

Production Models in Roman Commercial Agriculture: the Northwest of *Hispania Citerior* Between the 2nd Century BC and the 2nd Century AD

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From the very origins of modern historical research, specialized, market-oriented agricultural production is one of the aspects of the Roman economy that has greatly interested scholars. Especially studies focused on the specialized production of oil and wine (and the containers used for their transport) have allowed researchers to deepen our knowledge of medium- and long-distance trade.

Scholarship has established a direct and indissoluble relationship between this kind of productive activity (specialized commercial agriculture) and a specific type of rural unit: the *villa rustica*. This relationship has its origin in the confluence between the information transmitted by classical sources¹ and by a type of archaeology that we could qualify as 'romantic-philological.'² With this term I refer to a very specific type of archaeology, whose ultimate intention is to use fieldwork to corroborate a series of *a priori* ideas derived from the literary sources. This approach marked the excavations developed by the team led by A. Carandini at the Settefinestre *villa*.³ Their results gave rise to the elaboration of a model, known as the 'villa system', which in essence assumes that all the specialized and market-oriented agricultural production in the Roman world was carried out through *villae rusticae*. These centres shared a series of common characteristics indicated in the classical sources and supposedly confirmed by the Settefinestre excavation: 1) a concentration of its means of production; 2) wine and oil as the major commercial crops; 3) the use of slave manpower.

This model acquired the rank of paradigm, extending to the entire Roman world. In this way, the results of a particular case were applied to the general, without considering possible regional variants within the vast territories dominated by Rome. At the same time, the definition of another model occurred, which was opposed to the previous one: the 'peasant economy'. This category indicated subsistence farmers with little capacity to generate surplus for trade; these would have been small- and medium-sized farms where the use of free manpower prevailed.⁴ We are therefore faced with a theoretical construct in which all agricultural production in the Roman world can be placed in either one or the other of these two categories. However, this juxtaposition between the 'villa system' and the 'peasant economy' does not stand up to scrutiny when compared to the archaeological evidence that has emerged in the last decades from different areas of the Roman world. In fact, they suggest a more complex scenario that necessarily invites a reconsideration of the existing paradigms.

My research stemmed from the realization that Roman agricultural production needed to be defined more closely to the reality revealed by both the historical and archaeological sources. To this end, I selected a region of the Roman world that was

