

# The relationship between agricultural production and amphora manufacture on Roman Crete

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While there have been a number of inquiries into agricultural production and amphora manufacture, discussion of the relationship between the two remains limited. A recent article by A. Bevan that examines the history of ‘containerization’ in the Mediterranean from the early Bronze Age to the 20th c. A.D. illustrates one side. It focuses on different manifestations of containers, emphasizing their cultural impact over the whole history of civilization in the region.<sup>1</sup> While underscoring the importance of these transport vessels as packaging, particularly for liquid commodities, he provides limited consideration of the mechanisms behind the goods moving into these containers. Studies concerned with agricultural production are also on the rise,<sup>2</sup> but scholars often limit the focus to amphorae. For instance, in analyzing capital investment in large-scale farms, A. Marzano commented:<sup>3</sup>

rather than attempting a study of agricultural production through the containers for foodstuffs, this investigation focuses on the presses, the machinery for the processing of grapes and olive.

A decoupling of agriculture and amphorae appears to be entrenched, even though assessing how and where foodstuffs were packaged can improve our understanding of economic organization and the infrastructure involved in the distribution of agricultural products.

This paper considers the relationship between agricultural production and amphora manufacture by examining these processes on the island of Crete from the 1st to the 4th c. A.D., a period for which kilns and the export from Crete of amphora-borne goods are well documented. Studies of Cretan amphorae tend to focus on their distribution and on the implications of those patterns for understanding the rôle of the island in pan-Mediterranean exchange networks.<sup>4</sup> To provide a framework for interpreting evidence from Crete, I will focus first on papyrus texts from Roman Egypt that sheds light on the institutional structures that linked agricultural production and amphora manufacture. I then turn to a critical assessment of evidence from Roman Crete. Interpretations gleaned are then viewed through the lens of Behavioral Economics, which brings to light a series of underlying structures designed to ensure the effective and efficient distribution of agricultural products like wine and olive oil.

## Agriculture and amphorae: evidence from Egypt

The relationship between the production of foodstuffs and their transfer to amphorae remains understudied. One reason could be a supposition that both processes regularly

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1 A. Bevan, “Mediterranean containerization,” *CurrAnthr* 55 (2014) 387-418.

2 E.g., see A. Bowman and A. Wilson (edd.), *The Roman agricultural economy: organization, investment, and production* (Oxford 2013).

3 A. Marzano, “Capital investment and agriculture: multi-press facilities from Gaul, the Iberian peninsula, and the Black Sea region,” in Bowman and Wilson *ibid.* 107.

4 A. Chaniotis, “*Vinum creticum excellens*. Zum Weinhandel Kretas,” *Münstersche Beiträge zur antiken Handelsgeschichte* 7 (1988) 62-89; A. Marangou-Lerat, *Le vin et les amphores de Crète de l’époque impériale* (Athens 1995); S. Gallimore, *An island economy: Hellenistic and Roman pottery from Hierapytna, Crete* (New York 2015) 286-95 and 307-14; *id.* “Crete’s economic transformation in the Late Roman Empire,” in J. Francis and A. Kouremenos (edd.), *Roman Crete: new perspectives* (Oxford 2016) 175-88.