Inferring changes in agricultural soil amendments, from the late Bronze Age until Late Antiquity, in northern France, by investigating the weed flora composition.

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Abstract

We investigate the weed flora composition of 372 archaeological occupations, dated from the Late Bronze Age (1350 BP) to Late Antiquity (500 AD), in order to gain better insight into the evolution of agricultural soil amendments in northern France. The settlements under review are located in Brittany, Pays-de-la-Loire, Normandy, Haut-de-France, Ile-de-France, Centre-Val de Loire and Grand Est regions. For each site, topographical location, geological and pedological contexts were listed. 250 taxa of arable weeds, ruderals and grassland species were indexed for the entire data set. Life traits of the species (physiological, phenological traits...) are analysed according to functional ecology principles as defined in the FIBS (Functional Interpretation of Botanical Surveys) approach developed by Charles *et al.* 1997. Fertility management by soil enrichment with organic matter (meaning the role of manure) and carbonate rocks (that is potential role of marling and liming) were explored. We used the composition of weed assemblages, in order to trace (archaeo-) agronomic soil chemistry manipulations in relation with such agricultural practices. Archaeobotanical indicators under examination are "nitrogen demand of arable weeds" and "sensitivity of arable weeds to soil pH" on 3 types of pedological context (calcareous soils, silicic soils with underlying limestones, silicic soils with underlying acidic rocks). Charles M, Jones G, Hodgson JG (1997) FIBS in Archaeobotany: functional interpretation of weed floras in relation to husbandry practices. *J Archaeol Sci* 24:1151-61

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