

Special Issue

Impact of Light on Horticultural Crops

Message from the Guest Editors

Light is an essential factor for the growth and quality of horticultural plants and its effects depend upon parameters such as duration, intensity and quality. It is an energy source for photosynthesis as well as a signal triggering plant photomorphogenesis and physiological, biochemical and molecular responses. However, solar light strongly differs between winter and summer conditions, with excess light in open field cultivations imposing severe stress on plants, especially during summer months, while supplementary light sources are implemented in greenhouse crop production to complement natural light when it is insufficient. On the other hand, artificial lighting is used as the sole lighting source in plant factories and nurseries. In order to enhance sustainability and profitability, light must be studied and efficiently applied within horticultural crop production. Novel technologies such as light-emitting diodes, new transparent greenhouse covering materials, photoselective nettings, growth chambers and plant factories showcase the critical role of light interacting with plants from the level of seed germination to growth rate, product quality and postharvest storage.

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