

66.10 Roman and medieval measurements

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Certainly by 1300 the standard English perch was 5.029m; a Roman *pertica* was 5.032m, and was one of a number of measurements set down in the 9th-century Carolingian *Codex Gudanius* using the Roman foot; one *pes monetalis* equalled 0.295m. The *decempeda*, a unit of ten *pedes*, or 2.95m, was used for surveying, but was generally rounded to 250, 275 and 400 standard Roman feet (Crummy 2001).

The difference of 3mm between the perch and *pertica* is negligible; the La Grava measurement appears to be a fraction over 5m at 5.03m. Unfortunately we do not know the total area covered by these measurements, but an overall layout can be hypothesised. Roman land measurements had three principal quantities:

Actus quadratus = 12 x 12 *perticae* [c 3600 square metres]

Jugerum = 12 x 24 *perticae*

Heredium = 24 x 24 *perticae*

Apparently the 1st century AD topographical author Hyginus was emphatic that the rectangular *jugerum* was the universal unit rather than the square *actus* for ploughing terms (Hultsch 1866, 60). The *heredium* was the standard plot of land given to veterans when they retired from the Roman army.

Crummy (2001) noted that post-Roman street systems were in multiples of four poles, and cited Winchester where the main road was about 16 poles wide, and Salisbury where the building strips were 16 poles wide; four poles make one chain, or 22 yards. Many of the streets in Lincoln have proved to be early medieval rather than Roman. The Romans worked in squares and rectangles, the latter at a ratio of 2:3, and surveyed by a simple system of *mensures*. This was the formation of a right-angled triangle, with the hypotenuse equalling the sum of the other two sides, and used a square called a *norma*; such an instrument was found on Watling Street, dated to the 2nd century (Dilke 2001).