

Grain impressions in early-Saxon pottery from Mucking, Essex.

Second interim report.

This report will be restricted to the presentation of the results from the analysis of a second group of grain impressions. A more general discussion concerning the interpretation of grain impressions and a description of the species involved, is already given in my first report of 4 February 1981. A final report will be presented when all material is analysed.

A total of 108 early-Saxon sherds were presented to the writer; 96 of these contained grain impressions. In addition casts from impressions in 7 early-Saxon sherds were provided, plus 13 loomweights and 7 prehistoric sherds. Only three of the loomweights and three of the prehistoric sherds contained impressions of grain or seeds. Also some carbonised grains from a C-14 sample were analysed. The results are given in the tables 1, 2, 3 and 4. In Appendix 1 the identifications are listed for each individual sherd (the early-Saxon ones only).

Three main fabric groups could be distinguished in the Saxon sherds (A. J. Mainman, pers. comm.). The first group consists of a fine sandy fabric, often with organic tempering in varying amounts. The second group is a fabric densely packed with organic temper. The third group is a sandy fabric with a greater range of grit size than the first group. The analysis of the pottery is at the moment being carried out by Ms. A. J. Mainman. No final results are available yet, but the general impression at the moment is that the pottery from these three groups was locally produced.

The proportions of the various species of crop plants do not vary significantly for the different pottery groups, and it was therefore decided not to give the results for each group separately, but to present them together (in table 1).

The organic tempering in the fabrics could not be identified, but it is the impression of the writer that especially in the second fabric group this would certainly have contained chaff. Unfortunately, except for 15 fragments of internodes and glume bases of barley and wheat, the chaff could not be identified.

Table 1 : Grain impressions in early-Saxon sherds.

Hordeum, central floret	79
Hordeum, lateral floret	19
Hordeum, indet.	12
Hordeum vulgare, var. nudum	3
Triticum aestivum	7
Triticum dicoccum/spelta	2
Triticum spelta	2
Avena sativa	7
Avena fatua	7
Avena sp.	12
Hordeum sp. internode fragments	8
Triticum aestivum, internode fragments	2
Triticum dicoccum/spelta, internode fragments	1
Triticum dicoccum, glume base + internode	1
Triticum spelta, glume base	1
Triticum dicoccum/spelta, glume base	1
Triticum sp., glumes	1
Polygonum convolvulus	1
indet.	22
	<hr/>
total	188

Table 2 : Grain impressions in loomweights.

Hordeum vulgare, var. nudum	1
Avena sp.	1
indet.	1
	<hr/>
total	3

Table 3 : Grain impressions in prehistoric sherds.

Hordeum, central floret	1
Triticum dicoccum/spelta, glume base	1
Chenopodium sp.	5
indet.	1
	<hr/>
total	8

Table 4 : Carbonised grains from C-14 sample (Mucking 2243x1008, Pit 2/2).
(Harwell 2630 \pm 70 BP).

Hordeum, central floret	2
Hordeum, lateral floret	8
Hordeum, indet.	2
Triticum dicoccum/spelta, grains	38
Triticum dicoccum/spelta, glume bases	9
Triticum sp., fragments	31
Gramineae, indet.	1
total	91

Though these results are more varied, they corroborate in general the conclusions of the first report. Barley is again the dominant species. Again only a few twisted grains, i.e. grains from lateral florets were found. However, contrary to the conclusion of the first report, this indicates that Hordeum distichum, hulled two-row barley was the dominant species, and not Hordeum hexastichum, hulled six-row barley, as this would require an index of 2 : 1 for the ratio of lateral florets against the central ones. The presence of Hordeum distichum compares well with the evidence from the Netherlands, where two-row barley is first encountered in Dorestad.

Again only few impressions of wheat grains were found. A remarkable find was the impression of two Triticum spelta grains, still enclosed in the spikelet and attached to this a rising internode, so characteristic for spelt wheat (GH 45 (4) 4/4 sherd 1).

Rather more oat grains were found in this group of sherds, and this time from both the cultivated oat, Avena sativa, and the wild oat, Avena fatua. In the first report mention was already made of the likelihood of oat being cultivated in Mucking. Oat grains can only be reliably identified to species level when the flower bases are present. In the case of their absence the grains are denoted as Avena sp.

