Cereal Remains from a Romano-British Kiln Site at Poxwell, Dorset.

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A soil sample taken from a hearth at Poxwell was repeatedly mixed with water and the floating material poured off into a pair of flot sieves of mesh sizes 1 mm. and 250 μ. Once no more material floated off, the remaining residue was washed through a 1 mm. wet sieve. The material from all three sieves was dried and then randomly subsampled by being repeatedly poured into a cone and divided in half until the appropriate fraction was achieved. Only one sixteenth of the 250 μ flot was examined as this yielded no identifiable plant remains. The 1 mm. flot and wet sieve residue were more productive and one quarter subsamples of each were examined to achieve the desired target of ca. 500 seeds. Assuming even an infinitely large original population of seeds in the hearth, a sample of 541 seeds would allow species composition to be estimated within 5% accuracy with 98% confidence (van der Veen and Fieller 1982).

By far the commonest species was the glume wheat, spelt (Triticum spelta), which was represented by grains only (see Table). A few grains which could be of bread wheat (Triticum aestivum) were also found, as were some grains of hulled barley, including one twisted grain indicating the presence of the six-row species (Hordeum vulgare). These were presumably minor contaminants of the spelt crop.

The function of "corn-drying" ovens and their associated structures, as evidenced by charred plant remains, has been a subject of discussion for both Roman (Hillman 1981) and later (Monk 1983)

periods and it is likely that such structures served a variety of purposes. Of course the charred remains provide evidence for the function of the structure only at the time the remains were charred. Furthermore, there is the problem that cereals which were being processed may have become mixed with other plant material used as fuel.

The range of possible kiln functions associated with the processing of cereals such as spelt is discussed by Hillman (1981) who relates some of these functions to the charred plant remains that might result. Comparing the sample from Poxwell to those Hillman describes from Catsgore in Somerset (Hillman 1981), it is first of all clear from the total absence of cereal chaff and wood charcoal and the abundance of well-formed grains in the Poxwell sample, that this sample does not represent the remains of fuel. The absence of cereal chaff similarly rules out the possibility that we are dealing with spelt ears or spikelets that were being parched prior to threshing or dehusking. Clearly the Poxwell grain had already been threshed and dehusked and also winnowed and cleaned of chaff and weed seeds.

There remain, then, two possible interpretations for this sample. The first is that the grain was being parched, whether to prevent spoilage and destroy insect pests prior to bulk storage, to harden it before grinding into flour or during the preparation of groats, or simply to make it palatable for direct consumption. The second possible interpretation is that the grain was being roasted prior to fermentation, as was the case with most of the Catsgore grain. In the case of the Poxwell sample, the latter interpretation

is unlikely as only about 7% of the grain had sprouted, whereas a much more uniform germination would be expected if the grain were charred as part of the malting process (Hillman 1981). The most likely explanation, therefore, is that this sample represents spelt grain that was being parched for one of the reasons mentioned above. The fact that a few of the grains had already sprouted may be an indication that parching was carried out to dry the grains and so prevent further spoilage.

Given how critical for the interpretation of the Poxwell hearth is the incidence of sprouted grains, it is perhaps worth noting that sprouted grains and loose, sprouted embryos sank during recovery far more frequently than did ordinary grains. This observation reinforces the importance of not relying solely on flotation, but of also examining the residue which sinks during the processing of soil for plant remains (cf. Jones 1981).

References

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Table

	1 mm. flot	1 mm. residue
Triticum spelta grains	341	16
T. cf. aestivum grains	28	2
indet. wheat grains	138	30
Hordeum sp. (hulled) twisted grains	1	0
" " " straight grains	1	0
" " " indet. grains	12	2
indet. cereal grains	18	15
" " embryos	0	20
total no. of grains	539	65
% sprouted grains	5	25