LACTASE PERSISTENCE REVISITED

The lactase genomic domain is the region of the human genome that shows the strongest selection pressure in northwestern European populations and in the Maasai from Kenya (Schlebusch et al. 2013[1]). The peaks of homozygosity for lactase persistence are impressive. The simple interpretation was that the continued ability to digest lactose after weaning constitutes a strong selective advantage for people who have access to milk.

A recent paper by Evershed et al.[2] in Nature, reports that the situation is more complex. They looked at the use of milk in Europe (analysis of milk fat residues in ceramics) and the mutations responsible for the persistence of lactase (ancient genomes) starting from ~7000 years ago and found that the use of milk was widespread also among populations with intolerance to milk. Their interpretation is that positive pressure of natural selection for lactase tolerance became very strong in periods of famine or pestilence, when lactose-intolerant individuals would have been more likely to die.

See also News & Views[3] in the same issue of Nature.

1- https://www.nature.com/articles/ejhg2012199
2- https://www.nature.com/articles/s41586-022-05010-7
3- https://www.nature.com/articles/d41586-022-02067-2