

# Re: Survival of cereals and hazelnuts

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- *From:* prd <X\_header@xxxxxxxxxxxx>
  - *Date:* Wed, 30 Aug 2006 15:18:40 GMT
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In sci.archaeology message [news:44f554b7\\$1\\$95183\\$dbd45001@news.wanadoo.nl](mailto:news:44f554b7$1$95183$dbd45001@news.wanadoo.nl) by "Peter Alaca" <P.Alaca@xxxxxx> . . . :

In his post "Ireland, A Case Study in transporting Flora and Fauna" the lovely expert Mr. PRD wrote:  
"In england there was simultaneously the use of cattle and hazelnuts which detractors say is because triticeae was not adequately preserved."

Well, here is the explanation by 'detractor' Professor Glynis Jones. I hope she and Oxbow will forgive me for using this for educational purposes.

\*Factors affecting the survival of cereals and hazelnuts\*

"Most of the evidence for wild plant foods in Neolithic Britain is provided by the presence of hazelnut shell, just as most of the evidence for cultivation comes from cereal grains. Like previous reviews of the evidence, therefore, this discussion will concentrate on cereals and hazelnuts, while recognising that other plants such as wild crab apple, tubers and cultivated pulses also played a part in Neolithic diet. Furthermore, as most of the evidence for Neolithic plant use in Britain comes from charred remains, the following will consider preservation by charring only.

Even for sieved or floated deposits, there are three important differences to note when comparing quantities of hazelnut and cereal:

1. the by-product from eating hazelnuts is the nutshell whereas the by-product from eating cereals is chaff and straw;
2. hazelnut shell has few uses other than for fuel while chaff and straw have many other uses (e.g. as fodder or building material);

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3. nutshell survives well when exposed to fire whereas chaff and straw survive poorly.

The implications of these differences will be considered in turn.

Since nutshell is a by-product of consumption, it is likely either to be discarded (possibly by throwing into household fires) or deliberately used as fuel or kindling. Frequent, recurrent burning of small or large quantities of nutshell is therefore to be expected in any community regularly consuming hazelnuts and using fires for cooking etc.. Cereal grains, on the other hand, are the part of the plant normally eaten and so the real surprise is that they are ever burnt at all. When they are, it is likely to be by accident, as when a building containing stored grain is burnt down or when accidents occur during food preparation or earlier stages of crop processing (e.g. if grain is being dried for dehusking, storage or malting). Charred cereal grains are therefore the exception rather than the rule and can be expected relatively rarely even in communities dependent on cereals as their staple food.

The cereal by-products equivalent to nutshell are chaff and straw, and there is a number of reasons why these components may never reach household fires. Straw, and the rachis of free-threshing cereals such as barley, are removed at an early stage of processing and are a valuable source of fodder, as well as bedding, for domestic animals. As such, they may never be brought onto site and, even if they are used to feed stalled animals, there is no reason why they should come into contact with household fires. Equally the glume bases of wheats such as emmer, which are removed during later dehusking, may well arrive on site but, while still surrounding the grain, are unlikely to be burned unless by accident and, after dehusking, may also be used for fodder etc.. It is true that both cereal chaff and straw may be used as kindling for fires but this is just one amongst many uses. Hazelnut shell, on the other hand, may be used as an intentional or unintentional fuel but has few, if any, other uses. Its chances of reaching household fires are therefore greater.

Once in contact with fire the hard, dense shell of

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hazelnuts is likely to be converted to carbon and therefore preserved in a charred state. Its greater density also increases the chances of shell fragments falling through the ashes to be preserved at the base of the fire from where they are later cleaned out and thrown away. The lighter, more flimsy chaff of cereals is likely to be held higher in the fire and so is more likely to be burnt to ash, with the denser glume bases standing the best chance of survival. Indeed, charring experiments have shown that chaff (including the glume bases of glume wheats) and straw survive burning less well than the denser cereal grains (which are in turn not as dense as hazelnut shell).

These three factors (and, on unsieved sites, the recovery bias) make any direct comparison of the relative quantities of hazelnuts and cereals meaningless."

Source

Glynis Jones, 2000

"Evaluating the importance of cultivating and collecting in Neolithic Britain"

In: A.S. Fairbairn (ed)

"Plants in Neolithic Britain and beyond"

NSG Seminar Papers 5. Oxbow Books, Oxford.  
pp 79–84. The quote is from pp 80–81

More on Glynis Jones <http://tinyurl.com/puu6g>

This issue was addressed in my post, 2 sites were houses enter the archaeological record as a result of fires.

The nutshells and caches of grain would have equal preservations since the caches would charcoal. However evidence for Nuts was found but grains was not found, this fact the proponents of 'no-preservation' have no answer for. Why the level of T.sp is so ubiquitously found in LBK and scarcely found in the northern Isles, in cooler climate.

Not to mention the fact that cattle culture enters Ireland but grain culture is not seen for a millenium and half later. Those cows did not walk to Ireland.

If one looks at the archaeological literature from Britian one finds and onset of grain culture, but if one looks at the earliest age of cattle culture in england, the grain culture appears to be reduced and out of step.

We have people that beleive that some how wild animals and

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domesticated that did not cross oceans for 5000 years when there was a land bridge, suddenly gained wings in the mesolithic/neolithic period and flew to Ireland. Maybe it was the wee fairy people who carried them.

People carried what they used. Although it is completely possible that Acorns were carried by tides. At a time when seas were rising the fastest, what would be the fate of an acorn that implanted on a coast on a constantly rising tide.

Do you understand evolution at all?

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