

Making dog food more delectable by analyzing aromas

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Dogs aren't known for being picky about their food, eating the same kibble day after day with relish. However, owners of pampered pooches want their pets to have the best possible culinary experience, especially

for those rare finicky canines. Now, researchers reporting results from a pilot study in ACS' *Journal of Agricultural and Food Chemistry* have identified key aroma compounds in dog food that seem to be the most appealing to canines.

For dogs, palatability depends on a food's appearance, odor, taste and texture—just as it does for people. Previous studies have suggested that odor is especially important for dogs. Some scientists have identified volatile compounds in [dog food](#), but not much is known about how specific aroma compounds influence how readily the dog eats the food. Maoshen Chen and colleagues wanted to identify the key aroma compounds in six dog foods and correlate the compounds with dogs' intake of the foods.

The researchers began by feeding six adult beagles one of six foods for one hour each and determining how much the dogs ate. The intake of three of the foods was two to four times higher than that of the other three foods. Using mass spectrometry, the researchers found that 12 volatile aroma molecules were correlated, either positively or negatively, with the beagles' intake of the six foods. Then, the researchers added each aroma compound to an odorless food and gave the beagles a choice between food containing one of the compounds and the odorless food itself.

From these experiments, the team determined that the dogs preferred food containing (*E*)-2-hexenal (which humans associate with an unpleasant, fatty odor), 2-furfurylthiol (sulfury, roasted, smoky odor) and 4-methyl-5-thiazoleethanol (meaty odor). In contrast, the dogs didn't care for food containing (*E*)-2-octenal (a slightly different unpleasant, fatty odor). Although other dog breeds and more subjects should be tested, these results could help dog food manufacturers formulate more palatable chow, the researchers say.

More information: Ming Yin et al. Characterization of the Key Aroma Compounds in Dog Foods by Gas Chromatography–Mass Spectrometry, Acceptance Test, and Preference Test, *Journal of Agricultural and Food Chemistry* (2020). [DOI: 10.1021/acs.jafc.0c03088](https://doi.org/10.1021/acs.jafc.0c03088)

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