



Archaeology Research Grant Report

Recipient name:	Dr Clíodhna Ní Lionáin
Discipline and subject area:	Archaeology Radiocarbon Dates Scheme
Year awarded:	2022
Title of project:	Prehistoric land division in Brú na Bóinne – dating a coaxial field system in Dowth, Co. Meath

Introduction:

In 2014, geophysical survey identified the presence of a coaxial field system (ME020-081----) in the Old Racecourse Field at Dowth, Co. Meath. The system consisted of five east-west field divisions that were sub-divided by north-south oriented linear elements to create long, rectangular fields. Archaeological testing in 2018 targeted two of the coaxial ditches, and the RIA radiocarbon grant was used to date charcoal from the base of one of them. A Middle Bronze Age date was returned, which fits the general Bronze Age chronology of coaxial field systems in Ireland and Britain. The grant was also used to date two charcoal samples from an enclosure that was located within one of the coaxial fields. Both samples were dated to the Early Neolithic, revealing that the Old Racecourse Field was the site of settlement activity nearly 2,500 years prior to the construction of the field system.

Please outline the objectives of the project

The project objective was to date the coaxial field system (ME020-081----) in the Old Racecourse Field in Dowth, and to determine whether it was contemporaneous with one of its intra-field enclosures. During excavation (18E0047), two small trenches were excavated across the coaxial field ditches, with suitable dating material recovered from the base of one of them. The aim of dating this sample was to chronologically locate the ditch and the wider field system. A small trench was also excavated across the ditch of an enclosure located in the corner of one of the coaxial fields. Several features were cut into the enclosure ditch, including a posthole that contained Early Neolithic pottery. To confirm that these inclusions were contemporary with the posthole, and not residual material, the base fill of the posthole and that of the enclosure ditch were also dated.

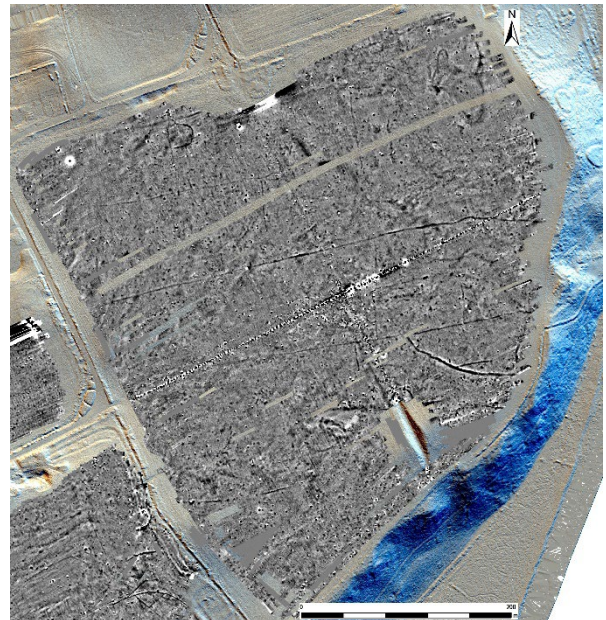


Figure 1 Coaxial field system

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Please describe the methodology used in conducting the research

In 2014, the Römisch-Germanische Kommission and UCD School of Archaeology undertook geophysical survey in the Old Racecourse Field, on the Devenish Lands at Dowth. Their work revealed the presence of a coaxial field system (ME020-081---), providing a tantalising glimpse of what may be prehistoric farming in the heart of the Brú na Bóinne World Heritage Site. In 2018, prior to the reinstatement of lime trees along the carriage drive that traverses the Old Racecourse Field, a programme of ground-truthing of geomagnetic anomalies (Excavation Licence I8E0047) was undertaken to determine the chronology of the coaxial field system and its potential relationship to an enclosure within it.

