Discovered in 2007 during developer-funded excavations in Bailleul (located in the territory of the Menapiens, a province of Belgic Gaul in what is now northern France), the ‘Villa des Collines’ is a very large rural Roman settlement (4.7 ha), dating from the 1st to the beginning of the 3rd centuries AD. The villa is organised in a ‘classic’ axial plan, characterised by a living part in a quadrangular shape (east side) built in stones and bricks called “pars urbana,” and by an agricultural part consisting of two long ‘legs’ organised around a big court and built on woodposts called “pars rustica.” Plant macrofossil studies were undertaken on remains collected from the site, the aim being to investigate the agricultural organisation of the villa.

Fifty samples were taken by archaeologists from rubbish pits and postholes, including one each from a pond and a cellar. They were all processed by flotation through 1mm and 0.3mm mesh. In total, 18,283 items were recovered (96.6% identifiable). The study revealed a diverse agricultural economy based on cereal agriculture (91% of total items), characteristic of Roman production in Belgic Gaul. The main crop at the site, by a significant margin, wheat with 86% of the identifiable items; this can be further divided into emmer wheat (Triticum dicoccum L.), which comprised 43% of total items identified, and Triticum sp. comprising 42% of this to the total items identified. Hulled barley (Hordeum vulgare L.) with 0.66% of total items makes up the third largest identified species. Legumes are represented by common vetch (Vicia sativa L.) and lentil (Lens culinaris Medik.), with a range of “condiments” also present, including chive (Allium schoenoprasum L.) and onion (Allium cepa L.).

All recovered cereal macrofossils were charred, with three principal plant parts/components identified: spikelets, grains and glume bases. No fragments of straw or rachis were identified, suggesting the first crop threshing was undertaken in the field near the point of harvest. A number of weed species were also identified, with the number of elements recovered relatively significant; however, the distribution of these elements is restricted to few areas at the site, suggesting the possibility that the harvested grains were later sieved or cleaned at Bailleul.

On the first map, those features containing more than 10 identified items are coloured red, with features containing 100 or more identifiable “cereal items” illustrated with a pie chart. In this instance we also count one spikelet as being equivalent to two grains and two glume bases.

What is evident on map 1 is that in the southern part of the villa, the assemblage is dominated by wheat spikelets. Combining this with the archaeological context of both the features and the presence of a cellar (whose archaeobotanical assemblage was largely composed of spikelets - 94%), leads us to the conclusion that spikelets were stored in the this area.

In the northern part of the villa, three areas can be identified: one area, located in the central portion of the leg, where spikelets and grains are present in relatively equal proportions (spikelets 41% of cereal items, grains 49% of cereal items), with glume bases making up the remainder (10% of cereal items). The second and third areas are located either side of this central zone, with the assemblage in each dominated by grains (91% and 96% of cereal items).

Adding again the archaeological context we find that in the central portion of the northern leg furnaces and some evidence of metal working were discovered. This evidence leads us to believe that parching of spikelets was performed in the central area, prior to husking, while a second parching, following husking of the grains and prior to final storage, was conducted either side of this central zone. In addition, it is interesting to note that while the areas utilised for storage seem to be solely dedicated to this practice, the central zone is a true multi-purpose zone, with both metal working and grain preparation taking place.

Synthesising this data on the second site map, we suggest that the composition and distribution of the archaeobotanical material, in particular the presence and distribution of spikelets, grains and glume bases suggests three episodes of crop processing: 1) the crops are threshed near the point of harvest, following which, 2) they are transported to the site (or perhaps several sites?), where they are then sieved and stored as spikelets in the southern part of the villa. The stored spikelets are then 3) parched prior to husking in the central north part of the villa. The grains are then sieved again and stored in the two upper corners of the villa as a fully processed product ready for consumption.

Sabrina Sava, Lauret Gubellini, Joseph Kovack and Aly Vaughan-Williams

Harvest, Processing and Storage: Plant macrofossil analysis of a "classical” villa from Belgic Gaul

Amélie Archeopole

Aly Vaughan-Williams Archaeobotanist