

# SUSTAINABLE HIGH-YIELD PRODUCTION IN THE ULTRACLIMA GREENHOUSE

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**A new greenhouse concept has been developed by greenhouse constructor Kubo based on five pillars: High production, maximum food safety, minimal energy and water consumption, and optimum yield. The first UltraClima greenhouse, set up at Houweling Nurseries in California, became the world's first commercial greenhouse to harvest more than 100 kg of tomatoes per m<sup>2</sup> on a large scale.**

The UltraClima greenhouse is claiming an energy-efficient investment for growers, resulting in maximum production of a higher quality. Three speakers, Robert Keijzer, Sebastiaan Zwinkels (both from Kubo) and Barend Löbker (Vortus Greenhouse Consultants) explained the principle of the UltraClima greenhouse and the importance of controlling all greenhouse environmental factors for crop growth and making a contribution to sustainable cultivation.

## Principle

The UltraClima greenhouse is a semi-closed greenhouse where the outside air is let in through a mixing chamber in the side-walls, controlling the greenhouse environment to the desired temperature

and humidity. The controlled air is distributed in the greenhouse via double air tubes under the crop gutters. Overpressure and a reduced number of window openings are designed to keep insects out of the greenhouse, reducing the need for pest control.

Air can also be circulated in the greenhouse, reducing the need for CO<sub>2</sub> dosing as well. The architects of the new greenhouse claim a yield increase of 20% due to higher light and CO<sub>2</sub> levels, a 15-35% lower energy consumption and a 25-50% lower CO<sub>2</sub> use. Crop production can become independent of outside conditions: Thanks to the complete climate control, 'the plant is in charge' and the greenhouse provides all that the crop requires.

## Many hectares

Consultant Barend Löbker from Vortus pointed out that crops need the right combination of light, temperature, CO<sub>2</sub> and humidity. He stressed the need to 'Let go the traditional growing method' and 'Read your plant'.

Kubo's UltraClima greenhouse has already been realised in various large scale greenhouse operations within the last four years, including Howelings Nurseries in California, Wholesum Harvest and Windset Farms in the US, others in the South of France, Turkey and Australia, and recently at Van der Kaaij in the Netherlands.

[Partner in this HortiSeminar: Kubo](#)