

**Plant remains from the post-medieval cess pits at Broadgate, Crossrail  
(XSM10)**

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ENV/BOT/RPT/

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# 1 Introduction

During excavation 4 environmental samples were taken for the retrieval of archaeobotanical and other organic remains in order to assess their potential to contribute to the interpretation of the features.

## 2 Methods

The samples were processed by flotation, using a Siraf flotation tank, with meshes of 0.25mm and 1.00mm to catch the flot and residue respectively. The residue was sorted by eye for artefacts and environmental material. The flots were sorted in their entirety using a low-powered binocular microscope. The archaeobotanical remains were identified with the aid of the MoLA reference collection and seed identification manuals (Cappers et al. 2006). Plant names follow Stace (1995). Their abundance was estimated on the basis of the minimum number of characteristic plant parts as follows: + = scarce <10 items; ++ = moderate 10-50 items; +++ = frequent 50-100 items; ++++ = abundant >100 items. The ecological characteristics and the habitat requirements of the different species are taken from Clapham *et al.* (1987) and Stace (1995).

## 3 Results

Waterlogged plant remains were abundant in the samples. Low levels of wood charcoal were also recorded. Low levels of mineralised plant remains were also recorded. Mineralisation occurs when phosphates and calcium occur in the same deposit, and is more likely to occur in intermittently wet conditions rather than in conditions with full waterlogging. Cess material is thus commonly found to have become mineralised, as it contains phosphates from urine and faecal matter (Green 1979).

All of the samples represent fills of two cesspits – S118 and S119.

### 3.1 Period 10 - 1 March 1739 to July 1823.

#### 3.1.1 S118

Sample {332} represents the fill [4764] of this cesspit structure. The plant remains assemblage contained low levels of plants that could have been growing near the structure, and may have been washed in by rains or wind. These include elder (*Sambucus nigra*), celery-leaved crowfoot (*Ranunculus sceleratus*) and garden mignonette (*Reseda odorata*). The garden mignonette here is interesting – it is an introduced garden plant and may reflect a garden nearby, as this is not an edible species but is rather grown as an ornamental.

However, the assemblage was dominated by the remains of food plants. Of these, grape (*Vitis vinifera*), blackberry/raspberry (*Rubus fruticosus/idaeus*) and fig (*Ficus carica*) were by far the most numerous. This is often the case in samples with fruit remains from this period as these taxa all have very hardy seed coats and survive very well archaeologically. Figs seeds are also numerous as each fig contains up to 800 seeds and so they can be overrepresented in comparison to other food plants.

Also common were black mulberry (*Morus nigra*), black/redcurrants/gooseberry (*Ribes* sp.) and cherries (*Prunus avium/cerasus*). Less common were plums/bullace (*Prunus domestica*), raspberries (*Rubus idaeus*), strawberries (*Fragaria* sp.), hops (*Humulus lupulus*) and pepper (*Piper nigrum*). Other than pepper, spices may be represented by the mineralised Apiaceae seeds present in the sample. Many common spices are found in the Apiaceae family, such as dill, fennel and parsley and their inclusion in a deposit so dominated by food remains suggest that this is their likely origin.

Low volumes of cereal bran (one of the outer coats of a cereal grain) indicate that cereals were being consumed, and tends to be a good indicator of faecal material as bran is indigestible to humans.

### 3.1.2 S119

Three samples were taken from fills of S119, a cesspit.

Sample {303} was from [3864], a fill of a sump cut into the base of the cesspit. This sample was dominated by remains of food plants. However low numbers of wild plants that may have been growing in or near the feature were also recovered. These include plants that prefer waterlogged or submerged environments such as celery-leaved crowfoots (*Ranunculus sceleratus*) and water-plantains (*Alisma* spp.), but also plants of more marginal or waste ground such as dock (*Rumex* spp.) and white horehound (*Marrubium vulgare*).

The food plant assemblage from [3864] is dominated by grape (*Vitis vinifera*) and blackberry raspberry (*Rubus fruticosus/idaeus*). Less common fruits were cherries (*Prunus avium/cerasus*) and figs (*Ficus carica*). Nut shell was also recorded, with hazelnut (*Corylus avellana*) and walnut (*Juglans regia*) both recorded. Spices are represented by coriander (*Coriandrum sativum*) seeds. Seeds of a *Brassica/Sinapis* type may represent mustard, though equally they may reflect a wild or cultivated Brassicaceae growing nearby.

Sample {304} represents the primary fill of the cesspit, [3849]. Again the sample was heavily dominated by food plant remains, in this case by grapes (*Vitis vinifera*) and figs (*Ficus carica*). Also moderately common were cherries (*Prunus avium/cerasus*), and blackberry/raspberry (*Rubus fruticosus/idaeus*) seeds. This sample was less rich and diverse than the other samples taken from the cesspit, but this can be explained by the small volume (20 L) of the sample.

Sample {301} was taken from [3704], the secondary fill of this cesspit. The plant remains from this sample were dominated by food remains, with fig (*Ficus carica*), grape (*Vitis vinifera*) and blackberry/raspberry (*Rubus fruticosus/idaeus*) again the most numerous of the taxa present. Other food remains include black/redcurrants/gooseberry (*Ribes* sp.), hazelnut (*Corylus avellana*) and mulberries (*Morus nigra*). Also recorded was a seed of medlar (*Mespilus germanica*), quite a rare find archaeologically.

## 3.2 Summary Period 10

The two cesspits under consideration in this period, S118 and S119, contained broadly similar evidence of food plant remains. Dominant in all of the samples were grape, fig and blackberry/raspberry seeds. To some extent taphonomic effects are likely to be a factor in this pattern, as all of these taxa have very hardy seed coats. Fruit remains in general are more likely to survive archaeologically as their seeds are present in the fruit when consumed, while in the case of plants such as vegetables, only the softer leaves and shoots are usually consumed, leading to a common bias in archaeological food plant assemblages towards those plants whose identifiable and hardy parts, such as fruits, and to some degree spices, are utilised in cooking or consumption. The limited suite of remains recovered from

these cesspits may thus be a result of taphonomic factors, though the possibility of limited access to food plants by its users should also be considered.

Many of the food remains present in these samples represent imported foods. Grapes and figs in particular are likely to have been imported from the continent, probably as dried fruits or in preserves such as jams. The pepper from cesspit S118 is also evidence of importation, in this case from India. Pepper remained a common spice into the 18th and 19th centuries, though the choice of spices available was increasing, with new spices from the new world, such as allspice and chilli, becoming more popular. Other spices in the assemblage, coriander, and the possible mustard (identified as *Brassica/Sinapis* spp.) could have been grown in a kitchen garden, which is also where the hops in sample {332} may have come from, as well as many of the fruits present in the samples and the garden mignonette as discussed above.

## 4 References

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