

## INVESTIGATING AGRICULTURAL ACTIVITIES AT THE ROMAN IMPERIAL ESTATE AT VAGNARI (PUGLIA) IN 2013

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In July 2013, a team of specialists and students from the University of Sheffield conducted a second season of exploration on a vast rural estate at Vagnari in the Basentello valley which generated revenues for the Roman emperors from the early first c. A.D. (Fig. 1). As far as we can determine, the valley provided one of the most direct routes across this part of Italy, marking the approximate boundary of ancient Apulia and Lucania. The Via Appia, connecting Rome with south-east Italy and Tarentum, passed near Vagnari and linked the settlement with other major centres in the region, as well as Rome itself.

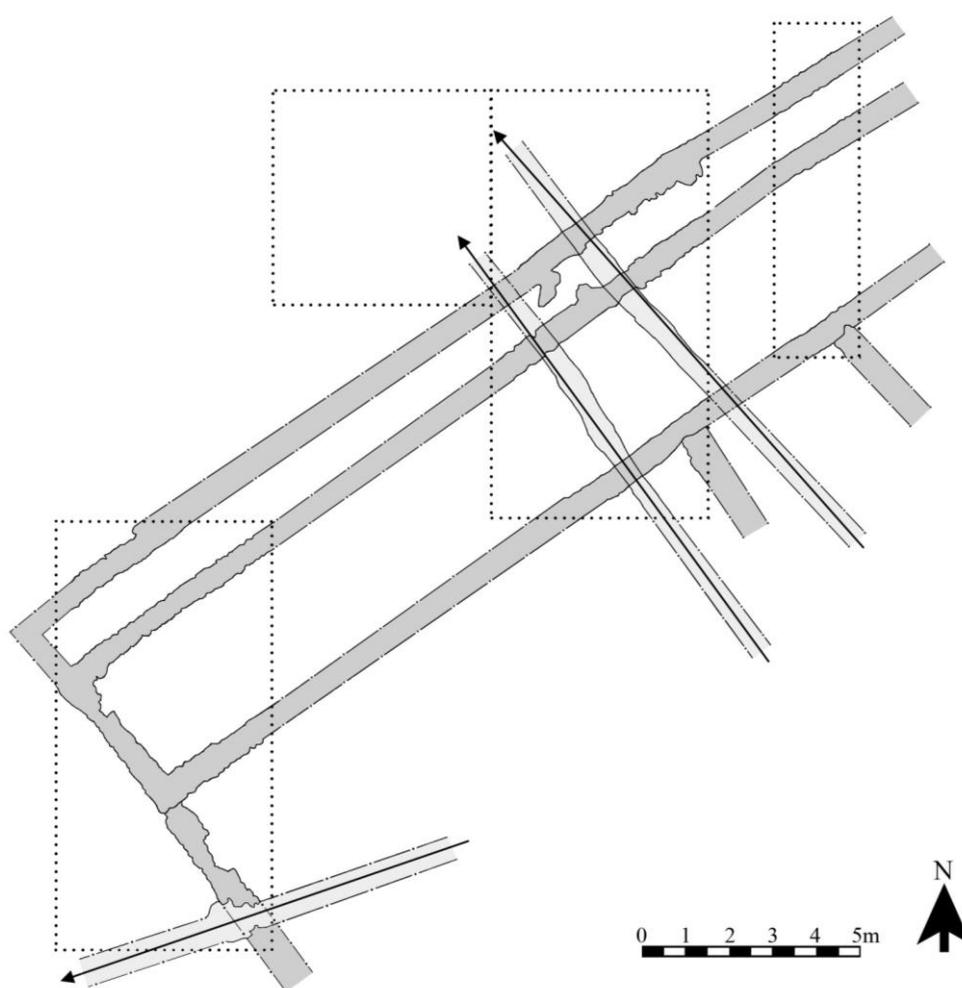


**Fig. 1** View of Vagnari. The Basentello river is to the left of, and outside, the photograph; the Via Appia ran close by on the right (not visible here). The black star marks the site of the Roman vicus, the black arrow points to the Roman cemetery. The photograph is taken from the site of a Roman villa at San Felice.

