

Analysis of Carbonised Plant Remains

Ticknick Park, Dublin 18

15E0469

By Penny Johnston



Executive Summary

This report details the plant remains that were found in two samples taken during excavations at Ticknick Park, Dublin 18 (15E0469).

The first sample was taken from a cremation deposit, and the plant remains included a cereal grain and a possible tuber. These are quite common archaeobotanical finds in deposits associated with cremations and prehistoric inhumations, a pattern that is quite widespread in north-western Europe.

The second sample was taken from the fill of a linear feature that is likely to be associated with medieval field systems. The plant remains included oat and barley grains; these are quite common in medieval deposits and are particularly common in the early medieval period. The absence of wheat in the sample is notable. It differentiates this assemblage from other possible early medieval samples examined from nearby Laughanstown and Brenanstown (15E0471). This may be indicative of an early date for the deposit.

1. Introduction

Excavations at Ticknick Park and Laughanstown, Dublin 18 (15E0469) were conducted by David McIlreavy for Irish Archaeological Consultancy as part of a pre-development mitigation strategy at the Cherrywood Strategic Development Zone.

A total of two soil samples were examined to assess their archaeobotanical content. Charred seeds were found in both samples. The quantities of seeds found varied, from very small amounts (two items) to moderate quantities (97 items). This report outlines the methodology used to process and analyse the samples and presents the results of archaeobotanical investigations.

2. Methodology

The samples were taken as bulk soil on site and were processed by flotation, work that was carried out by Irish Archaeological Consultancy. The retained floated material (the “flot”) was dried and stored in sealed plastic bags. A low-powered binocular microscope (magnification x4.8 to x56) was used to sort the flots and to identify the plant remains found. Identification was carried out in consultation with a cereal identification manual (Jacomet, 2006). Taxonomic order and nomenclature broadly follows Stace (1997).

3. Results

A total of two samples from Ticknick Park (15E0469) were analysed (see Table 1). The samples were taken from a cremation pit burial, C8 (S3) and the fill of a linear feature, C95 (S22). Both of the samples contained charred seeds, although the quantities recovered varied, with just one cereal grain and a possible tuber found in the cremation deposit, while almost 100 items were recovered from the fill of the linear feature.

Cremation deposit C8 (S3)

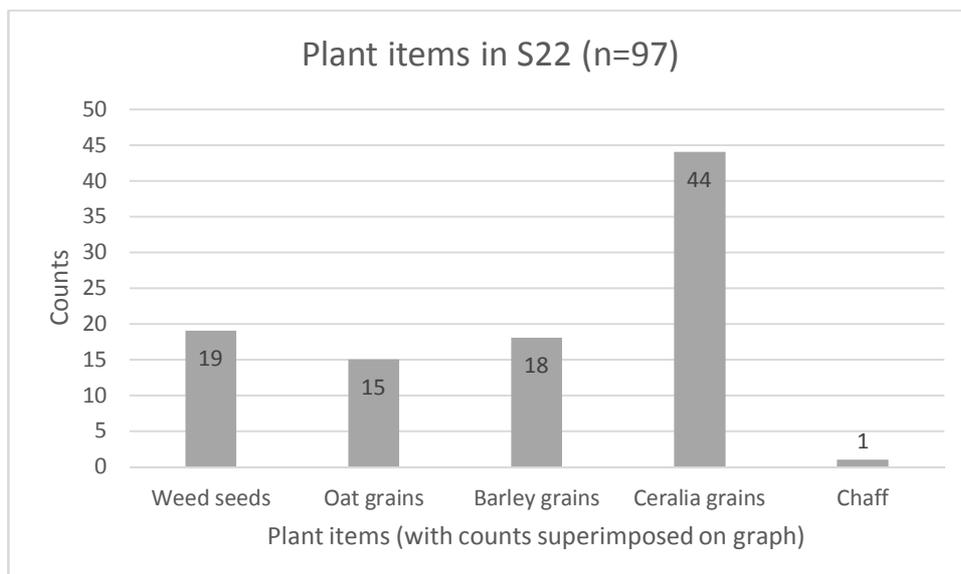
One grain of oat or barley and one possible tuber was recovered from the fill of the cremation pit. Cereal grains are found in small but consistent amounts in deposits associated with cremations and they may well have been intentional inclusions (see Johnston, 2007, pp. 74-76). Likewise, tuber fragments are often found in association with cremated bone deposits or with burials. For example, they were found in burials at Ballyveelish, Co. Tipperary (Monk, 1987) and in several cremation deposits from excavated sites, including sites in the east such as cremation deposits at Rath East, Co. Wicklow (Johnston, Cummins, & Daly, 2003) and Grange, Baldoyle (04E0704), (Johnston, 2006). In the Ticknick Park example, this was a small possible tuber that probably came

