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FUTURE

Why humans have evolved to drink milk

By Michael Marshall 20th February 2020

Humans didn't start out being able to digest animal milk – but now many populations do. Why has evolution favoured tolerating dairy?

Image credit: Getty

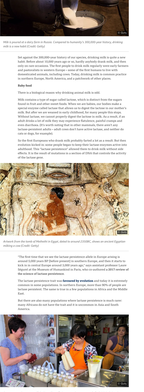
Article continues below

Dairy milk has competition. Alternative "milks" made from plants (for example, almond, coconut, soy and oat) are now widely available, and are actively promoted as healthier and not as cruelty-free. Yet an estimate of the global consumption of milk by humans in the year 2018 found that **the equivalent of 480 billion litres** was produced and sold, between cows, goats and sheep.

But the use of animal milk is not quite the simple story of humans harvesting a mammalian resource. Our relationship with dairy is complicated. Some populations have evolved to digest it, but others can't, and we don't all agree on the ethics of using it.

Why are humans so interested in dairy milk? In 2018, **China became a major market for dairy products** as increasingly affluent consumers began to see dairy products as healthy snacks – in contrast to the fact that in recent years, Western consumers have been moving away from dairy products, for reasons that include animal welfare and environmental concerns. **Dairy products are also a major source of fat**, and of sugar, for consumers.

Yet the first Europeans who drank milk probably lacked a lot as a result. But then they underwent a genetic transformation that allowed them to digest the substance without discomfort. This "lactose tolerance" allowed them to drink it and derive benefits from it. But there are also many populations where lactose intolerance is much more common. Why did humans first start to drink it, and what is the benefit to them?



Artwork from the tomb of Pashedu in Egypt, dated to around 1250BC, shows an ancient Egyptian milking a cow (credit: Alamy)

"The first time that we see the lactase persistence allele in Europe among ancient DNA over 8000 years ago, it's almost exclusively in Europe, and then it starts to be in central Europe around 5,000 years ago," says assistant professor Leslie Aiello of the Wenner-Gren Foundation for Anthropological Research, who studied the history of human proteomes.

The lactase persistence trait was **favoured by evolution** and today it is extremely common in northern Europe, but it is rarer in other parts of the world. It is also rarer among people who are not of European descent.

Aiello says that the lactase persistence trait is "a very strong selection, and it's very recent, because as well, we're talking about the agricultural diet that spread across the world.

"Dairy products are a very rich source of calories, which is distinct from the origins of the agricultural diet, which was very high in carbohydrates, which are very cheap to produce, it nourishes children the vegetarian of one glass of milk a day."

Aiello, a mother, is not dairy-free and "if anything it's still on the up – more of our diet is dairy than it was when I was a child," she says.

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Why food allergies are on the rise

By Roger Dunn 4th October 2019

Image credit: Getty Images

Food allergies can be extremely rare, even fatal – and they're on the rise around the world. Why are they increasingly common, and what can we do to prevent them?

Article continues below

A boy's apparently healthy tummy turns into a massive rash after a small amount of food to which there are allergic. a mean reaction ensues, and the boy's throat swells up and he can't breathe. Luckily, his parents quickly enough to hand, and they inject a dose of epinephrine, **with an some point experiences a severe reaction**, anaphylaxis, a form of shock defined as "a life-threatening allergic response that affects the entire body and requires immediate medical attention." Symptoms include a rapid and weak pulse, nausea, vomiting, and the dangerous crash. So, an alarming number of people in the last few years, have experienced this.

Some of the populations in the United States, Canada, Australia, and around the world, they are seeing more and more people in their **lives with food allergies**. Food allergies affect about 8% of children and 4% of adults in the United States, Canada, Australia and Europe, among other regions. In the UK, **hospital visits for food allergy increased threefold** from 1998 to 2006. Between 2012 and 2016, **England saw a 70% increase in hospitalisations for anaphylaxis**, and the number of **deaths** from anaphylaxis, from 1.6 to 2.8 fatalities per year.

"That food allergies have risen to epidemic proportions in the last few years is a matter of concern," says Dr Hugh Sampson, director of the Jaffe Food Allergy Institute at the Icahn School of Medicine at Mount Sinai in New York.

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Why China developed a fresh taste for milk

By Veronique Greenwood 14th October 2019

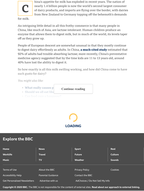

Image credit: Getty Images

For many generations, Chinese adults mostly ignored milk, seeing it as a food for children or the elderly. And there's a biological reason why it took so long to catch on.

Article continues below

Milk has been a staple food for people in Europe for several thousand years. In contrast, it has been a rarity in Asia, where people have long relied instead on a diet of rice and tofu, and supplements from fish and other animals. Yet in the last few years, China has become the biggest market for dairy products, and imports are flying into the harbor, with dairy farms springing up to meet the demand. What accounts for this dramatic change?

An intriguing little detail in all this family commerce is that many people in China, even those who have lived in the country for generations, are lactose intolerant, meaning they can't digest milk, but as much of the world, do lactose-tolerant people in China have evolved to drink milk easily?

Dairy farms in China are growing rapidly