Figure 4: Seeds and fruits from the site of Case Nuove: 1. *Triticum dicoccum* (caryopsis - 6.1 mm); 2. *Triticum aestivum/turgidum* (caryopsis - 4.8 mm);

3. *Hordeum vulgare* (caryopsis - 5.6 mm, and group at right; 4. *Lens culinaris* (seeds - 3.3 mm); 5. *Vitis vinifera (*pip -5.5 mm, and group at right); 6. *Juglans regia* (pericarp fragments - 12.7 mm and 7.2 mm; 7. *Olea europaea*  (endocarps - 7.3 mm, 8.7 mm, 7.4 mm, and group including fragments).

**Palaeoenvironment and land-use of Roman peasant farmhouses in southern Tuscany**

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**Supplemental File**

**Section II. The archaeological and geological research**

**Description of the sites**

**A - *Case Nuove*** was a hill-top site (Vaccaro et al. 2013).The surface material included over-fired roof tiles and common wares, plus late Roman cooking pots and color coated ware. The excavation revealed a small, open-air agro-processing point, with a surface for foot-treading, a tank with adjacent cuts to support a press, a deep well, and a dump with dolia (storage jar) fragments. Residue analyses indicated plant processing took place at the site: i) on the dolia, there were signatures for tartaric and other acids associated with wine; ii) on the tank, they tentatively pointed to oil. Archaeobotanical remains support these suggestions (see below). This small site was used for a brief period from the mid to late 1st century B.C. and was abandoned by the 1st century A.D. (late Augustan/Tiberian period), then reoccupied in the 5th century A.D. The environmental data obtainable from late Republican phasewas challenged by the fact that no pollen could be collected from the use-phase layers due to strata disturbance. Thus, the pollen information comes from the site’s late antique, 5th century A.D. phases, while the macroremains and faunal data come from both the late Republican and late antique phases.B - ***Colle Massari*** was an off-site where the surface material mainly consisted of a handful of roof tiles. Its excavation brought to light a 13m long field drain. The drain was some 0.6m wide and laid some 0.3m deep in the ground, then refilled with a loose, permeable mixture of medium-sized cobbles. The cobbles were mounded above the ancient ground level, forming a low barrier as well as a drain. The drain was seemingly constructed to remove the water stagnant at the top of a ground-water seepage point where water had accumulated, and constructed in the late 1st century B.C./early 1st century A.D. (late Republican/early Imperial period). How long the drain continued in use is not known and thus to what extent the data can be compared with the late antique data from Case Nuove is not known.C - ***San Martino*** was a small, single-phase, temporary site. After a coherent surface scatter of 10x15m representing the classic “small house” of survey categorization, excavation revealed a ca. 10x10m structure with a stone socle and pisé walls. The discovery of a fragmentary gravel gutter on one side suggested a single pitch roof, possibly in straw as roof tiles were virtually absent. The house seems to have had no hearth, no water storage or indeed any other installations. Ceramic and faunal materials were extremely poor. These findings, coupled with the bioarchaeological data (see below), suggested not a permanent “house,” but rather a site in temporary or seasonal use. D - ***Poggio dell’Amore***, only 1km east of San Martino, lay another small, single-phase, temporary site. From the surface material and little magnetometric anomalies it seemed to be very similar to San Martino. Excavation revealed that all but one of its walls and original tile roof were robbed during antiquity. The structure was originally c. 3x5m, with stone socles supporting pisé walls and here a tile roof. Outside its eastern wall were two negative features whose function was unclear, although the northern of these might have been a hearth or a seat for a dolia. A tiny quantity of glass was found on the site, although its ceramic and faunal collections were as lacunose as San Martino. The site was occupied only a short time, from the late 1st century B.C. until c. A.D. 70. The striking similarities in structure and archaeobotanical materials with San Martino (see below) suggest another, temporary use site, albeit with someone richer material culture.

**E - *Podere Terrato*** was a larger site with the more elaborate architecture, located some 2km from San Martino and Poggio dell’Amore. The surface material presented two scatters, the largest of which measured 50x40m while magnetometry revealed some walls in alignment, as well as a larger linear anomaly some 20m away. Excavation shows a two-roomed structure with L-shaped extensions to the south. One of these rooms had an open northern end supported by a kind of porch, while L-shaped extensions were built to the south, possibly serving as garden beds. Only to the south was intact stratigraphy found, seemingly a kind of yard whose irregular natural topography had been filled with packed tiles and other materials, including five coins of Augustan through Claudian date. The chronological material indicated another site occupied for a short period, late 1st century B.C. through first half of the 1st century A.D.. Despite this similarly short occupation, the more complex nature of the structure and the somewhat richer material culture and the archaeobotanical materials (discussed below) pointed towards more stable habitation than the others considered here.