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Symposium:

Plant control by LED light

Thursday 19 October, 2017

Forum building, Droevendaalsesteeg 2, Wageningen, The Netherlands

LEDs provide exciting possibilities to modulate spectrum and direction of light, to control instantaneously light intensity, and to decouple lighting from heating. This allows not only to control growth, development and yield of plants, but also to control quality, disease resistance and last but not least to save energy.

Several growers have already installed LEDs in their greenhouses and it is assumed that the coming years the use of LEDs will increase exponentially. Different forms of city farming such as plant factories or vertical farming attract a lot of attention. Many city farm initiatives pop up around the world. All these systems have in common that they want a full control of the production of horticultural crops by the use of LED lighting.

After a successful one-day symposium in 2015 about Plant control by LED light, we got many requests to organise a next version of this symposium. The 2017 symposium will include presentations from several researchers from universities and research organisations. They will present the latest insights from scientific research on control of plant production by LED light. There will also be an extensive discussion with companies active in city farming.

This symposium is open to everyone who is interested in the use of LED lighting for production of plants in horticulture. We expect that a nice mix of researchers, advisors and private companies will participate and that it will be good place for networking.

The symposium is organised by Wageningen University (Chair Group Horticulture and Product Physiology) and the Campus of Wageningen UR is the location for this meeting.

The maximum capacity of participants is 225. So don't wait too long with registration.

Hope to meet you in Wageningen

Leo Marcelis

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Programme

9:00 Registration (coffee or tea)

10:00 Opening by Leo Marcelis (Wageningen University and Research, The Netherlands)

10:10 Carl-Otto Ottosen (Aarhus University, Denmark)
The LEDs in colour – can we use specific colour combinations in the greenhouse industry to control ornamentals and herbs

10:55 Sarah Courbier (Utrecht University, The Netherlands)
Modulation of plant defence against pathogens through the use of LED lighting

11:20 Coffee/Tea

11:50 Habtamu Giday (Wageningen University and Research, The Netherlands)
Interaction between light spectrum and temperature in control of compact plants

12:15 Marie-Christine van Labeke (Ghent University, Belgium)
Long-term effects of red- and blue-light emitting diodes on leaf anatomy and photosynthetic efficiency of ornamental pot plants

12:40 Lunch

13:40 Haris Ouzounis (Wageningen University and Research, The Netherlands)
Response to LED spectra in tomato depends on the genotype

14:05 Lieve Wittemans (Research station for vegetable production, Belgium)
Challenges and possibilities for artificial lighting in the cultivation of greenhouse vegetables

14.30 Anja Dieleman (Wageningen University and Research, The Netherlands)
Additional far-red light affects tomato crop yield: experiences and explanations

14.55 Coffee/tea

15.25 Sander Hogewoning (Plant Lighting B.V., The Netherlands)
Controlling morphology of tulips with LED-light

15:50 Panel discussion about vertical farming with contributions from several companies: Philips, Urban Crops, Here, There and Everywhere, GrowX, StaayFoodGroup

16.50 Drinks, snacks

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Poster presentations

During the breaks of the symposium you can visit posters presenting a selection of the research on LED lighting performed at the Horticulture and Product Physiology group of Wageningen University.
Posters will be on display in the corridor of Floor 2 (next to entrance of lecture room), where you can discuss the results with the researchers.
Note that coffee, tea, lunch and sponsor booths are on the ground floor.

The following posters will be presented:

Elias Kaiser, Jeremy Harbinson, Ep Heuvelink, Leo Marcelis
Natural fluctuations in light intensity decrease photosynthesis: how clever climate management can help

Faline Plantenga, Melpomemi Siakou, Sara Bergonzi, Ep Heuvelink, Christian Bachem, Richard Visser, Leo Marcelis
Regulating potato flowering and tuberisation with light spectrum and timing

Arian van Westreenen, Jochem Evers, Niels Anten, Saskia van Wees, Jantineke Hofland-Zijlstra, Leo Marcelis
More roses for less: Balancing between crop growth, fungal diseases and energy use in greenhouses

Dorthe Larsen, Julian Verdon, Ernst Woltering, Céline Nicole, Jarno Mooren, Rob Schouten, Leo Marcelis
Quality and shelf life of arugula baby leaves as affected by spectral composition from LED light during cultivation

Qianxixi Min, Leo Marcelis, Ernst Woltering
The effects of short-term pre-harvest lighting on the postharvest performance of lettuce.

Rachel Schipper, Pieter de Visser, Ep Heuvelink, Leo Marcelis
Interlighting: Enlightening ad- and abaxial photosynthesis

Yongran Ji, Liying Gao, Jarno Mooren, Leo Marcelis, Ep Heuvelink
Far-red induced change of assimilate partitioning in tomato

Evelien van Tongerlo, Wim van Ieperen, Anja Dieleman, Leo Marcelis
Growth, development and photosynthesis in Phalaenopsis

Sharathkumar Malleshaiah, Wim van Ieperen, Leo Marcelis, Ep Heuvelink
Flowering in chrysanthemum

Priscilla Malcolm Matamoros, Leo Marcelis, Wim van Ieperen
Effect of LED Light on plant-water relations

Fee: Fee for participating in this symposium is 70 euro (fee includes lunch)

Registration: send the Excel registration file to Leo.Marcelis@wur.nl and make payments as indicated on the registration file.

Contact: Leo Marcelis (Leo.Marcelis@wur.nl); convenor of the symposium and head of the chair group Horticulture and Product Physiology at Wageningen university