Radiocarbon dating archaeobotanical remains from North Raunds

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Between 1977 and 1987, several sites under threat of development at the northern end of Raunds (Northants) were excavated under the auspices of the Raunds Area Project, managed by Northamptonshire County Council and English Heritage. Open area excavations at several sites discovered settlement evidence spanning (not always continuously) the fifth to fifteenth centuries (Audouy and Chapman 2009, 51–57). Environmental sampling at several excavated sites produced a large assemblage of archaeobotanical remains of Anglo-Saxon and medieval date (Campbell and Robinson 2009).

This assemblage drew the attention of the Feeding Anglo-Saxon England project (FeedSax), which sought to use charred plant remains as a proxy for Anglo-Saxon and medieval agricultural practices and environments. Samples from the Furnells Manor and Burystead sites were of particular interest because of their abundance of charred grains, and because their dates complemented those of samples already selected from the excavated medieval hamlet of West Cotton in the nearby valley bottom (Chapman 2010). As with the samples from West Cotton, it was considered essential that the material be securely dated, so that diachronic changes might be reliably discerned.

FeedSax therefore submitted charred grains from four samples – three from Burystead, one from Furnells – to the Oxford Radiocarbon Accelerator Unit for radiocarbon dating. The charred plant remains were originally analysed by Gill Campbell (Campbell and Robinson 2009). The cereal grains selected for dating – identifiable as free-threshing wheat (*Triticum* L. free-threshing type) and oats (*Avena* L.) – were selected from the archive and photographed at the University of Oxford by the author. The photographs are included in the project's photographic archive (McKerracher *et al.* in prep.).

The radiocarbon determinations obtained for these samples have been calibrated using IntCal20 (Reimer *et al.* 2020) and OxCal 4.4.2 (Bronk Ramsey 2009) as shown in the table below and figures at the end of this report.

Results

Raunds Furnells

The new calibrated radiocarbon date from Furnells manor, sample 2, falls most probably around the mid-fourteenth or late fourteenth/early fifteenth century, which accords well with the published date for the east manor site (AD 1350/1400–1450) and therefore does not necessitate any chronological revisions for the site and its archaeobotanical assemblage.

sample	grains	laboratory no.	original phase	age BP	calibrated dates AD (confidence)
2	3 x wheat	OxA-37367	1350–1450	563±24	1319–1360 (50.0%), 1389–1424 (45.4%)

Raunds Burystead

From the Burystead assemblage, sample 596 comes from a wood-lined well or waterhole belonging to the site's 'early–middle Saxon' phase (AD 450–850). The backfill of this feature contained Maxey-type ware, generally dated *c.* AD 650–850; a radiocarbon date obtained from the wood lining fits with the earlier part of that range (Audouy and Chapman 2009, 60).

material	laboratory no.	age BP	calibrated dates AD (confidence)
waterlogged wood	UB-3420	1308±26	657–710 (47.1%), 721–775 (48.4%)

This date range for the wood provides a likely *terminus post quem* for the feature's archaeobotanical contents, since it may be expected that the lining of the pit pre-dates its backfill by some unknown span of time. Indeed, the new calibrated radiocarbon date range obtained from the charred grain (OxA-37368: cal. AD 878–995 with 93.8% confidence) is entirely later than that of the wood, and later than the expected chronology of Maxey-type ware. This sample can therefore be more accurately assigned to Burystead's subsequent 'late Saxon' phase, and likely indicates that the waterhole remained open until at least the late ninth century, and perhaps even the late tenth century.

sample	grains	laboratory no.	original phase	age BP	calibrated dates AD (confidence)
596	3 x wheat	OxA-37368	C5–9	1122±28	878–995 (93.8%)
605	3 x oat	OxA-37369	C10–12	902±24	1045–1086 (32.0%), 1120–1218 (60.0%)
28	3 x wheat	OxA-37394	C12	989±25	1015–1051 (39.3%), 1079–1154 (50.6%)

Sample 605 was originally assigned to Burystead's broadly dated 'late Saxon/Saxo-Norman' phase (AD 900/950–1200). The new radiocarbon date allows the sample to be more precisely dated to between the mid-eleventh and early thirteenth centuries, with varying probability within this range.