from the root systems of a grass, such as oat grass (*Arrhenatherum elatius*). It is possible that these are accidental inclusions, or that they may have been used as tinder that was preserved at the edge of the cremation pyre (where the heat was not too intense, and the plant material was therefore not burnt away to ash). However, these tubers are in fact often found with cremation and burial deposits, a pattern that is replicated across many parts of Europe where it has been reported from Gallo-Roman burials, Iron Age burials and Viking Age cremations (Cooremans, 2007, p. 12). Preiss et al. (2005, pp. 370-371) have suggested that these are not incidental, and that their significance lies in their food value, whereas others suggest a symbolic value (Viklund, 2002, cited in Cooremans, 2007. p.12).

Fill of linear feature/ditch C95 (S22)

The plant remains from the linear feature included 97 plant items, including cereal grains (mostly oat and barley) and common weed seeds of arable fields. These are often included in charred cereal deposits because they grew amongst the cereals and were harvested with them. They are gradually removed from the crop during processing. The fact that these weed seeds are found in this deposit suggests that the crop here had not been fully processed before it was carbonised. Weeds are found in most early medieval archaeobotanical assemblages (see McCormick, Kerr, McClatchie, & O’Sullivan, 2011, p. 55).

Figure 1: Plant remains from C95 (S22) Ticknick Park, Dublin 18 (15E0469)

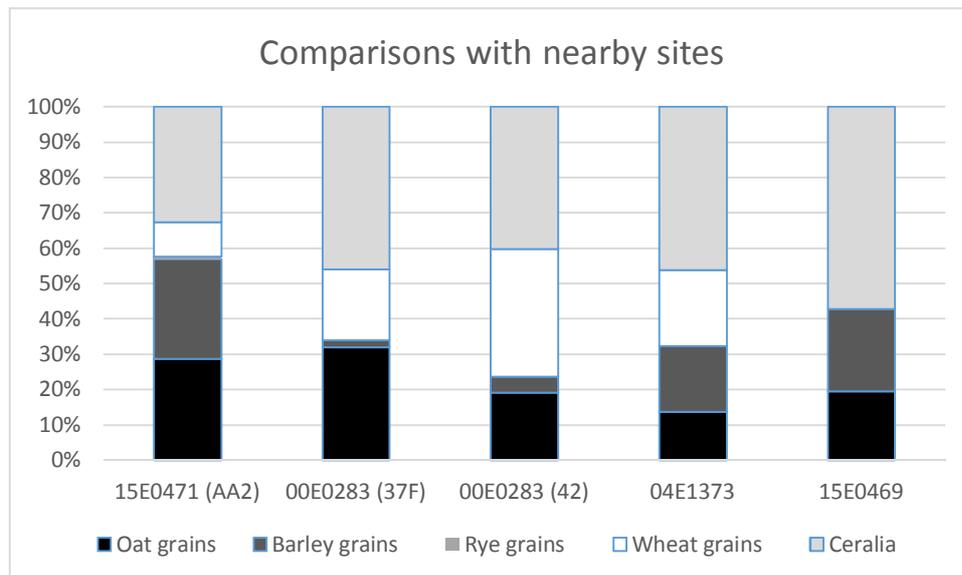


A fragment of silver was found in samples from another section of this ditch and this feature is likely to be medieval in date, associated with a field system further to the

west (Area 2). Oat and barley are often the most common cereal types found in early medieval samples from Leinster. When the Early Medieval Archaeology Project examined cereal production, they found that barley was dominant in 50% of the sites in Leinster, while oat was dominant in more than 30% of the sites (McCormick et al., 2011, p. 54). However, the absence of wheat from these samples is interesting. McClatchie examined plant remains from 82 early medieval phases of activity in Leinster and found that, while wheat was not usually the most common cereal type found, it was usually present and was found in 80% of the assemblages examined (McCormick et al., 2011, p. 52).

