2015

BOLETIN AGUA

RIEGO

TENDENCIAS TECNOLÓGICAS EN FUNCIÓN DE PATENTES

UNIDAD TERRITORIAL DE VIGILANCIA TECNOLÓGICA E INTELIGENCIA COMPETITIVA

IDITS

01/01/2015

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IDITS
INSTITUTO DE DESARROLLO
INDUSTRIAL, TECNOLOGICO Y DE SERVICIOS

" Cuando se implementa la invención, millones de hectáreas de tierras agrícolas fértiles se pueden obtener, el clima puede ser regulado,todo esto puede generar un gran beneficio económico y medio ambiental."

El presente Boletín fue diagramado en el marco de la **Unidad Territorial de Vigilancia Tecnológica e Inteligencia Competitiva-MENDOZA,** desarrollada en el marco de la Carta Intención firmadas por el MINCyT y el IDITS en marzo 2013.

Este proyecto se materializó mediante la conformación de una Unidad conformada por trece instituciones del sector científico y académico y organismos públicos del estado provincial y nacional.

El sector seleccionado fue AGUA y los productos resultanes de la experiencia son dos boletines de tendencias tecnológicas.

El presente boletín hace referencia a las tendencias más innovadoras en el tema ***RIEGO***, las cuales se ponen en evidencia a través de las últimas patentes registradas .

Este trabajo fue editado por dos de las instituciones que constituyen la Unidad, ellos son el ***Observatorio Vitivinicola Argentino y el IDITS.***

Es de esperar que la información reflejada en el presente informe sea de interés para nuestra provincia.

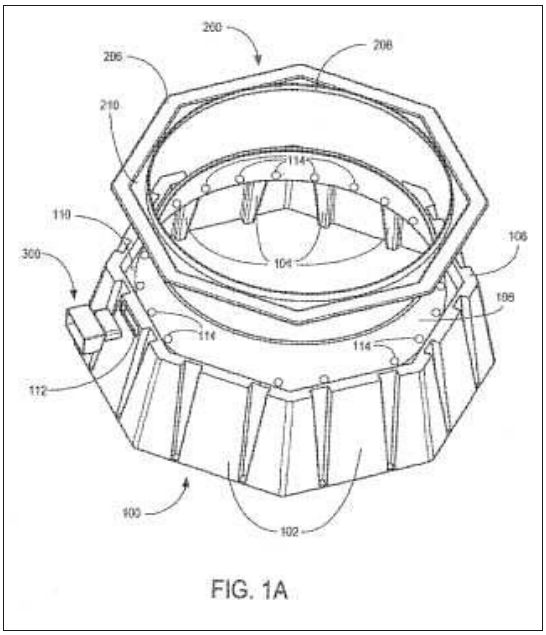
Fuente : B epo

Fecha : 09/10/2014

ROOT DIRECTOR APPARATUS WITH IRRIGATION SYSTEM.

RAÍZ ; SISTEMA DE RIEGO DIRECTOR PARA DIRIGIR EL AGUA A LAS RAÍCES DE UN ÁRBOL

There is disclosed an apparatus (100) for irrigating and directing the growth of the roots of planted trees. In an embodiment, the apparatus is a generally hollow structure for encircling the roots of a planted tree, the structure having an enlarged base opening configured to allow the roots of the tree to grow downwardly, a narrower neck (108) opening configured to accommodate the trunk of the tree, and a wall (102) sloping from the enlarged base opening to a narrower wall top. An irrigation channel (110) integrally formed into the structure whereby, in use, the irrigation channel channels water around the structure to irrigate the roots of the planted tree. In an embodiment, the wall top defines a continuous shoulder (106) around the structure. An irrigation channel is formed between the continuous shoulder and the neck opening, whereby, in use, the irrigation channel channels water around the structure to irrigate the roots of the planted tree.



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Fuente : epo
Fecha : 09/10/2014

METHOD FOR MITIGATING SOLID PRECIPITATION IN FERTILIZER DISPENSING SYSTEM

MÉTODO PARA APLICAR UN FERTILIZANTE AGRÍCOLA A UN CAMPO A TRAVÉS DE UN SISTEMA DE RIEGO CONECTADO A UNA FUENTE DE AGUA DURA

A method for applying an agricultural fertilizer to a field through an irrigation system connected to a source of hard water, includes providing a fertilizer composition comprising a mixture of (i) a fertilizer component comprising an ammonium phosphate or an ammonium sulfate, and (ii) an acid comprising one or more of a phosphoric acid, a citric acid, a malic acid, a formic acid, and an oxalic acid combining the fertilizer composition with hard water from the hard water source and providing the mixture to an irrigation system and using the irrigation system to apply the mixture of fertilizer composition and hard water to the field.