Finally, sample 28 derives from a quarry pit originally assigned to this same 'late Saxon/Saxo-Norman' phase. The report mentions tenth- to twelfth-century pottery in the fill of Burystead's quarry pits (Audouy and Chapman 2009, 127), and the archaeobotanical chapter dates the samples specifically to the twelfth century (Campbell and Robinson 2009, 234). The new calibrated radiocarbon date range would be compatible with these estimates, falling between the earlier eleventh and mid-twelfth centuries.

Acknowledgements

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References

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Chapman, A. (2010). *West Cotton, Raunds. A study of medieval settlement dynamics AD 450–1450. Excavations of a deserted medieval hamlet in Northamptonshire, 1985–89* (Oxford: Oxbow Books).

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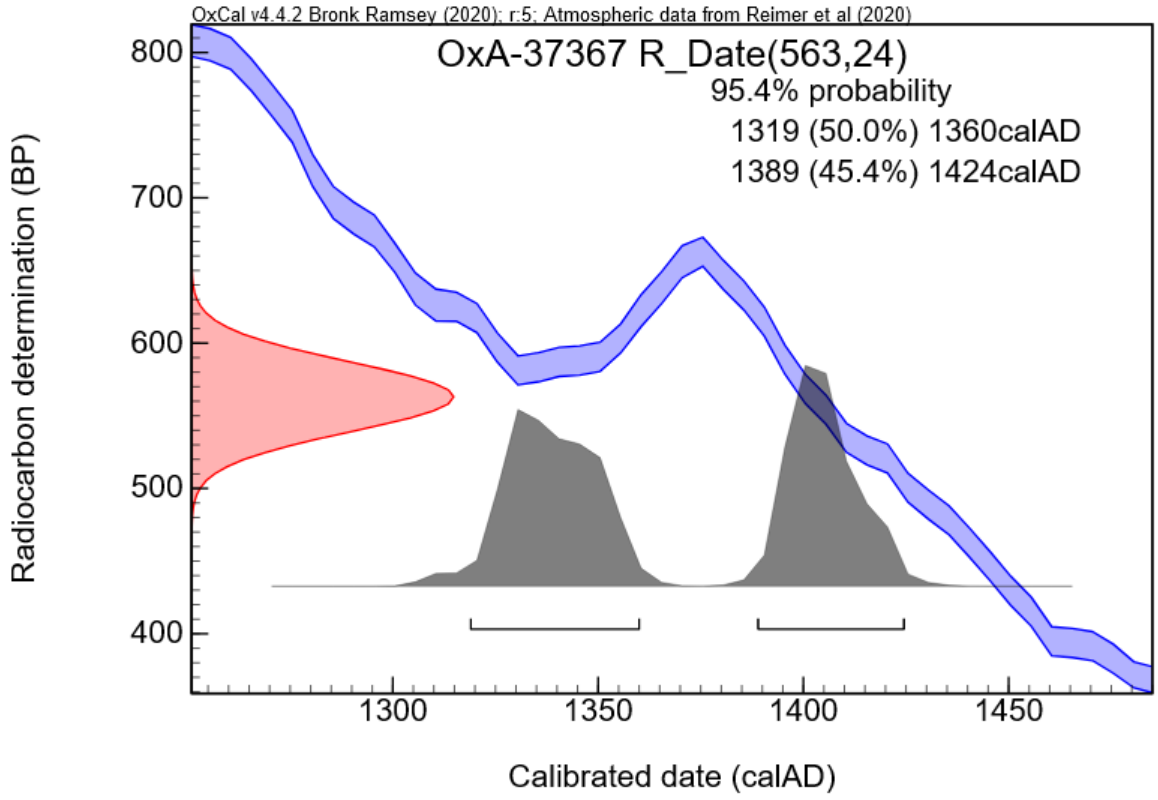
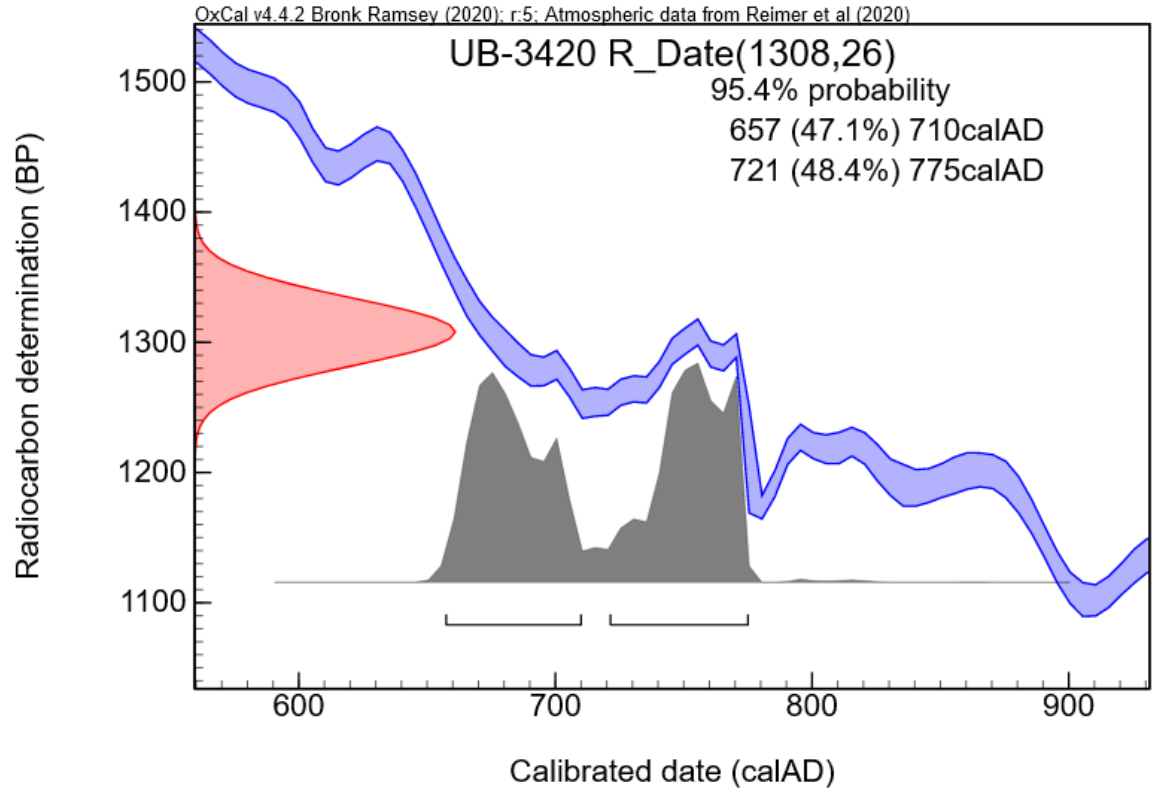
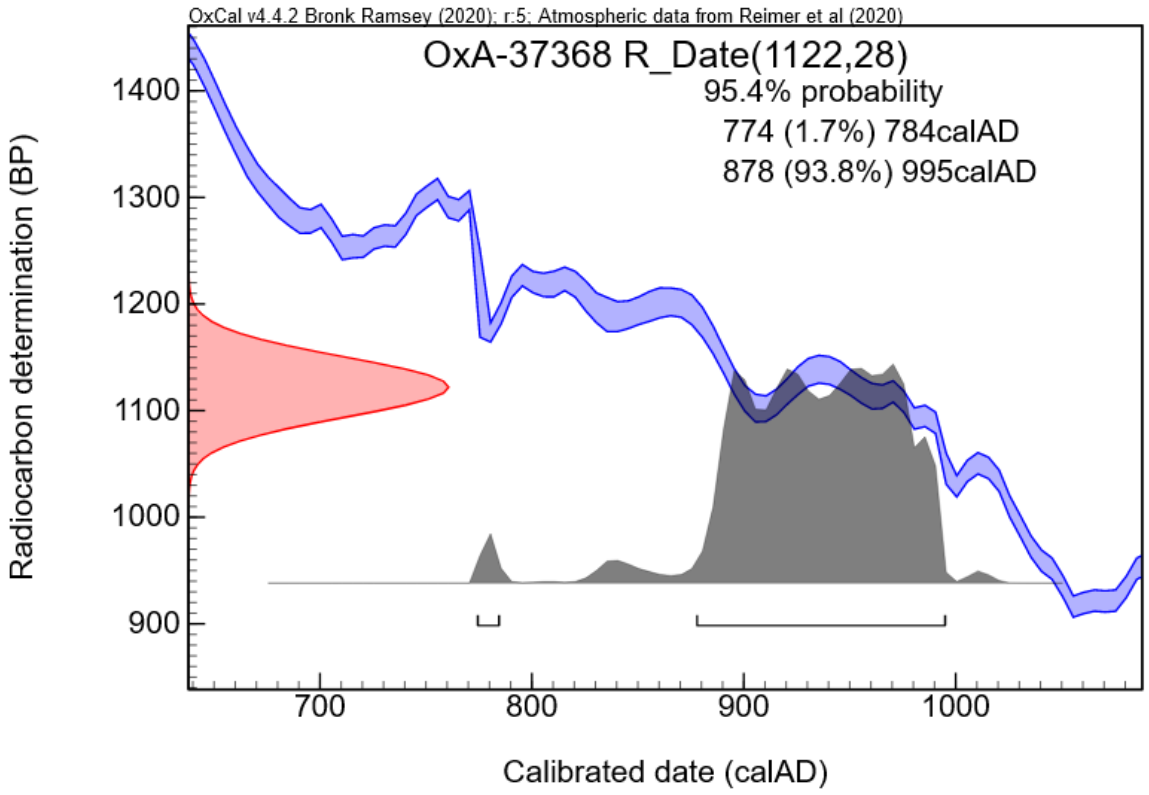
