

Scientists identify the flavour that helps us eat less

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Full of flavour? Scientists say umami, the flavour that gives food its deliciousness, could help in regulating appetite.

The flavour that gives food its "deliciousness" could also be telling us information about its protein content, according to new research by the University of Sussex.

Umami (meaning 'deliciousness' in Japanese) is recognised as our fifth sense of [taste](#) – the others being sweet, salty, sour and bitter – and is actually the chemical glutamate, a protein found in meat (it gives bacon its tastiness), and other savoury foods such as Marmite, parmesan cheese and shiitake mushrooms.

A study, based on the psychology research of Dr Una Masic during her doctorate at the University of Sussex, together with her supervisor Professor Martin Yeomans, reveals that it is also the flavour that helps us to feel full.

Professor Yeomans says: "We know from past research, including previous work at Sussex, that foods with a high [protein content](#) tend to satisfy your appetite better than do carbohydrate and fat-rich foods. So if protein is satisfying, and umami signals the presence of protein, in this study we asked whether the presence of [umami taste](#) itself reduced subsequent appetite."

The current study, published in the *American Journal of Clinical Nutrition*, looked at the effects of two common food additives on levels of hunger.

Monosodium glutamate (MSG) and inosine monophosphate (IMP), which are known to produce the flavour of 'umami', were added to both a low-energy version of a spiced carrot soup and the same soup with energy added covertly (as a mixture of [protein](#) and carbohydrate).

Dr Masic then tested how hungry people (26 healthy volunteers) felt and how much they consumed at a later meal.

The soups enhanced with umami-taste were found to reduce the amount subsequently eaten by participants when compared to the same soup without added umami. But the umami manipulation did not influence the experience of hunger, so participants ate less but did not feel hungrier as a consequence of eating less if the soup had the umami taste.

The effects of umami were stronger when consumed in the higher-energy soup. This research suggests that umami taste can reduce appetite, at least in some conditions, and so umami-enriched foods may

help people with weight concerns to regulate their appetite.

Professor Yeomans says: "How umami achieves this effect is less clear, and we will be looking for future funding to help us answer that question."

More information: Una Masic and Martin R Yeomans. "Umami flavor enhances appetite but also increases satiety."

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Provided by University of Sussex

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