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Fuente : epo
Fecha : 26/09/2014

PLANT GROWTH ASEMBLY

ASAMBLEA: CRECIMIENTO VEGETAL. MÉTODO PARA PERMITIR EL CRECIMIENTO INTENSIVO DE PLANTAS

Disclosed is a plant growth assembly and method to allow intensive growth of plants or vegetative organisms in earth or soil from seeds, stems, roots or plants. The assembly comprises a container portion, a dispersion portion and a support portion. The container or pot to grow the plants in comprises a top section that contains earth and the plants, and a bottom section for water or liquid fertilizer storage. The top

section is above the bottom section and are joined together or separate items. The container portion joins with the dispersion portion that waters or irrigates plants using spray nozzles growing within a plant growth ring within the top section, the dispersion portion comprising an irrigation portion and/or a base portion, the dispersion portion at the centre of the support portion, the support portion encompassing the dispersion portion to support plants. The radially spaced plants around the periphery of the top section grow at an angle rather than vertically while being supported by the stakes or frame.

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Fuente : epo
Fecha : 20/09/2014

METHOD OF PROVIDING PLANTS WITH WATER AND MINERAL NUTRITION UNDER CONDITIONS OF WEIGHTLESSNESS AND SYSTEM FOR ITS IMPLEMENTATION

MÉTODO PARA BRINDAR A LAS PLANTAS Y SEMILLAS NUTRICION MINERAL A TRAVÉS DEL AGUA,SEGÚN LA NECESIDAD DE CADA UNA DE ELLAS . SISTEMA PARA SU IMPLEMENTACIÓN.

FIELD: biotechnology.SUBSTANCE: method comprises supplying irrigation drinking water in the root module ion-saturated ion-exchange fibre soil-substitute and providing auto-correction of the pH value of the obtained substrate solution, as well as its saturation with nutrients containing the elements N, P, K, S, Ca, Mg and Fe. To ensure it with nutrients in the required amount, the continuous monitoring of the total concentration of the elements in the irrigation water is carried out before supplying to the root module. The irrigation drinking water before supplying to the root module is previously passed through a layer of granulated ion-saturated ion-exchange fibre-soil-substitute the amount of which is selected so that before the end of the calculated period of operation the total concentration of the elements S, Ca, Mg and Fe in the irrigation water is within the range adequate for growing plants. At that in case of a decrease in the irrigation water after passing through the layer of granulated ion-saturated ion-exchange fibre-soil-substitute of the total content of the elements N, P and K to the lower limit of the admissible range of concentrations, a concentrate is added to it, which is obtained by passing the water through the layer of granules of

slow-acting fertiliser (SAF), the number of which is selected so that the elements N, P and K contained in it are enough to the end of the calculated period of operation. The system comprises a root module with the ion-exchange fibre soil-substitute for planting seeds or seedlings and the subsequent growing the plants, which is connected to the output of the pipeline of supply of irrigation water with the peristaltic pump mounted at the inlet. In addition the pipeline of supply of irrigation water after the peristaltic pump the concentrating cartridge filled with granular ion-saturated ion-exchange-soil-substitute, and the flow mixing chamber with a sensor of electrical conductivity of water and a stirrer placed in

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Fuente : epo
Fecha : 18/09/2014

IRRIGATION SYSTEM WITH FREEZE PROTECTION AND METHOD

SISTEMA DE RIEGO Y PROTECCIÓN ANTICONGELANTE

Apparatus and method are provided herein for causing and controlling the injection of antifreeze material into a water line of an irrigation system. The irrigation system comprises an antifreeze supply unit including an antifreeze storage container containing a liquid antifreeze coupled to a water line of the irrigation system. A control unit is coupled to the antifreeze supply unit. The control unit is configured to cause the antifreeze supply unit to inject at least some of the liquid antifreeze from the antifreeze storage container into the water line. The control unit can cause the antifreeze supply unit to inject the liquid antifreeze from the antifreeze storage container in response to temperature data received from a sensor unit or in response to user input at the control unit.

