



Seven Wonders of the Microbe World

History of Beer

COMM

From Black Death to Cholera, and Syphilis to Typhoid, Microbes have been responsible for some of the world's most devastating diseases.

But at the same time, these tiny, single cell organisms, have aided our survival on earth - helping us produce some of our favourite foods.

COMM

Though humans didn't realise it at the time, microbes were being put to work over ten thousand years ago - in ancient Egypt - to create one of our most popular beverages.

Today, Beer production is a multi million pound industry – it's drunk by over a billion people worldwide – who consume more than one hundred and thirty three billion litres of beer each year - yet if wasn't for microbes – there'd be no beer ...

CHARLES

Beer is a very ancient drink. In fact we think it first emerged about 6,000 BC and we find evidence of this in ancient Egyptian hieroglyphs. And we know the Egyptians took their beer extremely seriously. Some of the hieroglyphs show that they gave names like Joybringer and Heavenly to their beer.

COMM

Like beer, the Egyptians also enjoyed their wine – again highly dependent on our friendly microbes.

PAULA

One inscription found in a tomb made me laugh. "Give me eighteen cups of wine, 'cos I want to drink until drunkenness, my insides are like straw."

I guess that it was not a very good idea to deny an Egyptian a drink.

COMM

Some historians have speculated that the ancients stumbled across the power of microbes to create beer when a piece of bread, which contains the yeast needed to start the fermentation process, fell into a vat of soaking grain.

Left to sit and heat up, the soaking grain germinated, producing tiny sprouts – the perfect food for the yeast enzymes - and as they munched away they produced a kind of alcoholic gruel, which made life a whole lot better.

CHARLES

Egyptian beer was very different from the beer that we know. It had about 10% alcohol content so it was quite strong. And we know what it was made of because Egyptians were very methodical at writing down how they made their beers. In the 1980s people were able to recreate the beer of Tutankhamen based on hieroglyph information and it was a very different beer – actually rather unpleasant taste because it was a mixture of hops and honey and all sorts of ingredients that are quite alien to us, in terms of a beer.

COMM

And their methods of drinking beer might get some strange looks in a modern English pub. In some tomb paintings Egyptians are seen drinking their beer from ceramic cups through tubes,

somewhat like drinking with a straw. The perforated straw filtered out the solid bits from the drink.

COMM

So how do you brew the perfect beer?

PAULA

Different kinds of yeast have different optimum environments, and produce different kinds of beer. The bottom-fermenting lager yeast prefers lower temperatures and ferments more slowly. The top-fermenting ale yeast, gathers at the top of the fermenting vessel and prefers higher temperatures and works quite vigorously.

COMM

You can choose your preferred taste with different types of malts grains and hops or even the addition of fruits and spices ...

But after that it's all down to the yeast microbes