

# Microgreen study shows health benefits

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Red cabbage microgreens (front) and mature red cabbage. Credit: Stephen Ausmus

"Microgreens" are tender young plants grown from the seed of certain herb, vegetable, and grain crops that can be clipped at the stem and eaten fresh within 2 weeks of germinating.

Some chefs have touted the taste, texture, color, and delicate appearance of microgreens, adding them to soups, salads, sandwiches, and main dishes. Microgreens can also contain more nutrients than full-grown plants. Red cabbage microgreens, in particular, have garnered attention for their potential to help protect against chronic diseases like [cardiovascular disease](#), a leading cause of death in the United States.

"Although microgreens, such as those from [red cabbage](#), have been reported to possess more nutrients [than mature plants] and are perceived to be 'healthier,' no known study has been conducted to evaluate whether consumption reduces [cardiovascular disease risk](#) factors," according to Agricultural Research Service (ARS) chemist Thomas Wang and his co-authors in the December 2016 issue of the *Journal of Agricultural and Food Chemistry*.

To learn more, Wang and colleagues with ARS in Beltsville, Maryland, and the University of Maryland-College Park conducted a study in 60 young mice.

They fed each mouse one of six diets: low-fat, high-fat, and with or without mature or microgreen red cabbage. Both types of cabbage were freeze-dried and fed in amounts equivalent to 200 grams (about 1 cup) of vegetables per person per day.

Among the results:

- Mice on high-fat diets containing either type of red cabbage had lower levels of blood-cholesterol and triglycerides associated with liver inflammation than mice on high-fat diets without the vegetable.
- Both forms of red cabbage (mature and microgreen) helped the mice gain less weight from their [high-fat diets](#) than their vegetable-free peers.

- Mice on diets with red cabbage microgreens had lower levels of "bad" ([low density lipoprotein](#)) cholesterol than mice on diets with mature red cabbage. Perhaps not surprisingly, mice on low-fat diets were healthiest of all groups.
- Red cabbage microgreens had more polyphenols and glucosinolates than mature red [cabbage](#). Both are "phytonutrients" thought to confer antioxidant, cholesterol-lowering, and anti-inflammatory properties when consumed.

"Although microgreens have more polyphenols and glucosinolates, we did not demonstrate that these phytonutrients are the active compounds that led to the health benefits observed in [mice](#)," says Wang. How these microgreen components actually benefit the health of humans remains to be determined, he adds.

Provided by Agricultural Research Service

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