



BILBERRY

Botanik Tagung 2024, Workshop 3, Monday, 16th of September 2024, 12:45 AM – 1:45 PM

Plant Lighting and Energy Efficiency

To what extent can a light spectrum influence growth and development of plants?

The presentation will introduce an LED lighting system with multiple spectra and a control software application that enables research on photobiology of plants. Aspects of energy efficiency in LED lighting systems will also be addressed.

Workshop Content

Plant Photobiology

- Sunlight spectrum variations
- Influence of individual light colors on growth and developments of plants
- Photosensitive components of plants and light signals interpretation
- Light transmission through leaves and significance of far-red frequencies
- Trials with dozens of light spectra for improvement of crop quantity and quality

Energy Efficiency of LED lighting system

- Optimal spectra for individual types of plants and phases of growth
- Management of heat produced by LED diodes
- Minimisation of light losses with conservation of light intensity homogeneity

Bilberry Essentials control software application

- Adaptive dimming
- Single, three or multichannel LED lamps
- Spectrometer for light quality real-time measurement and adjustments
- Sunset-sunrise options
- Clustering of lamps

Target group

Plant photobiology researchers and scientists cultivating plants under supplemental lighting

Speaker

Dr. Krzysztof Dobrynin

Co-owner and CEO of Bilberry, lighting solutions for plant cultivation & research

Protein chemistry and Plant photobiology expert

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