Special Issue

Light Requirements of Agricultural Crops

Message from the Guest Editors

Light and its quality strongly influence plant growth and photosynthesis, and thus affect productivity, plant shape, the color of the leaves, and even the production of secondary metabolites. Traditional farming is extremely climate- and location-dependent, which makes it difficult to grow food without relying on costly shipments from other regions. Lighting provided by electric lamps, especially LEDs, is increasingly being employed in the production of agricultural crops grown in controlled environments. LED technologies have opened up many new opportunities in efficient and effective spectral and intensity control that have never been seen before. The construction of modern lamps and control systems have enabled vertical farming technologies to be developed or the testing of new plant varieties in climate-controlled conditions to be undertaken. Achieving sufficient quantity, daylight, and quality of light are among the most significant objectives in agricultural research when aiming to match plant requirements with cost-effective yields.

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