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Fuente : epo
Fecha : 18/09/2014

SYSTEM AND PROCESS FOR IRRIGATING AND MONITORING THE GROWTH OF PLANTS

SISTEMA PARA EL MONITOREO DE RIEGO Y CRECIMIENTO DE PLANTAS

There is at least one embodiment that comprises a system for harvesting plants comprising at least one container for receiving and growing plants at least one irrigation system configured to feed water to at least one of said plurality of containers and at least one microprocessor configured to calculate a time until reaching a harvest point based upon a position of the plants. The at least one container can comprise a plurality of containers. The at least one irrigation system comprises at least one level valve configured to close when fluid in at least one container of said plurality of containers reaches a predetermined level.

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Fuente : epo
Fecha : 30/07/2014

FARMLAND IRRIGATION SYSTEM

SISTEMA DE RIEGO AGRICOLA

The utility model discloses a farmland irrigation system which comprises an irrigation area control center, a wireless transmission system and a management terminal, wherein the irrigation area control center receives signals from a humiture probe, a water level display controller, a time control module, a camera and an infrared sensor through a wireless communication module, and controls a water pumping set, an alarm and an interphone the humiture probe, the water level display controller, the time control module, the camera and the infrared sensor are mounted in an irrigation area the wireless transmission system is connected with the irrigation area control center and the management terminal, and sends signals to a moving management terminal. The farmland irrigation system can control the working condition of the water pumping set by controlling an electromagnetic valve according to a set parameter, and then irrigate the crops in the irrigation area meanwhile, the farmland irrigation system can monitor the situations in the irrigation area in real time so as to prevent non-staff intruding, and can not only perform a function of early warning, but also shoot an intruding process, give an alarm, and perform conversation.

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Fuente : epo
Fecha : 29/07/2014

IRRIGATION SYSTEM WITH MULTIPLE SOIL MOISTURE BASED SEASONAL WATERING ADJUSTMENT

SISTEMA DE RIEGO EN BASE A LA HUMEDAD DEL SUELO Y CON AJUSTE ESTACIONAL

An irrigation controller has a control panel including a display and a plurality of user inputs. A processor is operatively connected to the control panel and to a memory. A plurality of switches are operatively connected to the processor for turning a power signal ON and OFF to a plurality of valves that deliver water to a plurality of sprinklers in different zones. Programming is stored in the memory for implementing a seasonal adjustment feature that is independently operable with a plurality of individual watering programs to selectively energize the valves. The programming calculates a soil moisture requirement value for each program using a signal from at least one soil moisture sensor that is associated with a zone that is assigned to that watering program, and automatically modifies the watering program assigned to that zone through the seasonal adjust feature based on the soil moisture requirement value.

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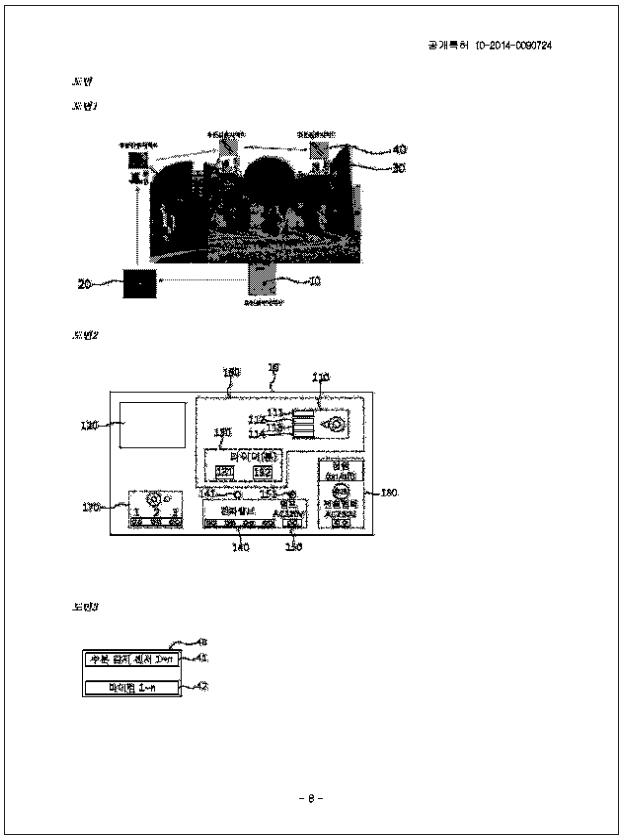
Fuente : epo
Fecha : 18/07/2014