The absence of wheat in this samples is notable when it is compared to plant remains from nearby Laughanstown and Brenanstown (15E0471), and from earlier excavations in the region nearby as shown in Figure 2 (the comparison sites are detailed in Johnston, 2018).¹ Wheat becomes gradually more common in the areas around Dublin during the medieval period, in particular in areas associated with the Anglo-Normans (see Murphy & Potterton, 2010, p. 306; also Dillon & Johnston, 2009, pp. 110-111) and the pattern at Ticknick Park *may* indicate that it is from the earlier part of the medieval period.

Figure 2: Plant remains from Ticknick Park (15E0469) compared to nearby medieval sites



Both oat and barley crops were widely grown and used in Ireland throughout the medieval period. They were versatile crops that were often used as both human food and animal fodder. Both grains were also used for malting and brewing beer, although

¹ Note, however, that the moderate quantity of cereal grains in the Ticknick Park (<100 grains) means that it is not a good comparison for the other sites, where >1000 cereal grains were often counted.

barley was more commonly used than oat for this purpose (Murphy & Potterton, 2010, pp. 309-314).

4. Recommendations for storage and retention

The samples from Ticknick Park (15E0469) currently comprise two flots (with all the identifiable plant material already extracted) and two small glass tubes (12 mm diameter x 50 mm length) of identified plant material. The carbonised seeds are chemically inert, and do not require curation in the near term. Storage and retention of the tubes of extracted plant remains is recommended for verification and for future research purposes (such as follow-up radiocarbon dating, as well as isotopic and DNA research).

The flots are currently stored in sealed plastic bags. These will be sent to Dr Lorna O'Donnell, who will analyse and identify the charcoal, and who will make further recommendations for storage and retention of the flots.

5. References

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Table 1: Charred plant remains, Ticknick Park, Dublin 18 (15E0469)

Context	Sample	Contextual detail	Uncharred seeds	Description of sample contents	Material for C14
8	3	AA 5 (3) Cremation pit burial	Absent	1 cereal grain and 1 fragment of a possible tuber. Some stalk material was also present.	
95	22	AA 6 (2) Fill of a linear feature	Absent.	Relatively rich sample of cereal grains with some chaff and weeds. Some encrusted and fragmented cereals present. Preservation moderate to poor.	2 hulled barley grains extracted for C14 (not possible to distinguish whether the grains were straight or twisted)

Table 2: Identified charred plant remains, Ticknick Park, Dublin 18 (15E0469)

Context	8	95
Sample	3	22
Indeterminate seeds from the goosefoot family (Chenopodiaceae)		4
Corn Spurrey (<i>Spergula arvensis</i> L.)		1
Probable Sheep's sorrel (<i>Rumex cf acetosella</i> L.)		2
Indeterminate seeds from the Knotgrass family (Polygonaceae)		1
Wild radish (<i>Raphanus raphanistrum</i> L.) capsule		1
Indeterminate seeds from the Legume family (Fabaceae)		1
Cleavers (<i>Galium aparine</i> L.)		1
Nipplewort (<i>Lapsana communis</i> L.)		2
Oat grains (<i>Avena</i> L. species)		12
Oat grain apical ends (<i>Avena</i> L. species)		2
Possible oat grains (cf <i>Avena</i> species)		1
Hulled barley grains (<i>Hordeum vulgare</i> L.) indeterminate type		11
Barley rachis internodes indeterminate type		1
Possible barley grains (cf <i>Hordeum vulgare</i>)		7
Oat/barley grain (<i>Avena/Hordeum</i>)	1	
Indeterminate cereal grains (Ceralia)		44
Indeterminate weed seeds		6
Possible tuber, indeterminate type	1	
Totals	2	97