

White bread helps boost some of the gut's 'good' microbes

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White-bread lovers take heart. Scientists are now reporting that this much-maligned food seems to encourage the growth of some of our most helpful inhabitants—beneficial gut bacteria. In addition to this surprising find, their study in ACS' *Journal of Agricultural and Food Chemistry* also revealed that when looking at effects of food on our "microbiomes," considering the whole diet, not just individual ingredients, is critical.

Sonia González and colleagues note that the bacteria in our guts, or our microbiome, play an important role in our health. When certain populations of bacteria drop, people become more prone to disease. One of the most effective ways to maintain a good balance of the microbes living in our guts is through our diets. To figure out what dietary

ingredients promote helpful bacteria, several studies have looked at the effects of individual fibers and probiotics. But few researchers had investigated the role of polyphenols, which are common in much of what we consume—spices, teas, fruits and vegetables—or how polyphenols and fibers together help balance our [gut microbes](#). González's team wanted to fill that gap.

To do so, they asked 38 healthy adults questions about their diets and figured out which bacteria were present in the participants' stool samples. Their analysis revealed that pectin, a compound in citrus fruits, lowers the levels of some [helpful bacteria](#). This is contrary to previous research on pectin alone. The researchers suggest that pectin interacts with other substances in oranges, leading to this unexpected effect. Their most novel finding, they said, was that white bread boosted *Lactobacillus*, a group of [beneficial bacteria](#).

More information: Pilot Study of Diet and Microbiota: Interactive Associations of Fibers and Polyphenols with Human Intestinal Bacteria, *J. Agric. Food Chem.*, 2014, 62 (23), pp 5330–5336. [DOI: 10.1021/jf501546a](#)

Abstract

Several studies have addressed the use of dietary fibers in the modulation of intestinal microbiota; however, information about other highly correlated components in foods, such as polyphenols, is scarce. The aim of this work was to explore the association between the intake of fibers and polyphenols from a regular diet and fecal microbiota composition in 38 healthy adults. Food intake was recorded using an annual food frequency questionnaire (FFQ). Quantification of microbial populations in feces was performed by quantitative PCR. A negative association was found between the intake of pectins and flavanones from oranges and the levels of *Blautia coccoides* and *Clostridium leptum*. By contrast, white bread, providing hemicellulose and resistant starch, was

directly associated with Lactobacillus. Because some effects on intestinal microbiota attributed to isolated fibers or polyphenols might be modified by other components present in the same food, future research should be focused on diet rather than individual compounds.

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