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# Market strategies in the Roman provinces: Different animal husbandry systems explored by a comparative regional approach



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#### ABSTRACT

The Roman occupation led to urbanisation, trade and population increases in the northwestern provinces, which caused an increased demand for food. The adaptation of agrarian regimes to satisfy this increased demand is still little understood. Zooarchaeological data from two regions were analysed in order to identify and explain broad patterns in animal husbandry in regions that are known to have had a different development. Such a systematic and direct comparison of zooarchaeological data from two regions in the Roman Empire has not been carried out before. The data set contains 128 assemblages from 81 rural sites in the Lower Rhine region in the Netherlands and the northern part of modern Switzerland, with a total of over 68,000 bone fragments of cattle, sheep or goat and pig. Analysis revealed differences in species proportions, with cattle and horse more important in the Dutch research area and pig and chicken in the Swiss research area. Slaughter ages revealed further differences in exploitation, with a larger focus on meat in the Dutch research area, and a larger emphasis on arable farming, transport and industry in the Swiss research area. The Swiss research area also shows evidence of more intensive pork production. Cattle increase in size in both research areas, but are generally larger in the Swiss research area. The differences in animal husbandry can be related to different modes of agrarian production, with a larger scale of farming and a higher extent of specialisation found in the Swiss research area. The conclusion of this study is that while changes in animal husbandry occur throughout the Roman Empire as a result of economic and demographic developments, different regions responded in different ways.

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### 1. Introduction

#### 1.1. Objective and research questions

The majority of the population of the Roman Empire was involved in agriculture (Drexhage et al., 2002, 59; Scheidel, 2012, 1). Indeed, it can be argued that the success of the Roman Empire can be attributed to the success of agrarian production. To satisfy the demand for food, agrarian production in the provinces had to adapt. Farmers could respond in several ways: by intensification, expansion or specialisation. All have been recognised for the Roman period (e.g. Deschler-Erb, 2006; Deschler-Erb and Akeret, 2011; Groot, in press; Hesse, 2011; Kreuz, 2005; Lepetz, 1996; Peters, 1998). Within the Roman Empire, there existed vast differences in how farming was practised. These differences mainly result from differences in the scale, organisation, extent of specialisation, and degree of diversification of the farms. Some regions,

such as the lowland of Switzerland, saw the development of villas: agricultural businesses that produced food (mainly crops) at a large scale. In other regions, such as the central part of the Netherlands, villas were rare, and rural settlements consisted mainly of small farms. How such different regions – with different traditions, cultures, political situations and landscapes – adapted their agrarian regimes after the arrival of the Romans is still little understood. This paper explores the differences in animal husbandry in two regions in the northwestern provinces of Germania Inferior and Germania Superior (the Lower Rhine region in the Netherlands and the northern part of modern Switzerland (Fig. 1)).

The main objective of this paper is to discover how the animal husbandry regimes of the two research areas developed during the Roman period, whether the trajectories were similar, and if not, how they differed and why. This objective will be achieved by addressing several more specific research questions. First, what was the relative importance of the main domestic animals? Second, what products were the main domestic animals exploited for? Third, do the relative importance of the main domestic animals and the products they were exploited for differ between the two research areas, and are there changes over time within each area? And finally, are there differences in the size of cattle between

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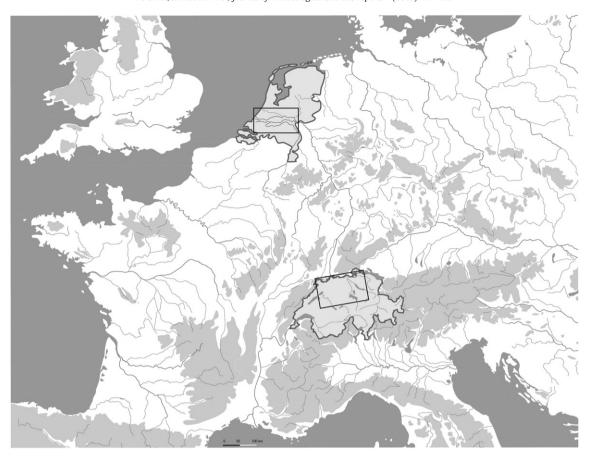


Fig. 1. Map of the northwestern part of the Roman empire, showing the two research areas. Modified after S. Fichtl — UMR 126–6.

the two research areas, and how does cattle size develop over time in each area?

#### 1.2. Background

The northern part of modern Switzerland was part of the Roman Empire from the end of the 1st century B.C., with the river Rhine forming the border of the Empire until A.D. 101. The area was already densely populated at the end of the Iron Age, with evidence of early urbanisation (Balmer, 2009; Müller et al., 1999, 163-169). Prehistoric and Roman settlements were mostly situated in areas up to an altitude of about 500 m, since agriculture was not promising in higher altitudes due to climatic and topographical reasons. Soils are fertile and agriculture is still important today in this region. In the Roman period, the main type of farm in this area is the villa (Fig. 2) (Ebnöther and Monnier, 2002). A villa is a type of agrarian business, producing food and other products for the Roman markets in the so-called pars rustica where the farmworkers lived and worked. Villas can also be seen as a social institution: their owners who occupied the main building (pars urbana) were the urban elite, who fulfilled administrative or political functions in the town and left the day-to-day working of their villas to agents. The villa was an expression of the elite's social status but also provided income (Roymans and Derks, 2011, 2, 7–8). Although most known villas in the Swiss research area have a starting date in the late 1st century A.D. (Ebnöther and Schucany, 1998), the lack of earlier rural settlements is believed to be due to the current state of research,<sup>2</sup> and an intensive agriculture and animal husbandry started already before the installation of the Roman province in 15 B.C. Furthermore, the western part of Switzerland was heavily influenced by the advanced and intensive agriculture in Celtic Gaul.

The central part of the Netherlands became part of the Roman Empire in the late 1st century B.C. The river Rhine was also the border in this region and – unlike the Swiss area – remained so during the entire Roman period, with a strong military infrastructure built during the 1st century A.D. (Bechert and Willems, 1995, 25). Urbanisation in this region was limited, and did not start until the beginning of the Roman occupation. Very few villas are found here; instead, the countryside was dominated by small, mixed-farming settlements (Fig. 2). In the western part are extensive peat wetlands through which the river Rhine runs with its accompanying levees and flood basins. At its western edge, the Rhine crosses a series of sandy dune ridges and peaty barrier plains. The eastern part is a river landscape, defined by river channels and their sedimentations. Active river channels, stream ridges and flood basins formed the main elements of the landscape. The meandering rivers changed their course over time and often flooded their banks in winter. As a result, the area suitable for arable farming was limited. Habitation consisted mostly of traditional byre houses, with man and cattle living under one roof. The evidence of imported goods such as pottery, glass and metal is widespread in rural

 $<sup>^{-1}</sup>$  Schucany, 2011 describes a hierarchy of large villas, middle-sized villas and small farmsteads for the Aare Valley.

<sup>&</sup>lt;sup>2</sup> Several Late Iron Age "fermes indigènes", which are typical for Gaul, are now known, e.g. Messen (SO) and Reinach-Mausacker (BL). Schucany, 1998; Tauber, 2006. The earliest villas were built in wood and may have been missed in earlier excavations. See also Ebnöther and Monnier, 2002.

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