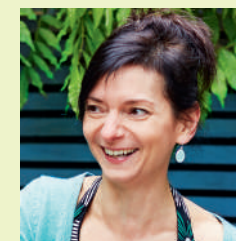


# Why we need to learn to



## bitter food

Chicory, sprouts, kale... Do you hate them? There's a genetic reason for your distaste, but there's also growing evidence that learning to appreciate the bitter flavours you instinctively avoid could be beneficial for your health. Susan Low leafs through the latest research



We cry bitter tears, and a bad experience leaves a bitter taste in our mouths. Unhappy memories are recalled with bitterness and if remorse had a taste, it would probably be reminiscent of soggy sprouts. Of the five tastes – sweet, sour, bitter, salty and umami – bitterness, for many people, is the least loved.

Yet we dismiss bitter flavours at our peril; we have a lot to lose if we put cauliflower in the corner. For one thing, research suggests that certain bitter-tasting foods, particularly leafy green vegetables (rocket, some lettuce, spinach, kale, collard greens, chicory, swiss chard...) and cruciferous vegetables such as broccoli and cauliflower contain phytochemicals (chemical compounds produced by plants) that appear to lower the risk of cancer and cardiovascular disease. There is also growing evidence that eating a diet rich in these veg can help slow cognitive decline.

Despite such a generous serving of good reasons to eat them, many of us turn up our noses at a plateful of greens because of their bitter taste. There's a good reason why plants produce those bitter compounds in the first place: it's nature's way of putting us off. As researcher Dr Adam Drewnowski from the University of Washington writes: "Many people don't like to eat vegetables – and the feeling is mutual."

### CHALLENGE YOUR PALATE

Plants protect themselves against being eaten by producing a range of phytochemicals that taste bitter, acrid or astringent, which act as a red flag to the human palate and brain. London-based gastroenterologist Dr Saliha Mahmood Ahmed says, "Human beings are programmed to be averse to bitter flavours. When we were hunter-gatherers, bitterness indicated things that could be harmful to us, so it was instinctive to dislike bitter tastes."

There's a genetic component, too, says Professor Charles Spence, an experimental

psychologist at the University of Oxford. "I think this is one of the few aspects that's genuinely genetic. Newborn babies, chimpanzees and rats all stick their tongue out to make an ejection response when a bitter taste is applied to their tongue. The opposite, a liking response, occurs with sweet-tasting foods," he says. "Intriguingly, there seem to be more compounds that elicit a bitter response than for the other tastes: salty sour, sweet, umami..."

Leaving that bitterness-rejecting instinct unchallenged can have a detrimental effect on our health – including gut health. As Dr Ahmed says: "Scientists are doing a lot

**"Prebiotic foods are like Miracle-Gro for the bowel, and many of those foods are bitter... If you can improve your repertoire and eat more bitter compounds, you're doing wonders for your gut health" Dr Saliha Mahmood Ahmed**

of work looking at prebiotic foods, which are like Miracle-Gro for the bowel. Prebiotics provide the fibre that the gut then breaks down and uses to produce chemicals that are beneficial to health. Many prebiotic foods are bitter: things like chicory and brassicas. If you restrict yourself from eating bitter flavours, there's a huge quantity of prebiotic vegetables that you miss out on, but if you can improve your repertoire and eat more of those slightly bitter compounds, you're doing wonders for your gut health."

Sue Reeves, a registered nutritionist from the University of Roehampton, points out that eating bitter greens can be beneficial to the immune system, too. "Some of the chemical compounds that produce the bitter tastes in food are known to have antioxidant activity that can help support the immune system. They're also good for the gut because they stimulate digestion, increasing the digestive enzymes that help with nutrient absorption." →

health matters.



“The secret to making bitterness palatable is to create a masterpiece of a mouthful, balancing the bitterness with sour, acid, sweetness, saltiness, umami or a little chilli heat”

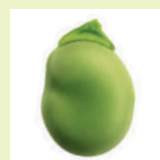
VALENTINA HARRIS

## What makes food taste bitter?

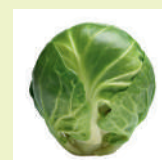
“We use one word to describe the taste but the stimuli that we sense as bitterness on the palate come from a range of phytochemical compounds,” says registered nutritionist Sue Reeves. “Many compounds can make food taste bitter.” Here are some examples:



**Caffeine** found in tea, coffee and chocolate



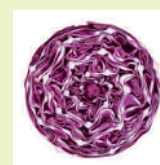
**Catechins** found in tea leaves and broad beans



**Glucosinolates** mainly found in cruciferous vegetables of the brassica family. These include brussels sprouts, cabbage, cauliflower, broccoli and kale



**Polyphenols** found in dark chocolate, green tea, beans and chicory



**Flavonoids** found in grapefruit, kale, onions, parsley and red cabbage

### THE COOK’S JOB: MAKING BITTER TASTE BETTER

Learning to love bitter flavours can do wonders for your cooking, too. Chef and food writer Valentina Harris, an expert on Italian food, says, “Bitter flavours have a particular quality that sharpens the senses and allows other flavours to balance out. There’s the added factor of the health benefits, but you need to understand about seasoning to make bitter flavours sing.”

Her secret? “It’s to create a masterpiece of a mouthful, balancing the bitterness with sour/acid, sweetness, saltiness/umami and/or a little chilli heat to make the bitterness palatable, rather than so fierce that it overwhelms the dish.”

For those who really can’t abide bitter flavours, there is hope, says Dr Ahmed. Her advice is to take it slowly. “As a cook, my advice would be to challenge yourself and not restrict yourself; try not to think, ‘Ooh, that’s bitter, I’m not going to try it.’ One trick is to add a bit of sweetness to the bitter as that pairing is utterly delicious. It’s also useful to move from subconscious eating to conscious eating: to make a

conscious decision to incorporate bitter and develop a tolerance for it.”

### CHANGING TASTES

There are signs that appreciation of bitter tastes is on the rise. The fact that sweatshirts emblazoned with the single word ‘Kale’ are worn by millennials is just one clue. Another is the growing interest in craft beer. Some brewers tend to fetishise about the amount, provenance and bitterness of the hops used to flavour their beers. (The brewing industry uses a scale, the International Bitterness Units, to indicate how bitter a beer is likely to taste.)

Chocolate is sold with an ever-higher cocoa content, and Waitrose reported that sales of the bitter Italian aperitif Aperol, used to make the classic bright-orange sundowner, the Aperol Spritz, rose 148 per cent year-on-year in 2021. Sales of vermouth, made with tongue-torturingly bitter wormwood, are on the rise, too.

So, there are signs that bitter tastes are growing in popularity – something for which our guts will thank us. There’s a reason to love that cauliflower... ④

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