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Summary

Cereal bran was extracted from two latrine samples of different periods from the Roman fort at Annetwell Street, Carlisle. It was chemically treated and compared with modern reference material. Wheat/rye bran was the most commonly recovered from both samples although a small amount of both barley and oats were found. Some quantity of corncockle was present in the later material in spite of its poisonous nature. This sample also produced some material identified as a Brassica sp. seed coat. More work is essential to demonstrate if the apparent differences between period 3 and period 5 latrine material are significant. The results shed light upon the Roman military diet which has not been identified elsewhere in Carlisle where, particularly, whole grain identifications have been predominantly of barley albeit carbonised.

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A short note on cereal bran from the Roman fort at Annetwell Street, Carlisle.

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During routine botanical analysis of bulk samples (Huntley, 1989) and specialist samples (Huntley and Goodwin, in prep.) large quantities of cereal bran were noted in some. These were generally from pits and considered to be full of faecal material. Much of the carbonised grain found in the bulk samples was barley with relatively small amounts of wheat preserved. The whole caryopses of cereals, where identified, in the specialist samples, were commonly of oats or brome grass. A short time was therefore allocated to identifiying some of this bran to gain an impression of the cereals being eaten by the Romans.

For this pilot study only two samples were analysed. The first was from context 2397.3 (bulk sample 131) which was a latrine in building [2366] during period 5. The sample consisted largely of bran fragments and the accompanying seed assemblage was dominated by fig pips, sloe stones and seeds of fat-hen. The material was considered to be almost exclusively faecal in origin.

The second was from a layer in another pit, context 5598.1 (bulk sample 263). This was an internal pit in room 1 of building [3858] during period 3. Its seed assemblage was also dominated by fig pips with poppy seeds almost equally abundant, and it too was considered to be largely faecal in origin.

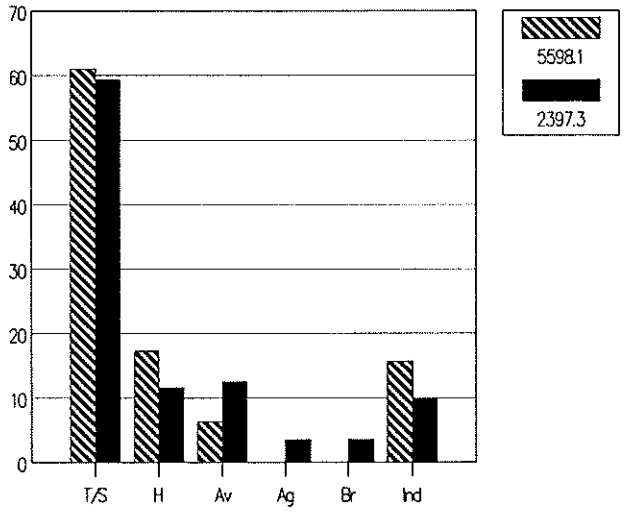
Small quantities of the fine fraction (0.5-1.0mm) from both samples were shaken with c.10% hydrochloric acid to disaggregate the material. This was washed in distilled water and pieces of bran hand-picked. These were mounted in water on microscope slides and identified under a compound microscope. Some of the fragments had to be teased apart since the various layers of periderm were still joined. Obviously there is an element of subjectivity in which pieces of bran were selected but a range of material was deliberately chosen.

About one hundred pieces of tissue were identified from each context.

Reference slides of modern cereal bran were prepared by grinding modern bread wheat, rye, cultivated oats and 2-row barley grains individually in a pestle and mortar and then boiling the resultant coarse flour in 10% hydrochloric acid for a few minutes. This mixture was washed and the bran mounted in Harris' water mounting medium. This method is similar to that recommended by Dickson (1987).

Results:

Figure 1: Cereal bran from Annetwell Street



y axis = percentage; T/S = Triticum/Secale, H = Hordeum, Av = Avena, Ag = Agrostemma githago, Br = Bromus sp., Ind = indeterminate

As the histograms show, in both samples wheat/rye bran was the most abundant. Some pieces were clearly attributable to wheat but most apparently lacked the diagnostic transverse cells. With more experience this identification may be refined. Barley and oats were present in both contexts and may have formed a deliberate part of the diet rather than just being contaminants of wheat/rye flour. Both contexts also had some unidentifiable pieces of epidermis - some of

these may have been thick pieces of bran, others from different species, again experience may help.

The period 5 context also contained several fragments of *Agrostemma githago* seed testa suggesting that corn-cockle was not completely separated from the cereal grain. The seeds of this plant are large and generally removed by hand at an early stage of grain cleaning because they are quite poisonous. Material from Chester (Wilson, 1975) and Bearsden (Dickson *et al*, 1979) also produced large amounts of this taxon. In addition, fragments of a *Brassica* sp testa were recovered. A wide range of seeds of modern species of *Brassica* was not available for comparison but, suffice to say, that for example turnips, cabbage and mustard are all cultivated plants of this genus and likely to have been consumed during the Roman period. These plants can also, however, be weeds of cultivated land.

In conclusion, this preliminary study demonstrates that wheat/rye were the most commonly eaten cereal(s) in spite of evidence apparently to the contrary from the 'whole grain' scenario. There is also the suggestion that a wider variety of faecal matter found its way into the latrines of period 5 than period 3 which may indicate a changing diet for the Roman military.

References:

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Wilson, D.G. (1975) Plant foods and poisons from Medieval Chester. Journal of the Chester Archaeological Society, 58, 57-67.