

LED lights, info treatments boost microgreen preference

January 18 2024, by Jane Cerza



Credit: Unsplash/CC0 Public Domain

Since microgreens entered the market in the 1980s and 1990s, their use has expanded far beyond being a garnish in high-end restaurants. They can now be found in casual dining establishments and private homes.

They are used to add texture and color, as well as for their taste, aroma, and visual appeal.

Most microgreens are grown in greenhouses with supplemental lighting (i.e., [artificial lighting](#) in addition to sunlight). Supplemental lighting usually includes high-pressure sodium (HPS) or [light-emitting diodes](#) (LEDs). HPS is the most common type of supplemental lighting, while LEDs are becoming more common.

A new study published in *HortScience* examines consumer preference and willingness to pay (WTP) for microgreens grown with LED lighting compared with HPS lighting and sunlight in the presence of different amounts and types of information. The researchers have found that negative information harms WTP, and positive information has little to no impact on WTP. The study also examines how other attributes (i.e., price, location produced, production type, location purchased) impact WTP.

As the use of LED lights becomes more common, it is important for producers and retailers to identify and understand how information impacts consumer preference and WTP. Since negative information can decrease preferences for microgreens grown with LED lighting, it is important for marketers to know how to counter this negative information. Other negative information about LED lights that is important to address is how LED lights have increased [light pollution](#).

Some popular press articles suggest that the new excess in light is endangering ecosystems and altering humans' biochemical rhythms. If LED lighting is perceived negatively due to [light](#) pollution in neighborhoods, this could adversely influence preference for microgreens (and potentially other vegetables/fruits) produced under LED lights. The research results give validity to consumers' turning on LED lighting given the significant impact of negative information of

preference within the results.

Another aspect that is important to understand is that consumers will more readily pay a much higher price for microgreens sold in a farmers' market than microgreens sold in a supermarket. This can have an effect on pricing seen in these different locations. It is also seen that organic microgreens are not preferred to conventional microgreens. This information can be beneficial to farmers deciding what production practices to use.

Finally, the work finds that microgreens grown in California are not preferred to microgreens grown in Mexico or locally. This may help a producer decide whether microgreens are worth producing in their area.

The information gained from this study can help producers better understand whether they should produce microgreens, and if they do, where they should focus their market and what type of labels should be considered. This study also provides a better understanding of what the use of LED lights could mean for their production and marketing.

According to one of the authors, "The research was conducted in order to better understand how consumers' views on different plants/foods (in this case [microgreens](#)) would be changed with varying information (positive and negative) [information](#) treatments."

More information: Jocey Ricks et al, Consumer Preference for Microgreens in the Presence of LED Lights and Information Treatments, *HortScience* (2023). [DOI: 10.21273/HORTSCI16948-22](https://doi.org/10.21273/HORTSCI16948-22)

Provided by American Society for Horticultural Science

Citation: LED lights, info treatments boost microgreen preference (2024, January 18) retrieved 27 April 2024 from <https://phys.org/news/2024-01-info-treatments-boost-microgreen.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.