Also some internode fragments and glume bases were found of barley and wheat, probably indicating the use of threshing remains for tempering. One glume base with an internode pointing downwards, was identified as Triticum dicoccum. One glume base with a width of 1.3 mm. at the level of spikelet-articulation could be identified as belonging to Triticum spelta.

One seed of Polygonum convolvulus (black bindweed) was found. This plant is commonly found on arable land and in disturbed places. Impressions of five seeds of Chenopodium sp. were found in one prehistoric sherd.

The C-14 sample (680 b.c.) consisted predominantly of wheat grains. Unfortunately they could not be identified with certainty to either Triticum dicoccum or spelta. The general shape of the grains is 'dicoccum-like'. The measurements of the width of the glume bases range from 0.75 - 0.9 mm., which is, unfortunately, exactly at the highest end of the emmer range and at the lowest end of the spelt range. Thus they don't provide conclusive evidence. As spelt wheat is most commonly found in later contexts, we are here probably dealing with Triticum dicoccum. The barley grains in this sample belong to the hulled six-row barley, Hordeum hexastichum.

Sheffield, 21 July 1981

drs. M. van der Veen

Dept. of Prehistory & Archaeology

The University

Sheffield S10 2TN

Appendix 1.

List of the identifications for each of the early-Saxon sherds.

<u>sherd number</u>	<u>species</u>
43 (1) 3/4	Triticum cf. aestivum
43 (2) PH	Triticum aestivum
45 (3) 3/4	Hordeum, central floret
45 (4) 4/4 sherd 1	Triticum spelta, two grains in spikelet Hordeum, indet. Triticum sp. glumes.
45 (4) 4/4 sherd 2	Triticum aestivum
46 (x) 1/4	Hordeum, indet.
46 (2) 4/4	Hordeum, lateral floret
49 (1) 1/4	indet.
49 (3) 2/4	Hordeum, central floret
49 (3) 4/4	Hordeum, central floret
51 (2) 3/4	Hordeum sp., internode fragment Hordeum, central floret Hordeum vulgare, var. nudum.
51 (5) 1/4	Hordeum, central floret
51 (5) 3/4	Hordeum, central floret indet.
52 (3-4) 3/4 sherd 1	Hordeum, lateral floret
52 (3-4) 3/4 sherd 2	2x Hordeum, central floret
52 (6) 1/4 sherd 1	Hordeum, central floret
52 (6) 1/4 sherd 2	Hordeum, central floret Hordeum, lateral floret
52 (9) 1/4	Hordeum, central floret
54 (2) 1/4	indet.
54 (2) 2/4	Hordeum, central floret
59 (4) 1/4 sherd 1	Hordeum, lateral floret
59 (4) 1/4 sherd 2	Avena sativa
59 (4) 2/4 sherd 1	2x Hordeum, central floret Hordeum, lateral floret indet.
59 (4) 2/4 sherd 2	Hordeum, central floret
59 (4) 3/4	Hordeum, central floret
59 (4) 4/4	Hordeum, central floret
59 (4+5) 3/4	3x Hordeum, central floret Hordeum, lateral floret indet.

Appendix 1 continued:

<u>sherd number</u>	<u>species</u>
100 (5) 2/4	Avena sativa
100 (6) 2/4	2x Hordeum, central floret
111 (1) 1/4	Triticum aestivum
115 (4) 4/4	Triticum aestivum, internode fragment indet.
115 (5) 1/4	Hordeum, internode fragment cf. Hordeum
115 (7) 1/4	Hordeum, lateral floret
120 (2) 3/4	Hordeum, indet.
120 (2) 1/4 + 4/4	Hordeum, lateral floret
120 (3) 2/4 sherd 2	Triticum cf. aestivum
120 (3) 4/4 sherd 1	Avena sp.
120 (3) 4/4 sherd 2	Hordeum, indet.
120 (3+4) 1/4	Hordeum, central floret
120 (4) 3/4 sherd 1	Hordeum, central floret
120 (4) 3/4 sherd 3	indet.
121 (3) 3/4	Hordeum, indet.
121 (4) 1/4	Hordeum vulgare, var. nudum
121 (4) 2/4	2x Hordeum, central floret
121 (4) 4/4	Avena cf. fatua Hordeum, indet. Triticum dicoccum/spelta, glume base indet.
121 (5) 2/4	7x Hordeum, central floret Hordeum sp., internode fragment
123 (1) 1/4 sherd 1	Hordeum, central floret
123 (1) 1/4 sherd 2	indet.
123 (1) 3/4	Hordeum, central floret 3x indet.
123 (3) 1/4	2x Hordeum sp., internode fragment Avena fatua Avena sp. cf. Triticum aestivum, internode fragment indet.
123 (3) 2/4	2x Hordeum sp., internode fragment Hordeum, central floret 2x Hordeum, indet. 2x Avena sp.

