Controlled-Environment Greenhouse

Newsletter – June 2013

Agriculture, Fisheries and Conservation Department

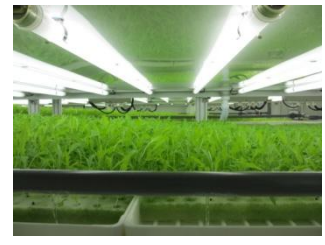
Controlled Environment Hydroponic Research and Development Centre

From the Editor

Overseas research and development of "controlled environment (CE) hydroponics" have reached a mature stage in recent years. The Agriculture, Fisheries and Conservation Department and the Vegetable Marketing Organization (VMO) find that it is now the opportune time to bring in this new technology. As such, a "Controlled Environment Hydroponic Research and Development Centre" has been established in the Premium Vegetable Section (PVS) under the VMO since March 2013 to introduce and demonstrate the related advanced techniques and equipment to the industry and other interested investors. The Centre also aims to upgrade the vegetable production techniques in Hong Kong and bring new opportunities to our agricultural development.

Features of the "CE Hydroponics" Technology

"CE hydroponics" makes use of advanced CE techniques and equipment to maintain optimal indoor conditions for growing vegetables, including the right temperature, humidity, lighting and nutrient solution, as well as moderate levels of oxygen and carbon dioxide. A new hydroponics method is adopted in the cultivation of vegetables. The production process takes place in an enclosed and clean site. No agricultural pesticide is used because the site is pest-free, and the vegetables produced are pollution-free and ready-to-eat. The considerable flexibility in the location and land requirements of "CE hydroponics" operations also allow them to have more choices in production sites and scales.



Setting up of the "Controlled Environment Hydroponic Research and Development Centre"

The Centre is set up at a unit in the PVS, Cheung Sha Wan Wholesale Vegetable Market under the VMO. Having an area of some 250 m^2, the Centre is equipped with a preparation room, a packing room, a cultivation room, as well as an air shower room for staff members entering the cultivation room. Inside the cultivation room, hydroponic baby leaves are grown in multi-layered vertical cultivation racks, which provide a total production area of about 504 m^2. The setting up of the Centre is as follows:

(1) Site formation works

(2) Fitting of heat insulating panels

(3) Installation of an air shower room

(4) Installation of indoor air-conditioning and lighting as well as major piping and wiring

(5) Laying of a floor protection film

(6) Fixing of the frame and electric circuit for the cultivation racks

(7) Testing of the production system

(8) Setting up of the Centre completed

Concluding Remarks

Not affected by weather or season, the "CE hydroponics" technology enables the steady production of safe and quality vegetables in an all-weather manner. This production mode is conducive to meeting the continuous demand of the market and offers more choices to consumers who are looking for safe and quality vegetables. In the next issue, we will take a look at the production of hydroponic baby leaves in the Centre.

AFCD Home Page:
http://www.afcd.gov.hk

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