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What did the Romans Eat, and Why?

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Summary

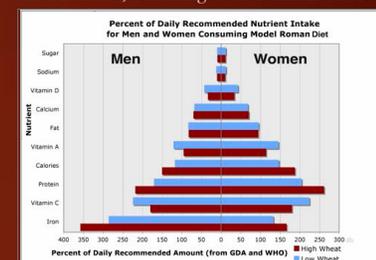
The ancient Roman diet has been discussed and reconstructed in a number of previous studies, but none of them have attempted to fully quantify the nutritional and biological properties of the Roman diet. In this pilot study we combine literary, archaeological, and botanical data in order to uncover both the full list of plant and animal species likely eaten by the ancient Romans and how these specific foods contributed to the overall health of the Roman people. By combining modern Mediterranean dietary data with what we know about the consumption patterns of the ancient Romans, we quantified and reconstructed the nutritional properties of the ancient Roman diet. Based on our research, we suggest that the Roman diet relied heavily on cereals and legumes, which provided most of their caloric and nutritional needs.



Relative Amount of Foods Eaten by the Ancient Romans

Nutritional Properties

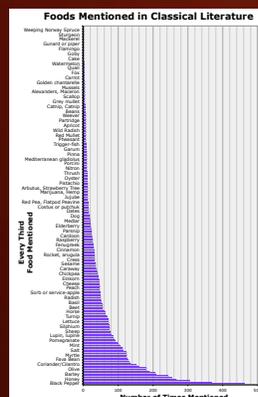
The high proportion of cereals and legumes in the ancient Roman diet provided them with a substantial amount of calories, protein, calcium, and iron. While these foods are deficient in Vitamins A, C, and D, the Romans likely obtained these nutrients via seasonally available fruits and vegetables, though spices may also have played a role in providing these nutrients. Our analysis indicates that their diet was fairly low in vitamin D, sodium, and sugar. The ancient Roman people's high sun exposure and proximity to the sea also had positive health effects, conferring both vitamin D and iodine.



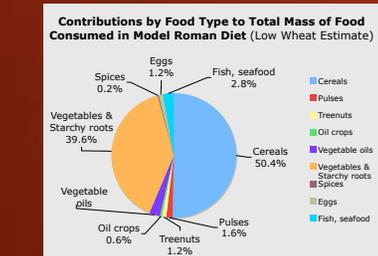
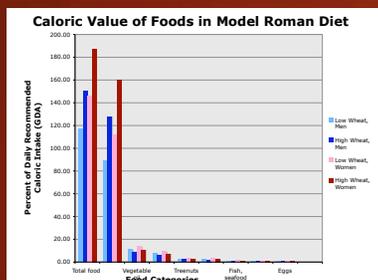
Foods listed in classical Roman literature

Primary Sources

Our study relies on a review of both primary sources and secondary literature discussing the Roman diet, from which we drew a preliminary list of 321 different foods that were likely to have been consumed. Based on this survey, we found that ancient Roman authors mentioned some foods far more frequently than others. This information has been crucial for confirming the types of foods eaten by the ancient Romans.

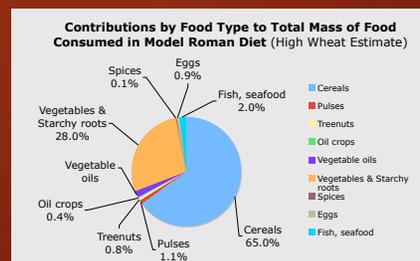


This graph conveys the wide variation in the number of times various foods are mentioned in ancient Roman literature. A comparatively small number of foods are mentioned far more often than the rest.



Composition of Roman Diet

Based on our knowledge of the types of foods eaten by the ancient Romans, we examined floras of Italy and archaeological evidence in order to determine which plant and animal species (both wild and domesticated) they likely ate. The Romans primarily ate cereals and legumes, usually with sides of vegetables, cheese, or meat and covered with sauces made out of fermented fish, vinegar, honey, and various herbs and spices. While they had some refrigeration, much of their diet depended on which foods were locally and seasonally available. Meat and fish were luxuries primarily reserved for the upper and upper middle classes. These results are reflected in the pyramids above.



Methods

We evaluated the ancient Roman diet based on data from the FAO about the amount and proportions of foodstuffs annually consumed by contemporary Mediterranean people. Because the FAO divides diets into categories such as cereals, meats, and vegetable oil, we were able to estimate the relative amount of nutrients the ancient Romans would have gained from each food group by inserting foods from ancient diets rather than from modern ones into the appropriate categories. In addition, since we know the ancient Romans probably consumed between 230 to 330 kg of cereals per year, we adjusted the amount of non-cereal foodstuffs in our model so that it provided the same total amount of food per year for both the high and low cereal consumption estimates.

References

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