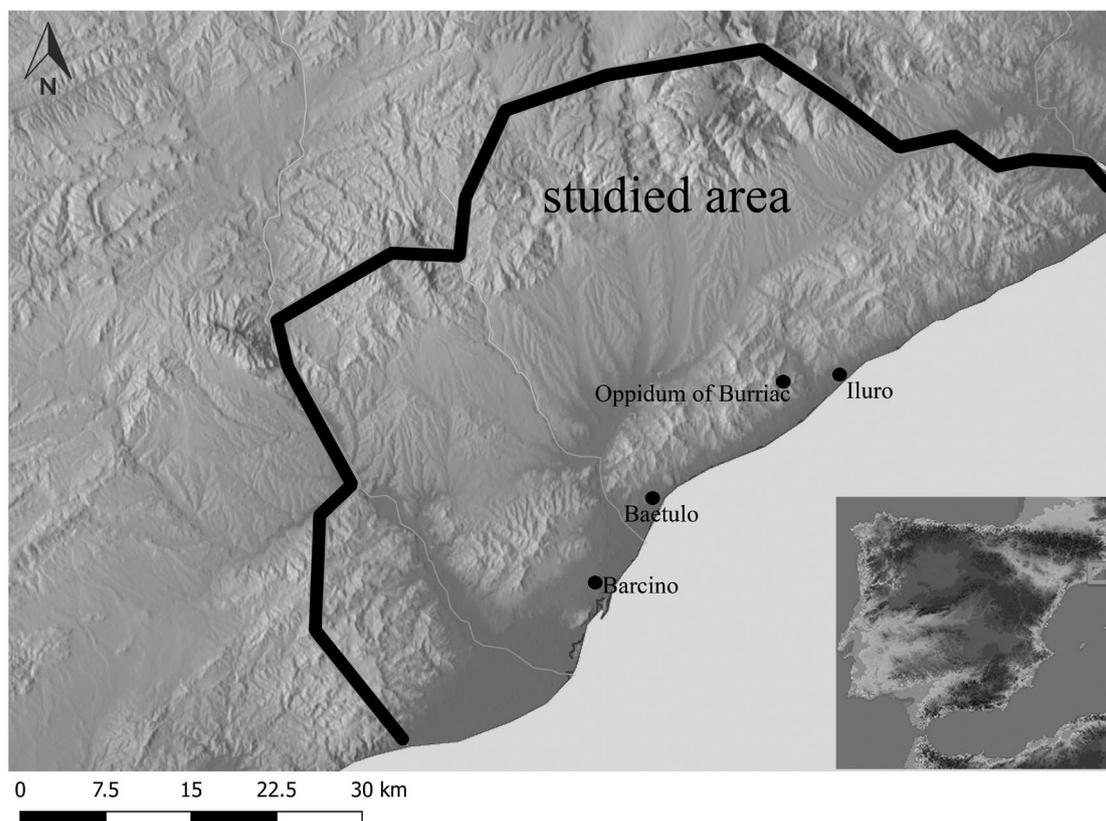


Fig. 1: The study area.

characterized by its large participation in the wider trade of its agricultural produce and that also had a high level of archaeological documentation. In order to have a feasible framework, I chose to focus exclusively on the production of wine. Based on these premises, the chosen region was *Hispania citerior* and, within it, the area where the production and export of wine is best attested: the coastal strip of the current province of Barcelona, which corresponds to the old Iberian region of Laetania (fig. 1).⁵

The next step was to carry out the classification and analysis of all 1,380 documented rural sites for the period between the introduction of commercial wine production (the end of the 2nd century BC) until the crisis of this activity (the end of the 2nd century AD). Finally, based on the data generated, I proceeded to analyse the different forms or sub-models adopted in the agricultural production. I have distinguished up to 26 possible ways of organizing the cycle of wine production for the market, divided into cultivation, transformation, and packaging (fig. 2). The type of production represented by the two paradigmatic models ('*villa* system' and 'peasant economy') do fall within this set of sub-models but, instead of being the only possible options, they are part of a much wider range. According to their characteristics, these 26 sub-models are assigned to five large groups. The autonomous (type 1), the dependent (type 2), and the

SUB-MODEL TYPE 1 (AUTONOMOUS)					
MADE FROM VILLAE RUSTICAE			MADE FROM FACTORIES		
ONE PRODUCER		VARIOUS PRODUCERS	ONE PRODUCER		VARIOUS PRODUCERS
WITHOUT EXTERNAL CENTERS	WITH EXTERNAL CENTERS	WITH EXTERNAL CENTERS	WITHOUT EXTERNAL CENTERS	WITH EXTERNAL CENTERS	WITH EXTERNAL CENTERS
-SUB-MODEL 1.1.1.1	-SUB-MODEL 1.1.1.2.1 -SUB-MODEL 1.1.1.2.2 -SUB-MODEL 1.1.1.2.3	-SUB-MODEL 1.1.2.2.1 -SUB-MODEL 1.1.2.2.1 -SUB-MODEL 1.1.2.2.1	-SUB-MODEL 1.2.1.1	-SUB-MODEL 1.2.1.2.1 -SUB-MODEL 1.2.1.2.2 -SUB-MODEL 1.2.1.2.3	-SUB-MODEL 1.2.2.2.1 -SUB-MODEL 1.2.2.2.2 -SUB-MODEL 1.2.2.2.3

SUB-MODEL TYPE 2 (DEPENDENT)			
MADE FROM VILLAE RUSTICAE		MADE FROM FACTORIES	
ONE PRODUCER	VARIOUS PRODUCERS	ONE PRODUCER	VARIOUS PRODUCERS
-SUB-MODEL 2.1.1.1 -SUB-MODEL 2.1.1.2 -SUB-MODEL 2.1.1.3	-SUB-MODEL 2.1.2.1 -SUB-MODEL 2.1.2.2	-SUB-MODEL 2.2.1	-SUB-MODEL 2.2.2

