

FI - A01G31/00&601A

FT - 2B014/AA06; 2B014/BA00; 2B014/EA13; 2B014/EA16; 2B014/GA02; 2B314/AA06; 2B314/BA00; 2B314/EA13; 2B314/EA16; 2B314/GA02; 2B314/NA01; 2B314/NC07; 2B314/NC24; 2B314/NC55; 2B314/ND02; 2B314/ND10; 2B314/ND15; 2B314/ND24; 2B314/PA09; 2B314/PB02; 2B314/PB37; 2B314/PB61; 2B314/PD19; 2B314/PD26; 2B314/PD43; 2B314/PD48; 2B314/PD52; 2B314/PD59; 2B314/PD64

PA - MATSUSHITA ELECTRIC WORKS LTD; KYOWA KK

TI - APPARATUS FOR HYDRO-**AEROPONIC**

AB - PURPOSE:To simplify the operation of setting and change of growing condition, by collecting a pump, a heater, a **sensor**, a controlling means for the pump and heater and electric **system** parts including an information displaying part in one block and detachably setting the block to a liquid fertilizer tank. CONSTITUTION:A culture tank 1 and a liquid fertilizer tank 2 are arranged at the upper and lower sides, a large opening is formed at the part to be covered with a lid 3 and an electric **system** block 4 is placed on the rim of the opening. The block 4 contains a pump 41, a heater, a controlling mechanism for the above, a **sensor** to detect the liquid fertilizer temperature in the fertilizer tank and an information displaying part giving information necessary for the growth of vegetables.