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# 7 Plant Remains by Mhairi Hastie

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## 7.1 Methodology

### 7.1.1 Sample strategy and processing

Soil samples for environmental analysis were taken from a representative selection of all ditch, pit and drain features. Seventeen samples were subjected to a system of flotation and wet-sieving in a Siraf-style flotation tank. The floating debris was collected in a 250- $\mu$ m sieve and, once dry, scanned using a binocular microscope. Any material remaining in the flotation tank was wet-sieved through a 1mm mesh and air-dried. This was then sorted by eye and any material of archaeological significance removed.

### 7.1.2 Sample assessment

The archaeobotanical evidence was restricted to charred plant remains as ground conditions on the site were not suitable for preservation of organic remains by waterlogging. The majority of samples contained low concentrations of carbonized cereal grains, weed seeds and charcoal. In addition, a number of samples contained the carbonized remains of legume seeds.

The following report concentrates on the botanical element of the samples. Identifications were made with reference to the modern comparative collection of Headland Archaeology and seed atlases (Berggren 1969; Berggren 1981). Botanical nomenclature generally follows that of the *Flora Europaea* (Tutin *et al.* 1964–80).

## 7.2 Results

### 7.2.1 Distribution

Carbonized plant remains were present in the majority of features excavated, albeit in low quantities. Plant assemblages were dominated by cereal grains, primarily wheat and barley. Some were in good condition but much was abraded. The highest concentration of cereal remains (over 300 identifiable grains) was recovered from context 019, the upper fill of medieval Pit 020.

### 7.2.2 Composition

**Cereal and chaff remains** Grains of wheat (*Triticum* sp) and hulled barley (*Hordeum vulgare*) were the most frequently encountered elements. Both bread/club wheat (*T. aestivo-compactum*) and

spelt (*T. spelta*) were identified. One barley rachis internode was recovered from context 019. Grains of oat were also present in five of the samples. The lemma and palaea remained attached to one oat grain recovered, from context 039 (fill of Pit 040), and this was identified as being black oat (*Avena strigosa*).

**Wild taxa** Small quantities of seeds and fruits of wild taxa were recovered from a number of the samples. The taxa present are typical ruderal/segetal species of Northern Britain, ie species of agricultural fields and disturbed ground, including knotgrass (*Polygonum* sp), buttercup (*Ranunculus* sp) and dock (*Rumex* sp). High concentrations of seeds of vetch/tare (*Vicia/Lathyrus*), indicative of grasslands, were also recovered from contexts 007 and 026, the deposits in Well 008.

**Other economic species** A number of charred horse/broad bean seeds (*Vicia faba*) were recovered from the two fills of Well 008 (contexts 007 and 026).

## 7.3 Discussion

### 7.3.1 Roman features

Low concentrations of carbonized plant remains were recovered from Ditches 031, 030 and 044, Well 008 and Drain 016. The plant remains consisted of a mixture of cereal grain, weed seeds and an assemblage of legume seeds including horse bean. The cereal remains included spelt, bread/club wheat, hulled barley and oat. Evidence from other Roman military and non-military sites across Britain indicate that these cereal species were being cultivated during the Roman period (Boyd 1988; Dickson 1989; Huntley & Stalisbrass 1995); the plant assemblage from Cramond is therefore typical of this period.

Low quantities of abraded grain were recovered from context 038, the upper fill of the Antonine defensive Ditch 031. The presence of cereal remains within the upper fill could indicate that some domestic activity was being carried out whilst the ditch was still partially open.

Contexts 007 and 026, the deposits within Well 008, contained low levels of abraded cereal grain and a small assemblage of seeds of horse/broad bean (*Vicia faba*). The same deposit also contained a large number of carbonized and highly abraded seeds of vetch/tare (*Vicia/Lathyrus*). Vetch/tare seeds were the dominant plant remains recovered from the well, with over 120 identifiable seeds present. Both species are common elements of grasslands and arable fields.

Legume seeds are rarely recovered from Scottish Roman sites, the principal evidence for their use coming from samples taken from a waterlogged ditch fill at Bearsden (Dickson 1989). The waterlogged remains from that site included seeds of pulses, legumes and herbs, indicating that these food types were being transported across the Roman Empire. Documentary sources also indicate that beans and lentils were considered an important part of the Roman army diet. Written records indicate that horse/broad beans were either made into bean meal that was used in the making of bread, or cooked into a pottage that was fortified with pieces of meat or fish (Alcock 2001). There is little evidence, however, to indicate how the beans were prepared once harvested.

It is most likely that the carbonized horse beans present in the well fill at Cramond are the remnants of food charred either during food preparation or drying/roasting. Unlike grain, it is not necessary for beans to be dried prior to processing and they are therefore less likely to become charred. However, beans could have been dried in order to allow long-term storage or may have been roasted prior to consumption or milling. For instance, beans were recovered from a Roman drier at Odell villa, Bedfordshire, suggesting that the beans were being deliberately dried (Alcock 2001). The vetch/tare seeds recovered with the beans may be the remains of weed seeds that were contaminants of the bean crop.

### **7.3.2 Medieval features**

Carbonized plant remains were recovered from medieval Pits 020 and 040. The upper fill of Pit

020 (context 019) contained the largest single plant assemblage recovered from the whole site, with over 600 grains recovered. The most abundant element was cereal grain, with bread/club wheat, hulled barley and oat present. The quantity of grain is such that it seems likely that some sort of accidental burning occurred, either during corn-drying or through conflagration of a store, and the spoiled corn was dumped into the pit.

The mixture of cereals present is typical of Scottish medieval assemblages but the high percentage of bread/club wheat compared to oat and hulled barley is unusual. Hulled barley and oat were the more commonly cultivated cereals during this period in Scotland. The high proportion of bread/club wheat may be a reflection of the close proximity of the site to East Lothian and Fife where bread wheat was more readily cultivated and would in turn suggest a possible high status for the site.

### **7.3.3 Features of unknown date**

Carbonized plant remains were recovered from two features of unknown date, Pit 025 and Deposit 017. In both cases the amount of plant remains recovered was very sparse. The assemblage was predominantly cereal grain, with both wheat and barley present. This concentration of charred remains would be consistent with low-levels of re-worked material from the topsoil being incorporated into negative features and there is little evidence to suggest that the charred remains are related to the use of these features.