SUB-MODEL TYPE 3 (URBAN)		
EXTERNAL TRANSFORMATION	EXTERNAL PACKAGING	AUTONOMOUS
-SUB-MODEL 3.1	-SUB-MODEL 3.2	-SUB-MODEL 3.3

SUB-MODEL TYPE 4 (SMALL LANDOWNERS)
-SUB-MODEL 4

SUB-MODEL TYPE 5 (WITHOUT COMMERCIAL ORIENTATION)
-SUB-MODEL 5

Fig. 2: The various sub-models of production.

urban (type 3) are all generated from specialized centres. Despite not being made from specialized centres, the sub-model of small landowners (type 4) also has a commercial orientation like the three previous groups. Type 5 lacks commercial orientation and meets the characteristics of the ‘peasant economy’ model. The same thing happens with the ‘villa system’, represented by one of the type 1 sub-models.⁶

The first evidence for commercial production of wine in my studied area goes back to the last quarter of the 2nd century BC. It is limited to a few fragments of local imitations of wine amphorae of the Greco-Italic and Dressel 1 types, which were concentrated in the Cabrera valley (Cabrera de Mar, Barcelona; fig. 3).⁷ This area was a real focus of indigenous power before the Roman conquest: it was the location of the *oppidum* of Burriac, the political, economic, and religious headquarters of Iberian Laetania.⁸ Rome chose a nearby location to establish its first settlement in the region, the proto-urban centre of Ca l’Arnau-Can Mateu.⁹ During the first years of the conquest, prior to the founding of the first cities, the *oppidum* of Burriac and Ca l’Arnau-Can Mateu shared control of the region.¹⁰ Evidence for Roman influence has been documented in the indigenous *oppidum* with the use of *tegulae* and *dolia*.¹¹ There are even some interesting elements of hybridization, such as the construction of the *oppidum* gate in *opus quadratum* accompanied by a rite of indigenous origin.¹² In this period, one of the most important buildings of the *oppidum* became a *cella vinaria*. It is a warehouse equipped with large, locally made terracotta containers, which are however smaller (0.9–1.10 m in diameter) than the usual Roman *dolia*.¹³ A stone from a possible press

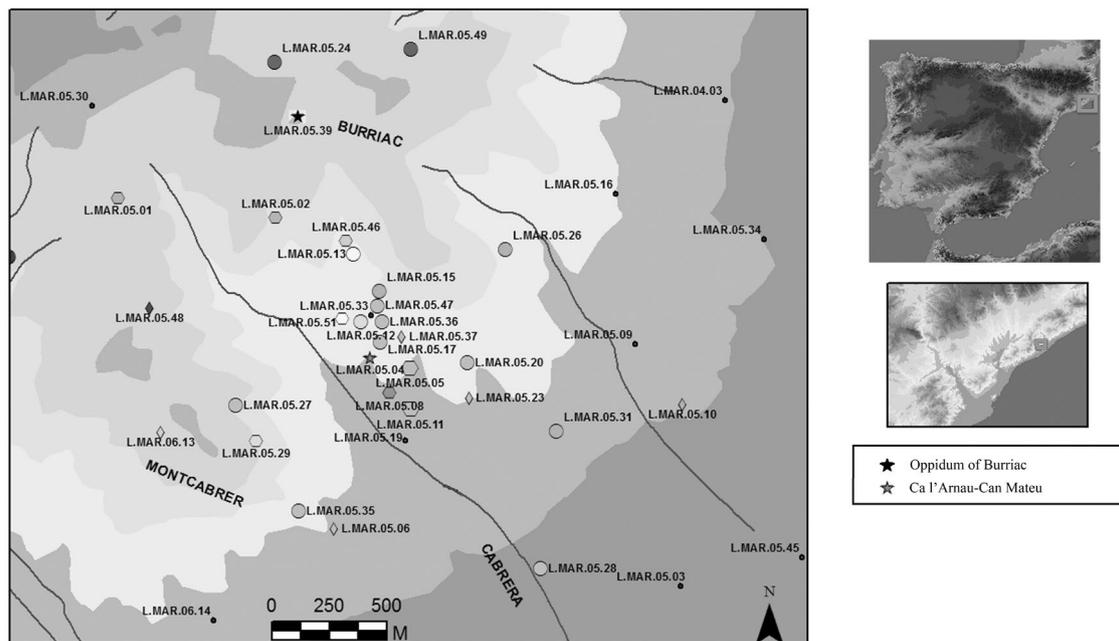


Fig. 3: Settlements in the Cabrera Valley at the end of the 2nd century BC.