Appendix 1 continued:

<u>sherd number</u>	<u>species</u>
123 (3) 2/4 continued	Triticum spelta, glume base Triticum dicoccum/spelta, internode fragment indet.
123 (3) 3/4	Hordeum, indet.
125 (3) 1/4	Hordeum, central floret indet.
125 (4) 1/4	Hordeum, central floret
125 (4) 2/4	Triticum dicoccum/spelta
127 (6) 1/4	indet.
127 (6) 3/4	Hordeum, central floret
127 (7) 1/4	Hordeum, central floret
127 (7) 3/4	Hordeum, central floret
133 (3) 3/4 sherd 2	Hordeum, central floret
135 (2) 1/4	2x Hordeum, lateral floret
136 (3) 3/4	3x Hordeum, central floret
136 (3) 4/4 pot 1	Avena sativa
136 (3) 4/4 pot 2	Avena fatua Avena sp. 2x
136 (4) 4/4 sherd 1	Hordeum, central floret
136 (4) 4/4 sherd 2	Hordeum, central floret
136 (5) 1/4	Triticum cf. aestivum
136 (5) 4/4	Hordeum, central floret
137 (2) 1/4	Hordeum vulgare, var. nudum Avena fatua
137 (5) 4/4	Avena sp. Hordeum, central floret
137 (7) 1/4	Hordeum, lateral floret 2x Avena sp. indet.
137 (7) 2/4	indet.
137 (8) 1/4	Triticum dicoccum/spelta
143 (2) 2/4	Hordeum, central floret
145 (2) 2/4	2x Hordeum, central floret
146 (2) 2/4	Hordeum, central floret
146 (5) 2/4	2x Hordeum, central floret Avena sativa Polygonum convolvulus

Appendix 1 continued:

<u>sherd number</u>	<u>species</u>
146 (6) 2/4	Hordeum, central floret Avena fatua Avena sp. Triticum dicoccum, glume base + internode
146 (6) 3/4	Hordeum, lateral floret Hordeum sp., internode fragment
150 (4) 2/4	Hordeum, central floret
151 (1) 4/4 sherd 1	Hordeum, lateral floret
151 (1) 4/4 sherd 2	4x Hordeum, central floret
151 (4) 4/4	Hordeum, lateral floret 2x Hordeum, central floret
152 (2) 2/4 pot 1	Avena sp.
152 (2) 2/4 pot 2	2x Hordeum, central floret
152 (2) 3/4	Hordeum, central floret Hordeum, lateral floret indet.
152 (4) 2/4	Avena fatua Hordeum, central floret
152 (5) 3/4	Triticum cf. aestivum
156 (2) 3/4	Hordeum, lateral floret
157 (1) 1/4	2x Hordeum, central floret
157 (3) 1/4	Hordeum, central floret
157 (3) 3/4	Hordeum, central floret
157 (7) 4/4	indet.
158 (2) 2/4	2x Hordeum, central floret
158 (3) 1/4	Hordeum, central floret
158 (3) 4/4	Hordeum, indet. Hordeum, central floret Avena sativa indet.
158 (4) 1/4	indet.
159 (1) 2/4	Avena cf. sativa Hordeum, central floret
159 (2) 4/4 sherd 1	Hordeum, central floret
159 (2) 4/4 sherd 2	Hordeum, lateral floret
163 (0)	Hordeum, lateral floret Hordeum, indet.

Appendix 1 continued:

sherd number

species

163 (1) 1/4.

Hordeum, central floret
indet.

163 (2) 1/4

2x Hordeum, central floret
Avena cf. sativa
Avena fatua