

# MICROGREEN PRODUCTION UNDER DIFFERENT LIGHT INTENSITIES - PRELIMINARY STUDY

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Microgreens are a simple and easy way of consuming human health related beneficial phytochemicals in a concentrated way. As indoor plant production technologies are becoming affordable and widely applied, knowledge about grow light recipes shows a rapid increase. The application of indoor plant production facilities opens new horizons in science. A pre-experiment was set up for testing a newly adopted grow box device at the Department of Agroecology and Organic Farming, MATE in order to test different light environments on the vegetative parameters of cress (*Lepidium sativum* L.), sunflower (*Helianthus annuus* L.) and wheat (*Triticum aestivum* L.) microgreens. Two distances (30 and 60 cm) from a full spectrum LED lighting device were applied with an 8/16 h daily light regime. Height, aboveground weight, leaf and root color were measured; volume and stand density was modelled using a parabolic model. The plant species reacted adversely to the different light intensities, i.e. wheat was less affected, while cress showed increased weight and density with lower PPFD. In contrast, sunflower favored higher PPFD resulting in higher yield and stand density. The L\* values of both microgreen canopies and roots showed some differences among treatments; higher PPFD values enhanced the chlorophyll content of the plants and supported their root development at the same time. Low impacts of the differing light environments were experienced; this might be due to the relatively low PPFD deviations, or the short cultivation time of microgreen plants. The improvement of the experimental environment will be in line with the present experiences.