was also documented (fig. 4).¹⁴ It is more than probable that these represent the origins of local wine production. To this day, the kiln has not yet been located, but an artisanal area was identified in the partially excavated proto-city of Ca l'Arnau-Can Mateu.¹⁵ Possibly, pottery and wine amphorae were made here. What is clear, however, is that the first production of wine for trade is to be found at the epicentre of the political, economic, and administrative power of the region after the conquest of Rome. This is a moment when production cannot be related in any way to the *villae rusticae* (fig. 5a), since these are not documented in the region before the Augustan Age.¹⁶ Rather, market-oriented wine production was first introduced in a context linked to power. When Rome removed the management of grain from the control of the local oligarchies, this must have produced a fracture in the complex patronage networks based on the redistribution of prestige goods. Among these, wine was obtained in exchange for cereals. Faced with this situation, the conquerors allowed, and even encouraged the local production of wine in order to benefit from the collaboratively-minded local elites.¹⁷

The first, but modest, growth in wine production occurred only in the first two thirds of the 1st century BC, when this production activity expanded from the Cabrera Valley to other neighbouring areas. In particular this reached the cities of Baetulo and Iluro, which were founded in this period.¹⁸ With Iluro's foundation, the proto-urban complex of Ca l'Arnau-Can Mateu was replaced by a kiln. The new city assumed the functions provisionally performed by the axis formed by Ca l'Arnau-Can Mateu and the *oppidum* of Burriac. However, it seems that this did not mean the interruption of viticulture here.

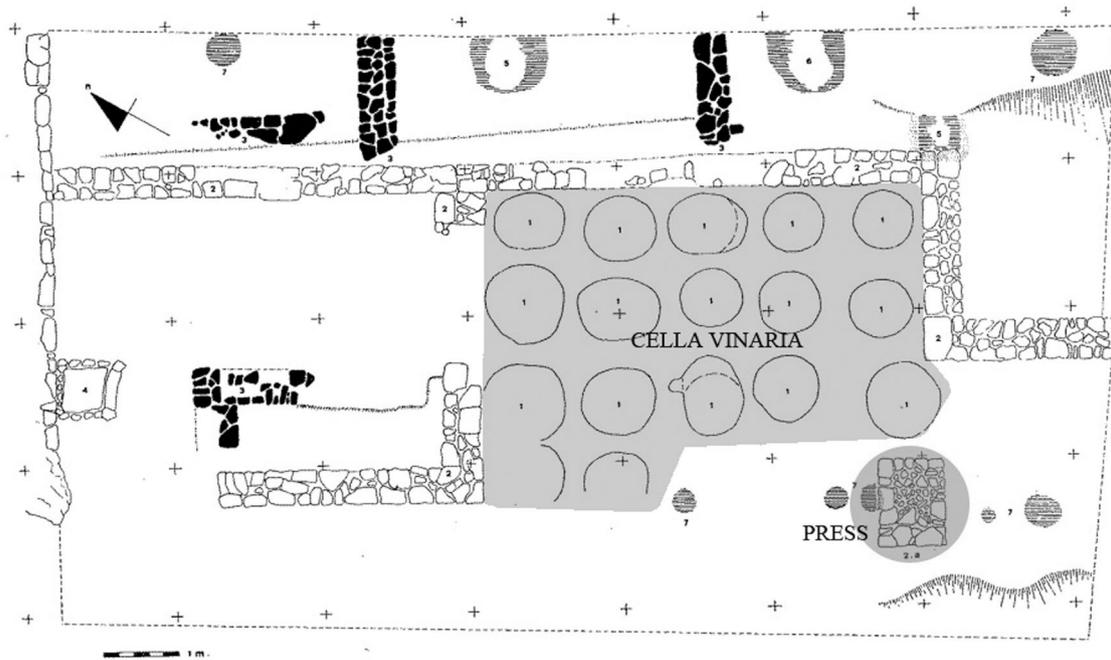


Fig. 4: Burrriac, *oppidum*: the wine warehouse.