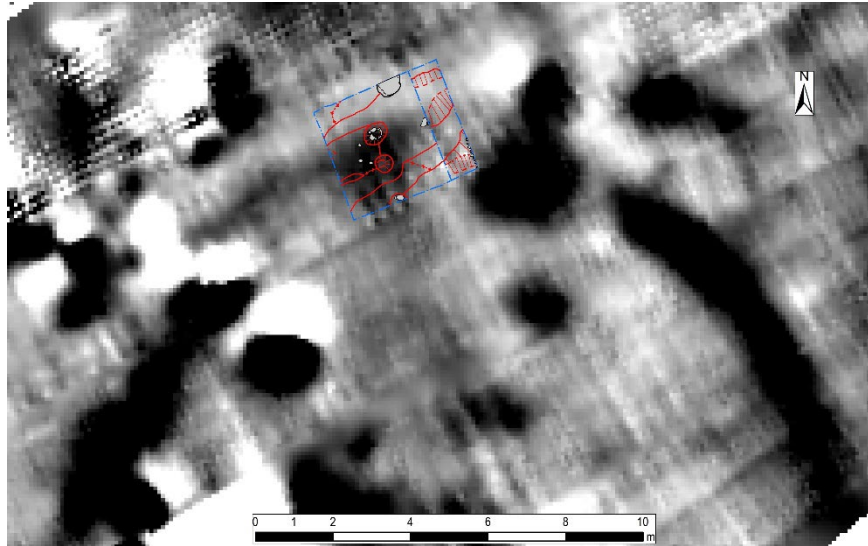


Figure 2 Early Neolithic enclosure plan survey

The samples selected for radiocarbon dating are all related to the archaeological event of interest - the establishment of the coaxial field system and its chronological relationship with a potentially Early Neolithic enclosure. Following wood identification analysis, the samples were selected to maximise the potential of achieving the dating objective, with short-lived charcoal samples chosen from the base of a coaxial field ditch (SS36; UBA-47343), from the base of the enclosure ditch (SS25; UBA-47342), and from a posthole that contained Early Neolithic pottery (SS1; UB47341).

Following receipt of the RIA grant, the samples were submitted to Chrono 14 at Queen's University Belfast for AMS radiocarbon dating.

Please outline the findings of your research and/or milestones achieved.

In the Old Racecourse Field, geophysical survey identified the presence of a coaxial field system (ME020-081---), consisting of five east-west field divisions, spaced 66-90m apart, and sub-divided by north-south oriented linear elements to create long (155-248m) rectangular fields. Enclosures are present in the corner of some of these fields. Coaxial field systems are known from a range of prehistoric landscapes in the UK and in Ireland, most famously the Dartmoor Reaves in Devon, UK (Bronze Age) and the Céide Fields in Co. Mayo (Neolithic).

A small trench was excavated across one of the east-west oriented ditches (C021) of the coaxial field system. The main lower ditch fill (C031: 0.63m thick) was a light reddish brown, silty clay that contained charcoal and flint inclusions. Charcoal from a short-lived species (*Maloideae* C. Weber) from this fill was dated to 1309-1188 cal BC (2 sigma), which fits comfortably within the data range for comparable field systems in Britain and Ireland. The dating of this field system also adds significantly to our understanding of the Bronze Age in Brú na Bóinne, evidence of which has been relatively scarce to date.

In the southeast quadrant of the Old Racecourse Field, geophysical survey identified a curvilinear feature/arc (21m E-W x 14m N-S), which has been interpreted as the northern half of an oval/subcircular enclosure in the south-west corner of one of the coaxial fields. A small trench was opened across the northern part of the enclosure ditch



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(C004), and a section (c.25%) of the ditch was excavated at the eastern end of the cutting. Hazel charcoal from the base fill of the ditch returned a date of 3716-3637 cal BC (2 sigma). At some point after the enclosure ditch had silted up completely, a series of postholes were dug into its upper fill. Hazel charcoal from the base fill (C008) of one of these postholes (C007) was dated to 3777-3648 cal BC (2 sigma). If the stratigraphic evidence is applied to the radiocarbon date ranges, the period in which the enclosure was dug, fell out of use, and was cut by the postholes, can be restricted to between 3716 and 3648 cal BC. The discovery of this enclosure has helped to expand our knowledge of Early Neolithic settlement in Brú na Bóinne.

Please provide details of the dissemination of the outcomes from this project.

The final excavation report is due to be submitted in the coming months, once finds illustration has been completed.

How will you continue to communicate the results of your project and what are your publication plans?

Following submission of the final excavation report, I plan to submit an article on the project to a national peer reviewed journal, such as PRIA or JIA. I will also look to present at local and national conferences to reach both a general and an academic audience.

How did the award enhance your professional development?

The award helped to progress the research on the coaxial field system on the Old Racecourse Field at Dowth. By facilitating radiocarbon dating of the system and an enclosure within it, it helped to chronologically locate and contextualise both.

What plans (if any) do you have to further your proposal/project?

While there are no immediate plans to carry out further research in the Old Racecourse Field, a number of longer-term objectives have been identified. Further geophysical work is required in the area of the Early Neolithic enclosure to confirm the size and extent of the site. If features are identified in its interior, targeted excavation would be useful to confirm that they are contemporary with the enclosure ditch. Similarly, further targeted excavation of the coaxial field ditch would be useful to confirm that the hazel charcoal from SS36 does not represent residual material and that the field system is Middle Bronze Age in date.