AUTOMATIC IRRIGATION SYSTEM FOR PLANT CULTIVATION

SISTEMA DE RIEGOAUTOMATICO PARA CULTIVO DE PLANTAS

The present invention relates to an automatic irrigation system for plant cultivation. The technical assignment of the present invention is to optimally manage and control partial moisture condition of the whole area of afforestation soil or a wall surface by

automatically sensing a moisture condition of soil for plant cultivation. For the same, according to an embodiment of the present invention, disclosed is the automatic irrigation system for plant cultivation, including: a moisture sensing unit including multiple moisture sensors installed on multiple parts of the afforestation soil for plant cultivation and measuring the moisture content of the soil, and multiple microcomputers determining whether the measured moisture contents of the soil reaches a preset moisture content or not a valve control unit controlling the opening and closing of a valve formed on the one side of an irrigation pipe for supplying water via the irrigation pipe installed on the afforestation soil or cutting off a water supply a pump control unit controlling the operation of a pump formed on a water tank for controlling the water supply to the afforestation soil via the irrigation pipe from the water tank an irrigation control unit controlling the amount of irrigation by controlling the valve control unit and pump control unit according to an irrigation time previously set by the moisture information of the afforestation soil determined by the moisture sensing unit and a user and a display unit displaying the moisture information of the afforestation soil determined by the moisture sensing unit and information for controlling the amount of irrigation according to the preset irrigation time.



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Fuente : epo
Fecha : 09/07/2014

WATERING AND FERTILIZING DUAL-PURPOSE DROP IRRIGATION DEVICE

DISPOSITIVO DE DOBLE PROPÓSITO; RIEGO POR GOTEO Y FERTILIZACIÓN

The utility model discloses a watering and fertilizing dual-purpose drop irrigation device. The watering and fertilizing dual-purpose drop irrigation device comprises a main pipeline, water supply pipes are connected to the two ends of the main pipeline, and water supply towers are connected to the water supply pipes. Filtering plates are arranged at the bottoms of the water supply towers. A rainwater pool is arranged between the water supply towers. A plurality of nozzles are arranged on the main pipeline, a plurality of branch pipelines are connected to the two sides of the main pipeline, and a plurality of thin pipes are connected to the branch pipelines. By means of the watering and fertilizing dual-purpose drop irrigation device, rainwater can be effectively collected and filtered and is then processed in a centralized mode to achieve drop irrigation simultaneously for roots and surfaces of plants it is also accessible that pesticide and fertilizer are added into the drop irrigation device to achieve fertilizing or pesticide adding, water sources are saved, crop irrigation and nutrition supplement are facilitated, and crop growth environment is improved.

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Fuente : epo
Fecha : 09/07/2014

INTELLIGENT IRRIGATION WATER-SAVING CONTROL DEVICE

DISPOSITIVOS INTELIGENTES DE RIEGO PARA CONTROL Y AHORRO DE AGUA

The utility model provides an intelligent irrigation water-saving control device. The intelligent irrigation water-saving control device comprises a single chip, a temperature

sampling unit, a liquid crystal display unit, a control output module and a power module the output end of the temperature sampling unit is electrically connected with the input end of the single chip, the output end of the single chip is electrically connected with the liquid crystal display unit and the control output module, and the power module is connected with the single chip the single chip comprises a microcontroller and a memory electrically connected with the microcontroller, the temperature sampling unit is composed of a dry bulb temperature sensor and a wet bulb temperature sensor both based on DS18B20, and a relation table of temperature differences, obtained by the dry bulb temperature sensor and the wet bulb temperature sensor, and humidity is stored in the memory. The intelligent irrigation water-saving control device provided is simple in structure, and capable of obtaining the present dryness and humidity of soil accurately and quickly and carrying out reasonable irrigation according to the present dryness and humidity of soil, and therefore, the purposes of energy saving and environmental protection is achieved.

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Fuente : epo
Fecha : 09/07/2014

SUBTERRANEAN FLOW IRRIGATION DEVICE FOR LESS SOIL CULTIVATION BEDS

DISPOSITIVOS SUBTERRANEOS DE RIEGO PARA DISTINTOS CULTIVOS

The utility model discloses a subterranean flow irrigation device for less soil cultivation beds. The subterranean flow irrigation device comprises soil retaining rings constructed by one building material selected from PVC (polyvinyl chloride) square tubes, anticorrosive wood and concrete. The subterranean flow irrigation device is structurally characterized in that cultivation beds are defined by the soil retaining rings, and a whole piece of anti-leakage rain cloth is paved at the bottom of each cultivation bed subterranean flow irrigation control boards are paved on the anti-leakage rain cloth, and anticorrosive water seepage cloth for isolating water and soil is paved on the subterranean flow irrigation control boards, and the anticorrosive water seepage cloth is filled with soil or organic matrixes and each subterranean flow irrigation control board comprises a side plate and a circular truncated cone object or cylindrical object, the circular truncated cone objects or cylindrical objects are distributed in space defined by the side plates at intervals, and running water intervals are formed among adjacent circular truncated cone objects or cylindrical objects. The device is widely applied to crop planting on a cement-steel structure roof, a saline and alkaline land, sandbeach, a water floating object and the like and can guarantee planting of vegetables, fruits, flowers and the like under the condition of less soil layer, so that

