SECTION 4

In today's lecture, I'm going to talk about Monosodium Glutamate, or MSG, as it's more commonly known. Now, MSG as you probably know, is a flavour enhancer which is used particularly in Chinese and Japanese cooking. Today I am going to explore why it is so popular in these cuisines and, more importantly, how does it enhance the flavour of food? *Q31*

The main reason why MSG is more commonly used in Japanese meals is tradition. For many thousands of years the Japanese have incorporated a type of seaweed known as ***kombu*** in their cooking, as they discovered it had the ability to make food taste better. But it wasn't

until 1908 that the ingredient in ***kombu*** which was responsible for the improvement in flavour was actually discovered to be glutamate by scientists working there. *Q32*

From 1908 until 1956, glutamate was produced commercially in Japan by a very slow and expensive means of extraction. It was in 1956 that the speed of the process was improved, and industrial production increased dramatically and still continues to increase to this day. *Q33* In fact, hundreds of thousands of tonnes of MSG are produced all over the world today.

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So what exactly is MSG? Well, Monosodium Glutamate contains seventy-eight point two per cent glutamate, twelve point two per cent sodium and nine point six per cent water. *Q34* Glutamate is an amino acid that can be found naturally in all protein-containing foods, erm, so this includes food such as meat and cheese. *Q35 Q36*

It is widely known that Chinese and Japanese food contains MSG but many people don't seem to be aware that it is also used in foods in other parts of the world. For example it is found in commercially made Italian pizzas, in American fast food and in Britain MSG is used in things like potato crisps.

So, how exactly does MSG work? Well, in the Western world, we commonly talk of four 'tastes', and I'm sure you're all familiar with the concepts of sweet, sour, bitter and salt. Well, in 1908, Kikunae Ikeda identified a fifth 'taste'. And it is thought that MSG intensifies this *Q37* naturally occurring 'taste' in some food. It does make perfect evolutionary sense that we should have the ability to detect or taste glutamate because it is the amino acid which is *Q38* most common in natural foods.

John Prescott, an associate professor at the University of Chicago, suggests that this fifth taste serves a purpose just as the other tastes do. He suggests that it signals to us the presence of protein in food, in the same way that sweetness indicates that a food contains energy-giving carbohydrates. Bitterness, he says, alerts us of toxins in the food, while sourness warns us of *Q39* spoilage and saltiness signals the presence of minerals. *Q40*

So, what else do we know about this fifth taste . . .