

**MEAT PROVISIONING AND PREFERENCE AT MONTICELLO PLANTATION
BY ELIZABETH C. SAWYER AND JOANNE BOWEN**

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Food acquirement, distribution, and consumption were part of a complex system at Thomas Jefferson’s Monticello. Slave diet hinged on not only the provisioning system established by Jefferson, but also different strategies for supplementing that diet. In addition, both the provisioning system and supplementation strategies changed through time in correspondence with changes to the plantation ecology. Exploiting the rich soils in what was then still the frontier of Virginia, Monticello slaves used hoe-based swidden methods to grow tobacco for Atlantic markets until the 1790s, when Jefferson shifted to the plow-based cultivation of wheat. These changes affected the diet of both the Jefferson household and their enslaved workers. This paper explores several facets of the plantation provisioning system, including changes in diet corresponding with ecological change, diet variation between slave quarters, diet supplementation methods, and corresponding aspects of the Jefferson family’s diet.

Assemblages from Mulberry Row and assemblages from the Kitchen Yard adjacent to the main house comprise this analysis. For this study, we identified the Mulberry Row assemblages as slave-related and the Kitchen Yard assemblages as primarily Jefferson-related. Artifactual and contextual data was generated by the Digital Archaeological Archive of Comparative Slavery (DAACS) and was part of the Mulberry Row Reassessment Project. Tens of thousands of faunal remains were analyzed in the Colonial Williamsburg Zooarchaeology Lab under the direction of Joanne Bowen and the dedicated work of Steve Atkins. This rich data set enables us to illustrate and investigate both slave and owner diets at Monticello.

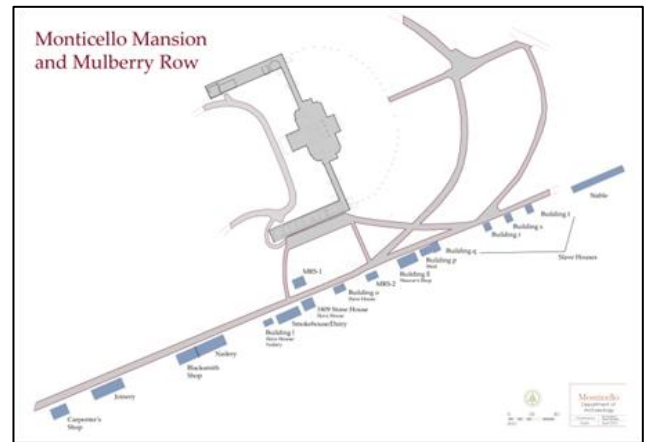


Exhibit 1.1. Composite map of Monticello Mansion and Mulberry Row, ca. 1770-1820.

Using site and plantation chronologies as discussed by Karen Smith (Smith, et al, 2012) in her earlier paper, we were able to evaluate changes in slave diet through time. Our research began with an investigation of changes in diet that coincided with Jefferson’s shift from tobacco to wheat agriculture (Jefferson 1796: 54). The dramatic change to the environment between the middle 18th and early 19th centuries is illustrated by analysis of chemical, grain size, and pollen records at three locations on Monticello Mountain. These sediment profiles show slash-and-burn deforestation was the agricultural strategy during the time when tobacco was the staple crop (Phases 1 and 2). A significant ecological change came with the move to a more diversified agriculture scheme centered around wheat (Phase 3), which resulted in permanent fields, rotation of crops, and the total loss of forest along Monticello’s eastern and southern slopes (Neiman, et al, 2002).

Phase	Date Range	Dynamics
4	1830-1900	Spatial extent of plow cultivation declines. Heavy erosion continues.
3	1795-1830	Extensive permanent fields. Crop diversification. Heavy erosion as a result of deeper plowing.
2	1770-1790	Deforestation in progress. Hoe cultivation leads to modest erosion.
1	1740-1770	Minimal forest disturbance. Limited cultivation of tobacco using swidden methods.

Exhibit 1.2. Pollen analysis results, grouped by ecological phases.

Building off of previous successful research methods (Clites, et al, 2009), our analysis uses abundance indices, computed using numbers of identified specimens (NISP), to evaluate changes in proportions of specific taxa in the assemblages through time. Zooarchaeological and documentary evidence agree that salt pork was the staple provisioned meat of the slave diet in the Chesapeake beginning in the late seventeenth century (Fashing 2005 and Graham, et al, 2007). Therefore, we use pig NISP as the denominator value for the abundance index as it remains fairly constant through time. Hence, for a given taxon, the “pig” index is computed as seen here. Since we use an index dependent on the presence or absence of pig remains in a given assemblage, all assemblages with fewer than 25 identified pig specimens were removed from the analysis. We also employed a generalized linear model in order to identify and illustrate temporal trends in index values more clearly.

$$TaxonIndex_p = \frac{TaxonNISP}{TaxonNISP + PigNISP}$$

Exhibit 1.3. Taxonomic Index equation.