There are no signs that point to the abandonment of the *oppidum* warehouse, so it is possible that it continued with its activity.¹⁹ This is especially probable, considering that Ca l'Arnau-Can Mateu was transformed into a kiln that made Dressel 1 wine amphorae in this period,²⁰ and that no other production centre has been identified in this area.

Similarly, there are indications that allow us to link the new cities with the commercial production of wine. At Iluro, archaeological layers linked to wine production were identified from the early phase of the Roman settlement.²¹ The kiln at Forns de la Riera de Sant Simó, which manufactured Dressel 1, may have supplied the amphorae.²² In the case of Baetulo, the indications of its participation in viticulture and wine trade are more subtle. They are reduced to fragments of local Dressel 1 amphorae found in a garbage dump outside the city walls that date to this period.²³ Given that winemaking facilities are known within Baetulo as early as the Augustan period,²⁴ it is likely that this activity had already been developed in the area.²⁵ The three cases documented for this period (the *oppidum* of Burrriac, Baetulo, and Iluro) have the same common denominator: wine production is linked to urban centres. In addition, all of them structure the activity in a similar way, and require the intervention of an external centre to be able to complete all phases of the process (fig. 5 b).

When it comes to the commercial viticulture and wine production of this region, the real point occurred in the last third of the 1st century BC. There was a profound territorial reorganization during the Augustan era, as evidenced by the appearance of a

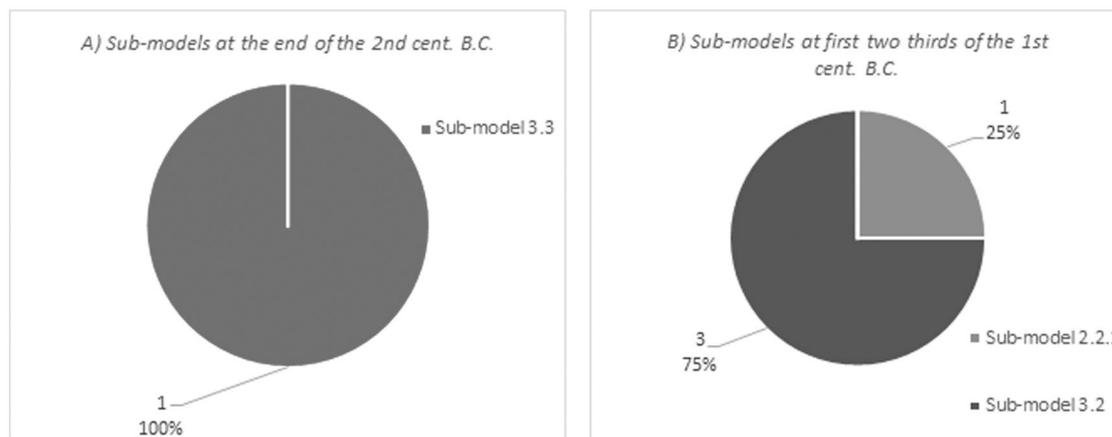


Fig. 5: Sub-models identifying different operational systems at the end of the 2nd century BC (A) and in the first two thirds of the 1st century BC (B).

