

# Hop leaves—discarded in beer brewing—have substances that could fight dental diseases

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Beer drinkers know that hops are what gives the drink its bitterness and aroma. Recently, scientists reported that the part of hops that isn't used for making beer contains healthful antioxidants and could be used to battle cavities and gum disease. In a new study in ACS' *Journal of Agricultural and Food Chemistry*, they say that they've identified some of the substances that could be responsible for these healthful effects.

Yoshihisa Tanaka and colleagues note that their earlier research found that antioxidant polyphenols, contained in the hop leaves (called bracts) could help fight cavities and [gum disease](#). Extracts from bracts stopped the bacteria responsible for these dental conditions from being able to stick to surfaces and prevented the release of some [bacterial toxins](#). Every year, farmers harvest about 2,300 tons of hops in the United States, but the bracts are not used for making beer and are discarded. Thus, there is potentially a large amount of bracts that could be repurposed for dental applications. But very few of the potentially hundreds of compounds in the bracts have been reported. Tanaka's group decided to investigate what substances in these leaves might cause those healthful effects.

Using a laboratory technique called chromatography, they found three new compounds, one already-known compound that was identified for the first time in plants and 20 already-known compounds that were found for the first time in hops. The bracts also contained substantial

amounts of proanthocyanidins, which are healthful antioxidants.

Provided by American Chemical Society

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