

The secret to the best seasonal hot chocolate? It's all in the chemistry!

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For Gregory Limburn, the joy of hot chocolate is the ‘secret science’ that goes into creating it. Credit: University of Southampton

Hot chocolate can trace its roots to the bygone days of the Mayan civilisation and Aztec empire. The drink was originally made from the fermented nibs of the 'food of the gods' - the cocoa or cacao plant—and

consumed during sacrificial rituals.

Nowadays, however, the drink is more closely associated with a cosy night in or festive celebrations like Christmas. According to Gregory Limburn, Chemistry Ph.D. candidate at the University of Southampton, the real joy is the 'secret science' that goes into creating the sumptuous beverage.

Gregory is so convinced that his mixture of dark [chocolate](#), [whole milk](#), sugar, cinnamon, cocoa powder and chilli powder actually produces the perfect mug of hot chocolate that he's created a blog featuring a short film to show everyone how it's done—with the aid of resources found in the University's Chemistry lab.

"Hot chocolate has evolved over the centuries into a drink which we now most readily associate, somewhat surprisingly given its history, with a cosy night in or a wander through the warming embrace of a festive market," says Gregory. "The scientific name for the genus of the cacao plant, Theobroma, which derives from 'food of the gods' in Ancient Greek, further alludes to its historical religious significance."

"The drink was also believed to empower one with the strength of the gods and, as such, was included as basic rations for the Aztec army," Gregory continues. "Those wishing to increase their libido also turned to the drink; the mooted aphrodisiacal properties of the divine beans have, however, since been attributed to the [chemical compound](#), theobromine. As a chemical cousin of caffeine, it shares its, albeit weaker, stimulating effect.

"Sugar arrived relatively late to the cocoa scene," he concludes. "It may well be this excess of energy provided what we now associate with times of abundance, contentment and celebration."

Gregory's full blog 'The Chemically Perfect Hot Chocolate' - and, perhaps more importantly, his full recipe and demonstration of how to create the perfect mug of hot chocolate—is available [here](#).

Provided by University of Southampton

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