How important was wheat in feeding the Roman Empire?

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Wheat was immensely important in the Roman Empire, partly because it was almost the only staple. Barley, which had been important in earlier centuries was going out of fashion, although it still provided food for the poor. It has been suggested that this decline was linked with the use of yeast, which began in late Republican times (in the early 1st century AD) and the transition to leavened bread. Also, many major grains were either not being cultivated around the Mediterranean, or at most were grown sporadically. Others, such as rice and maize were unknown. The Romans at Pompeii, as elsewhere, relied on wheaten bread. Round loaves have survived — 80 in the house of Modestus — divided into eight sections like a modern teacake, and weighing an estimated 500 grams, or a little more. Bread appears in a number of frescoes.

Huge amounts of wheat were needed to feed the Empire. (Provisioning the army was another major logistical problem, but not one immediately relevant to Pompeii.) Italy could not begin to grow enough to provide for Rome, a vast city with a population of perhaps a million. Feeding the city also had an important political dimension: since the Republic, a dole of wheat was given to each adult man who claimed it. When it was not forthcoming, there were serious riots and unrest.

It has been calculated that the dole would have been enough to provide a man with about 3,000-3,500 calories a day, although in practice he would have shared it with his family and, of course, eaten other things. In 2 BC Augustus cut back the number of recipients of the wheat dole to 200,000, which implied importing somewhere in the order of 80,000 tons of wheat per annum for this purpose alone. By the date of the destruction of Pompeii, Rome probably needed close to a quarter of a million tons for its civilian and military population.

The wheat dole, as such, was not distributed in Pompeii, but an interesting frescoe in the House of the Baker shows a well-dressed man, perhaps even wearing a toga, handing something from the piles of loaves around and behind him to two men and a boy standing in front of the counter. It has been argued that on account of the man’s dress — clearly that of a freeman not a slave — this image could record a charitable distribution rather than a simple picture of a baker’s shop.

Harvests were always at the mercy of the weather, and grain yields were very much lower than today: 6 to 1, or, on the very best land, 10 to 1. This can be seen graphically displayed in the fascinating historical beds in the Botanical Gardens in Cambridge. The task of organising the import of wheat from around the Empire was formidable. Buying and transporting the grain was in the hands of private merchants, although closely monitored by the state.

Under the Republic, the authorities tried to find ways of storing grain to avoid famines — one problem being that the type of wheat grown did not have a long shelf life, except under ideal conditions. But by the middle of the 1st century AD, major efforts were being made to forestall crises, building great

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public granaries and increasing state control by importing wheat and oil (which was another basic necessity and sometimes added to the dole) from the vast imperial estates in North Africa.

According to Roman philosopher and politician Cicero, writing in the 1st century BC, Sardinia, Sicily and Africa were the main sources of wheat-growing, but this gradually changed. In the *Bellum Judaicum*, Roman-Jewish scholar Josephus, writing about the time of the destruction of Pompeii, maintained that Africa fed Rome for two-thirds of the year and Egypt for the remaining third. This pattern was to continue with the addition of supplies from the Balkans.

The wheat was transported by ship — as described in the following century by the satirist Lucian in *Navigium* — which was much cheaper and more reliable than by land (although not without problems, as records from the year 62 AD make clear). We have an account of St. Paul’s experiences on a grain ship coming from Egypt late that year, culminating in his shipwreck on Malta, graphically described in the *Acts of the Apostles*, 27-28.

Puteoli was 20 miles from Pompeii and had an excellent natural harbour where the grain ships had traditionally docked. Indeed, it was where St. Paul eventually landed. Efforts had been made, however, to build a new port for Rome at Portus since the one at Ostia was silting up, but in the same year Tacitus mentions 200 ships from the grain fleet sinking in a storm even in port, resulting in more engineering work over succeeding years. This disaster, as well as a fire at one of the major *horrea* or granaries, meant that in 62 AD extra grain had to be imported from Moesia, roughly modern Bulgaria and Serbia.

The arrival of the grain fleet was an event of great importance. Some time around the middle of the 1st century AD, Roman Stoic philosopher Seneca described the delight and relief of great crowds on the dock at Puteoli when the grain fleet finally arrived from Alexandria. It is quite possible that among those present at Puteoli that day were people who would die a few years later at Pompeii.

Puteoli (modern Pozzuoli) — the name comes from the Latin “to stink” — is an on-going reminder of the volcanic nature of the region. It lies in the *Campi Flegrei* (“the Burning Fields”), a 13km-wide caldera that is still very rich in volcanic phenomena, especially at Solfatara, a dormant volcano with fumaroles that give off clouds of steam and and sulfurous fumes (hence “stinking”). In the mid-late 20th century, the ground rose by some 3.5 meters, giving rise to fears that Solfatara would erupt for the first time since 1198.

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