new urban centre, Barcino, although this reorganization also affected existing cities and their territories. It meant the definitive disappearance of the territorial scheme of pre-Roman times and the introduction of new types of specialized production centres, such as the *villae rusticae*. It is possible to speak of a flourishing of commercial viticulture, with an unusual increase in the number of centres involved in this.²⁶ The sub-models of production linked to the urban world that had worked in the previous periods maintained their presence and even increased it with the incorporation of Barcino. But its weight in the total of sub-models identified for this period is diluted compared to the appearance of other sub-models that are generated around the new *rural* centres. Within the sub-models whose production is centred on *villae rusticae*, we find examples of centralized and autonomous *villae* (such as Santa Rita) that therefore fulfil the model of the ‘villa system’.²⁷ But we also find other *villae*, such as at Santa Anna,²⁸ Les Piques,²⁹ or Cal Ros de les Cabres,³⁰ which have full autonomy at the production level, but show the participation of auxiliary centres. Production sub-models where no *villae* participated also existed, like the kiln of Ca l’Arnau-Can Mateu. In the previous period, the kiln was associated with the *oppidum* of Burriac, but after the abandonment of this *oppidum* in the Augustan era it was connected to the artisanal settlement of La Peirota. Thus, it shows a different type of organization of production that can be placed in a separate sub-model.³¹ The Casc Antic de Sant Boi complex has a similar pattern, with the proviso that no centre for agricultural processing has been identified.³² However, we know that there must have been several, since its material record reveals the participation of more than one producer. At times, kilns appear in well-connected areas such as river valleys, but far from other specialized centres. This is, for example, the case of Sant Sebastià and Can Matavens.³³ They could have provided amphorae to more than one producer. Given that there are no known specialized centres in their vicinity, I proposed that these kilns made wine amphorae for small, non-specialized producers.

These examples serve to illustrate the enormous diversity of modes of operation, and hence of sub-models, registered for this period. They also show that the presence of *villae rusticae* was not necessary during the initial phases of commercial viticulture in my study area; in fact, villas were not essential even after commercial viticulture had emerged. My analysis of the available data shows that the proportion of *villae rusticae* within the sub-models group does not exceed 19% of the total (fig. 6a).

The following period (covering the first two thirds of the 1st century AD) continues the same principles established in the Augustan period. The number of centres dedicated to specialized production increase in this period, reaching its zenith. These production centres continue to fall within a wide variety of sub-models. Among some of the most significant cases for this period we can single out the site at El Morè. It was a large workshop that lacked any *pars urbana*. It had full productive autonomy, although it could count on some subsidiary centres; in addition to packaging its own wine, it could do the same for other producers. It represents perhaps the clearest case of an autonomous model generated from a workshop.³⁴

On the other hand, El Roser functioned according to the same model, but instead its epicentre was a *villa rustica*.³⁵ It was capable of carrying out the different phases of production by itself, but despite this, the possible participation of more than one producer is posited. I have also identified centres that had remained outside of specialized production until this period, like Vinya d'en Manel.³⁶ This site seems to have become a *villa rustica* in the mid-1st century AD. Its facilities categorise it as an autonomous and centralized *villa*, which shows the characteristics predicted by the 'villa system'. As for the earlier period, a wide diversification of productive sub-models can be seen. Centralized and autonomous *villae* increase slightly, and are, in fact, the most represented settlement type. However, they are far from being the prevalent unit of agricultural exploitation one would expect according to the current idea of the development of Roman agriculture. According to this historical reconstruction, all wine production destined for trade would have taken place within the 'villa system', that is, through centralized and autonomous *villae* (fig. 6b).

The tendency for the sustained increase of centres related to the specialized production of wine stopped in the last third of the 1st century AD. From this moment, and throughout the following century, a perceptible decline can be seen from the disappearance of several of the amphora types used in previous periods (e.g. Oberaden 74 and Pascual 1), accompanied by the reduced presence of the most abundant type, the Dressel 2-4. This process coincides chronologically with the incorporation of other provinces, specifically *Gallia Narbonensis*, into commercial viticulture. Its wine was transported in Gauloise 4 amphorae, a type imitated by some kilns of *Hispania citerior*. However, its incidence was low compared to the flourishing experienced in previous periods. As an example of the most significant changes registered throughout this period, one can look at the site of Can Farrerons. This site was a workshop focussing on the production and packaging of wine for commerce, but after its kiln and its productive facilities ceased

to operate in the second half of the 1st century AD, it became a luxurious residence, with no evidence for viticulture.³⁷ Another site noted in previous periods as part of the production organization of Ca l'Arnau-Can Mateu and La Peirota was disarticulated in the same period due to the abandonment of both sites.³⁸ The incorporation of new production centres into the system also took place, although to a lesser extent.³⁹ The general decrease in specialized wine production seems to have caused an expansion of the sub-model based on centralized and autonomous *villae*. This shows a greater representation in this period, which is not the result of a significant increase in the number of known cases (fig. 6c).