The project is an interdisciplinary and collaborative programme of archaeological research focusing on industrial, artisanal and agricultural production and the exploitation

of human and natural resources in the estate's central village (*vicus*). The Sheffield team has been excavating and exploring the buildings and manufacturing provisions in the village, and analysing the excavated artefacts to gain insight into the socio-economic complexities and conditions of working for the emperor. Roof tiles stamped with the names of the manufacturers indicate that the workforce included slaves, but the inhabitants probably also consisted of local free-born and immigrant labourers and tenants. Further investigations on the imperial estate include excavations in the cemetery of the *vicus* by McMaster University and on the site of a villa at San Felice by Mount Allison University and St. Mary's University.

Our work concentrated on the northern edge of the *vicus* in and around the so-called North Building, a tile-roofed structure almost 30 m long consisting of a series of rooms and corridors with plastered and painted walls of daub and with both beaten earth and mortar floors (Fig. 2). Evidence for the production of building ceramics, for metal-working, lead-processing, and glass manufacturing in the 2<sup>nd</sup> and 3<sup>rd</sup> c. A.D. has been retrieved here.



**Fig. 2 Plan of the North Building.** The dotted rectangles represent trenches excavated in 2002, 2012 and 2013. The narrow features with arrows are stone-built drains.

Plan by J. Boffey and F. Taccogna.

Important evidence for agricultural activities also has been uncovered, with botanical remains surviving in a hearth, in floors, pit and drain fills, and other deposits. With support from the Hugh Last and Donald Atkinson Funds, we were able to fund the work of an archaeobotanist, Matthew Stirn (University of Sheffield), to carry out the flotation of soil samples and analyse the residues. The preliminary results presented here are based on his work. The data retrieved is important because records for plant remains recovered at other sites in the region are sparse; even at Vagnari they have been rare. Both charred and desiccated/mineralized plant remains were recorded in 2013.

Chaff and grains from cereal species were identified, including free-threshing bread wheat (*triticum aestivum*) and macaroni wheat (*triticum durum*), oat (*avena sp.*), einkorn (*triticum monococcum*), and barley (*hordeum vulgare*). Winter wild oat (*avena sterilis* L.) was weeded out of the wheat crop and burnt as waste in a hearth. It was clear also that wheat chaff was mixed with clay to create a malleable and stable material from which to make daub walls; the collapsed, burnt daub spread over the floor of a room in the North Building had the negative impressions of this and other vegetal remains preserved in it (Fig.3). Other edible species within the samples include berry (*rubus sp.*) and an unidentifiable small legume (*fabaceae sp.*). Wild/weed species recorded include knotweed (*polygonum sp.*), ryegrass (*lolium sp.*), bedstraw (*galium sp.*), clover (*trifolium sp.*), and mallow (*melilotus sp.*).



**Fig. 3** Chunk of burnt daub from the North Building with negative impressions of wheat chaff mixed with the clay.

The combination of cereal grains and chaff within the North Building imply that a wide variety of agricultural activities took place here. Different harvesting and processing techniques are required for glume (einkorn) and free-threshing wheat (eg. bread and macaroni wheat), and the combination of these species suggests that the occupants

produced a variety of products. Most of the charred plant remains were retrieved from a beaten earth floor, in particular at the base of an internal wall, but not in the middle of the room. Their positioning is suggestive of clean-up activities such as sweeping in a room that required cleanliness, possibly because it was used for living or cooking.

Several flowers were also identified, including poppy (*papaver sp.*), hibiscus (*hibiscus sp.*), monkshood (*aconitum sp.*), catchfly (*silene sp.*), and common fumitory (*fumaris officinalis*). It is tempting to suggest the existence of gardens in the vicus, but, considering the low quantity of flower seeds, it is difficult to determine whether they represent gardening activities or simply the occasional collection of a few flowers or plants. Given that all these plants are known for medicinal properties, however, they may well have been grown for this purpose at Vagnari.

Further seasons of excavation and survey at Vagnari are planned in the coming years. The role of this village in manufacturing, exchange and consumption will be a focal point of future research. The potential for high-resolution archaeobotanical analysis at the site is high, and such work will contribute in future seasons to answering key research questions about the imperial estate. Archaeobotanical analysis is one of only a few methods that can provide direct evidence for interpreting Roman agricultural practices and products, dietary practices, and subsistence economies of residential areas. In the Puglia region, very little archaeobotanical research has been published. As such, the outcome of the investigation of plant material at Vagnari can make a significant contribution at various levels. The evidence will also contribute to an understanding of elite involvement in the exploitation of the environment and control over labour, as well as the impact of the estate on the Apulian landscape.

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