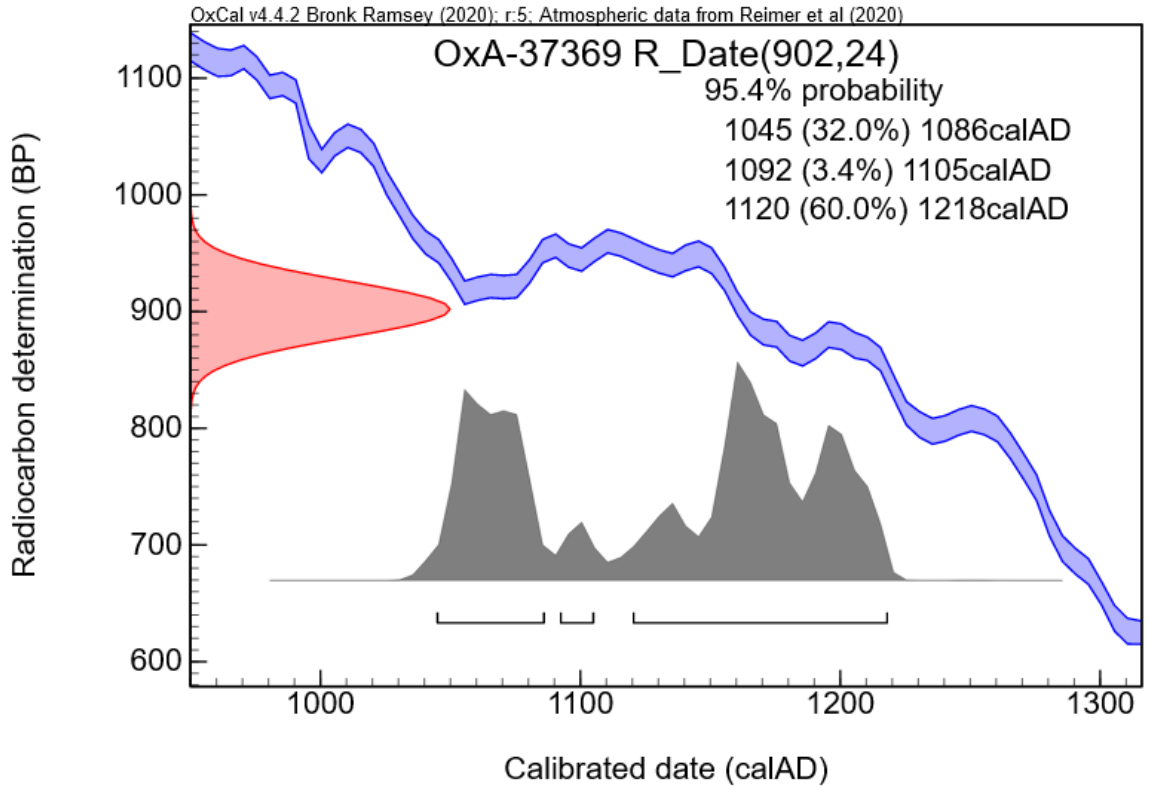
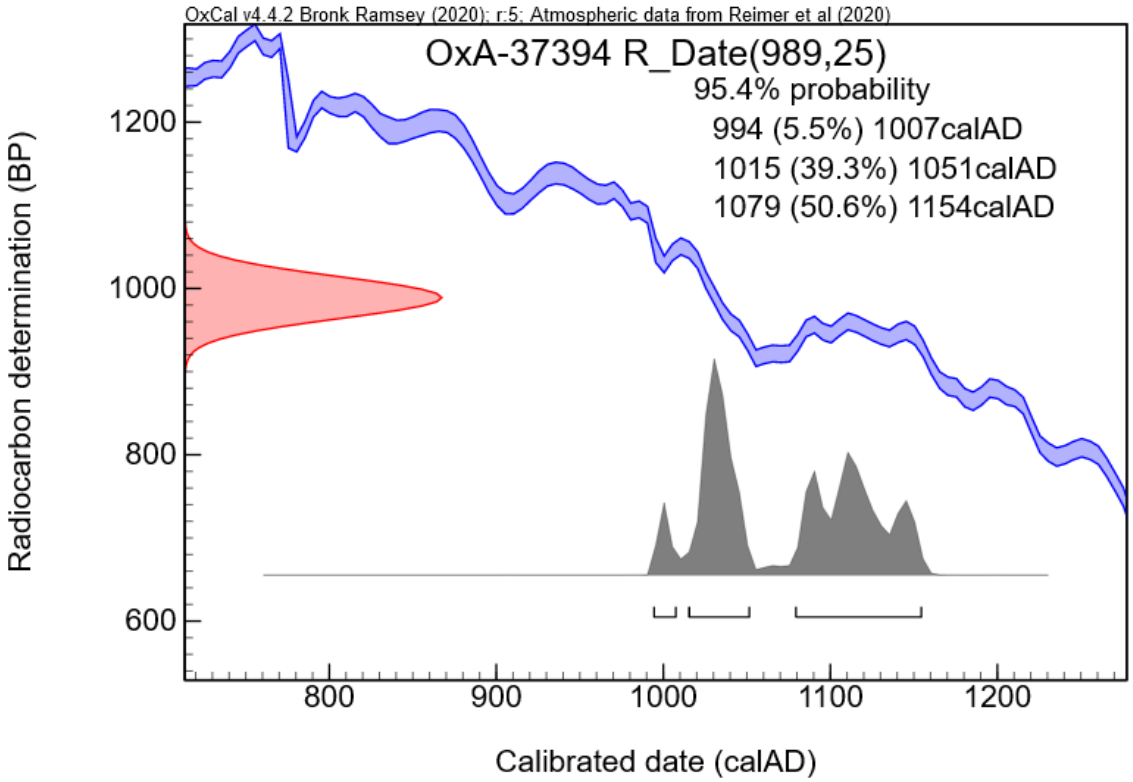
Calibration of radiocarbon determinations






OxCal v4.4.2 Bronk Ramsey (2020); r:5; Atmospheric data from Reimer et al (2020)
OxA-37368 R_Date(1122,28)
95.4% probability
774 (1.7%) 784calAD
878 (93.8%) 995calAD
Radiocarbon determination (BP)
1400
1300
1200
1100
1000
900
700
800
900
1000
Calibrated date (calAD)


OxCal v4.4.2 Bronk Ramsey (2020); r:5; Atmospheric data from Reimer et al (2020)
OxA-37369 R_Date(902,24)
95.4% probability
1045 (32.0%) 1086calAD
1092 (3.4%) 1105calAD
1120 (60.0%) 1218calAD
Radiocarbon determination (BP)
1100
1000
900
800
700
600
1000
1100
1200
1300
Calibrated date (calAD)


OxCal v4.4.2 Bronk Ramsey (2020); r:5; Atmospheric data from Reimer et al (2020)
OxA-37394 R_Date(989,25)
95.4% probability
994 (5.5%) 1007calAD
1015 (39.3%) 1051calAD
1079 (50.6%) 1154calAD
Radiocarbon determination (BP)
1200
1000
800
600
800
900
1000
1100
1200
Calibrated date (calAD)