vegetables, fruits, flowers can normally grow and develop, and high yield and high quality are obtained and the subterranean flow irrigation device has the characteristics of simple structure, convenience in use and the like.

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Fuente : epo
Fecha : 09/07/2014

WATER STORAGE AND BRANCH PULLING DEVICE OF FRUIT TREE

DISPOSITIVO DE ALMACENAMIENTO DE AGUA PARA ARBOLES FRUTALES EN ZONAS ARIDAS

The utility model discloses a water storage and branch pulling device of a fruit tree, which comprises a water fence, wherein a cylinder clamped by two semicylinders is arranged at the lower part of the water fence a half funnel body is integratedly connected with the upside of each semicylinder the two half funnel bodies are clamped to form a funnel-shaped water collection cover a plurality of water storage devices are distributed at the upper part of the cylinder the upper ends of the water storage devices are connected with the lower end of the water collection cover the water storage devices are connected with conduits extending to a root of the tree a plurality of support rods extending to the ground are arranged at the bottom of the water fence and a plurality of strip through holes are formed at the upper part of the water collection cover along the periphery of the water collection cover at intervals.The water storage and branch pulling device of the fruit tree can store water, irrigate the fruit tree, and facilitate branch pulling of the fruit tree, and is applicable to cultivation of the fruit tree in an arid region.

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Fuente : epo
Fecha : 09/07/2014

AUTOMATIC GRAPE SEEDLING BED WATER SPRINKLER

ROCIADORES AUTOMÁTICOS DE PLANTACIONES DE VID

An automatic grape seedling bed water sprinkler relates to the technical field of agricultural facilities, and is arranged between two seedling cultivation beds. The automatic grape seedling bed water sprinkler comprises a vertical slide rail on the ground, wherein an installation seat is arranged on the vertical slide rail in a sliding way the installation seat is connected with a drive motor the motor driver is used for driving the installation seat to slide on the vertical slide rail the upper part of the installation seat is connected with a rotary table through a rotary shaft the rotary table can rotate by 360 degrees around the rotary shaft and is provided with a water pump the water inlet end of the water pump is connected to a water source through a hose the water outlet end of the water pump is connected to a shower head through a water spray pipe the shower head is arranged above the seedling cultivation beds for spraying water on grape seedlings. The automatic grape seedling bed water sprinkler has a simple structure, the design is novel, artificial watering irrigation is not needed, watering irrigation is completed through an automated manner, the even water amount is guaranteed, the labor amount is reduced, and the work efficiency is improved.

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Fuente : epo
Fecha : 11/06/2014

DESERT MANAGEMENT METHOD AND SETTING

MÉTODO DE GESTIÓN DE RIEGO POR GOTEO Y AJUSTE EN ZONAS DESERTICAS

The invention discloses a desert management method and setting. On the premise of faggot format sand stabilization, the drop irrigation technology is cooperated to plant perennial vine plants, such as grape and the like, no frames are erected, the perennial vine plants only grow along the ground, only grapes are picked up without moving vine leaves, sand can be better stabilized, and the sand stabilization method is that a plastic film is covered on the desert besides, fruit trees, such as poplar trees and the like, are planted with a trickle irrigation method in a well-field system mode to weaken wind power, and the wind power can be weakened in a wind power generation form for the desert wind power generation, the struts of a wind driven generator can be set into a

matrix form due to time constraint, wind power generation and solar power generation have unstable power, and a mode that electric power is converted into potential energy can be adopted as a solar silicon cell has a high development cost, buoys can be arranged into a matrix type frame on the water surface and are matched with plastic baskets and the like to culture crops after the crops are mature, the crops are dried for thermal power generation, thereby being widely suitable for seas and lakes. When the invention is implemented, million hectares of fertile farmlands can be obtained, the climate can be regulated, and great economic benefit and environment benefit are contained.

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