In light of these results, it can be said that, at least in my study area, it is possible to approach the specialized production of wine in a more complex way. The weight of centralized and autonomous *villae rusticae* in the total production is particularly interesting. Not only does it show that there was specialized wine production prior to the introduction of *villae rusticae* in the region, but also that their participation in this activity, while important, was far from being hegemonic.

Notes

¹ Cato agr. 2, 1–6; 5, 2; 6, 4; 7, 1–5. 65–68; Varro rust. 1, 2, 14; 1, 16, 5; 1, 17, 1; 1, 18; 1, 22, 6; 1, 36; 3,2,1–10; Columella 1, 2, 2; 1, 6; 1, 9.

² Molina Vidal 2013, 136.

³ Carandini 1985.

⁴ Álvarez Tortosa 2017, 698–699.

⁵ Álvarez Tortosa, 22–29.

⁶ Álvarez Tortosa, 86–98.

⁷ López Mullor – Martín Menéndez 2008, 691; Járrega Domínguez – Prevosti Monclús 2010, 470–471.

⁸ Coll Monteagudo – Cazorla Carrera 1998; García Roselló – Zamora Moreno 2006, 230; Zamora Moreno 2007, 289. 312; Álvarez Tortosa 2017, 106–115.

⁹ Martín Menéndez 2002; 2004, 393–396; Martín Menéndez – García Roselló 2007, 70; Pera Isern et al. 2016, 193–198.

¹⁰ Olesti Vila 2000, 66.

¹¹ Zamora Moreno 2007, 52, 126–127. 210–211.

¹² Pera Isern et al. 2016, 195–196.

¹³ Zamora Moreno 2007, 100.

¹⁴ Barberà Farràs – Pascual Guasch 1980, 227.

¹⁵ Pera Isern et al. 2016, 194.

¹⁶ Olesti Vila 1997, 83–90.

¹⁷ Álvarez Tortosa 2017, 114–115.

¹⁸ Jiménez Fernández 2002, 65–66; García Roselló et al. 2000, 41–42.

¹⁹ Álvarez Tortosa 2017, 164.

- ²⁰ Martín Menéndez 2004, 378.
- ²¹ Parra Ale – Acedo Rodríguez 2002, 3–4.
- ²² Olesti Vila 1995, 456–457; Revilla Calvo 1995, 258.
- ²³ Comas Solà 1998, 221.
- ²⁴ Beltrán de Heredia Bercero – Comas Solà 2009, 162.
- ²⁵ A kiln very close to this city, at Línia 2 Pep Ventura-Badalona Centre is known, see Antequera Devesa et al. 2010, 280–286.
- ²⁶ Álvarez Tortosa 2017, 171–179.
- ²⁷ Járrega Domínguez – Berni Millet 2014, 394–396.
- ²⁸ Ruestes Bitrià 2002, 388–390.
- ²⁹ Ruestes Bitrià 2002, 220–221.
- ³⁰ Martínez Ferreras 2014, 184. 193–194.
- ³¹ Ruestes Bitrià 2002, 643–644; Álvarez Tortosa 2017, 196–197.
- ³² Martínez Ferreras 2014, 53–57.
- ³³ Ruestes Bitrià 2002, 387; Olesti Vila 1995, 445.
- ³⁴ Tremoleda Trilla 2008, 121–122.
- ³⁵ López Mullor-Fierro Macía 1985, 203–205.
- ³⁶ Oller Guzmán 2012, 265–266.
- ³⁷ Coll Monteagudo et al. 2016, 136.
- ³⁸ Martín Menéndez 2004, 395–396; Martín Oliveras 2004, 622.
- ³⁹ E.g. the site at Santa Maria de les Feixes, which was a villa equipped with a kiln that produced Gauloise 4 amphorae: Oller Guzmán 2012, 88–89.

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Fig. 1–3. 5–6: by the author. – Fig. 4: by the author after Barberà Farràs – Pascual Guasch 1980, 227 fig. 10.

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