As wheat cultivation and crop rotations took hold at Monticello, the availability of pasturage increased and likewise the consumption of both sheep and cows increased through time. This increase in “domestic grazers” is the most obvious and drastic change in the faunal record after the introduction of wheat. These animals grazed in fields left fallow or planted in clover during the seven-year crop rotation schedule established by Jefferson. Due to this increased presence on the plantation, cows and sheep likely became a larger portion of the provisioned slave diet, supplementing rations of pig meat.

Jefferson documents include provision lists for the enslaved workers at Monticello. Each worker received a “peck of cornmeal, a half-pound of pork or pickled beef, and four salted fish” each week as their primary rations (Stanton 2000: 29). Supplemental rations, including items like whiskey during harvest time and additional provisions for nursing mothers, were allotted as well (Stanton 2000: 70). These meager rations were not enough to sustain an individual and thus slaves turned towards hunting, fishing, trapping, gardening, and raising animals in their sparse free time to supplement their provisions from Jefferson.

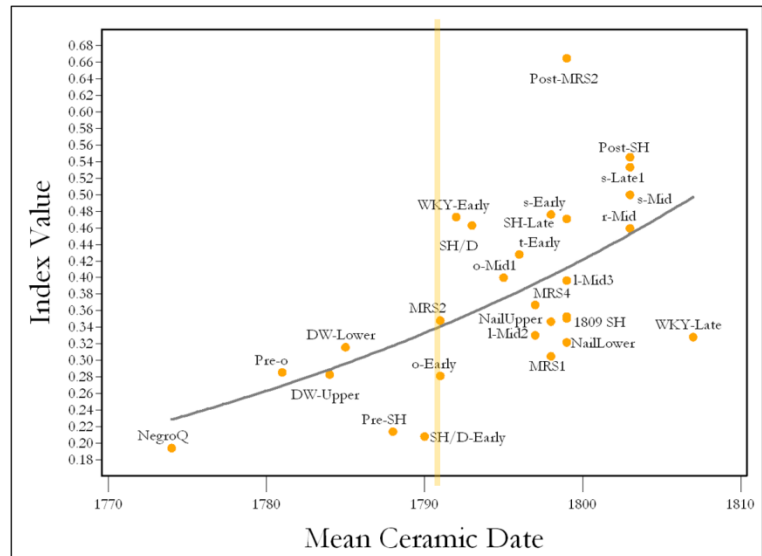


Exhibit 1.4. Domestic grazers (cow and sheep) index values by site phase through time. The vertical line indicates the agricultural shift to wheat agriculture in the 1790’s, here and throughout.

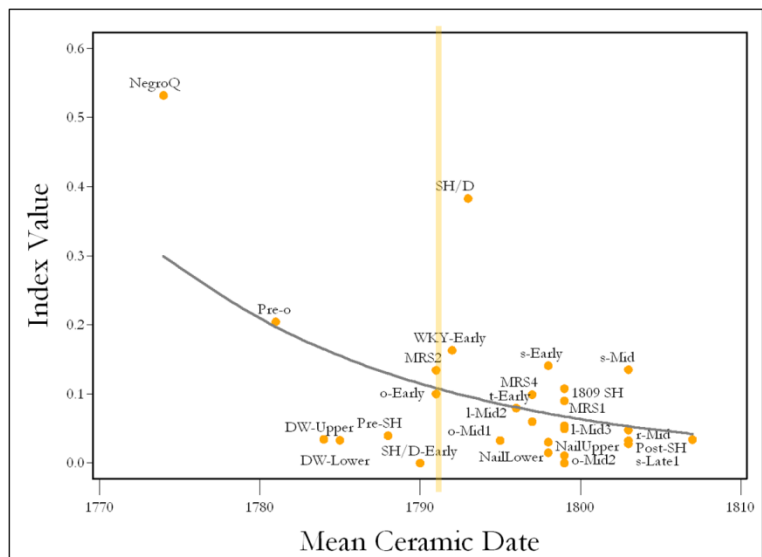


Exhibit 1.5. Hunted and trapped animals index values by site phase through time.

Many wildlife species were exploited in the early occupation of Monticello. As the mountain was cleared for agriculture and forests were depleted, several species became less available for supplementing provisions. As seen here, the consumption of hunted and trapped mammals and wild birds overall declined through time. These animals include squirrels, deer, woodchucks, and opossums. More specifically, the deer index graph (not shown here) illustrates a decline in the consumption of deer on the mountaintop through time, with a marked change by Monticello II. While never a large component of diet, this trend suggests a relationship with habitat and/or population depletion. In addition, by Monticello II not only were local deer less available, but other large mammals such as sheep and cow were incorporated into the provisioned diet by this time.

One exception to this trend is the presence of turtle remains in these assemblages. Contrary to how we saw other hunted and trapped animals decrease after the introduction of wheat agriculture, turtle remains have a marked increase during and after the agricultural shift. These remains include both land and water turtles, but are predominated by land turtles, specifically the box turtle. Why, then, do their numbers increase as wooded areas were depleted? Perhaps they were better able to adapt to living in fields or field borders or needed less wooded areas to survive than their other wildlife counterparts. Or, perhaps this trend demonstrates slaves taking advantage of the presence, even if limited, of slow, easy-to-acquire prey. These animals may also represent a preferred food source or a hunting specialization, a theme which will be discussed later in this paper.

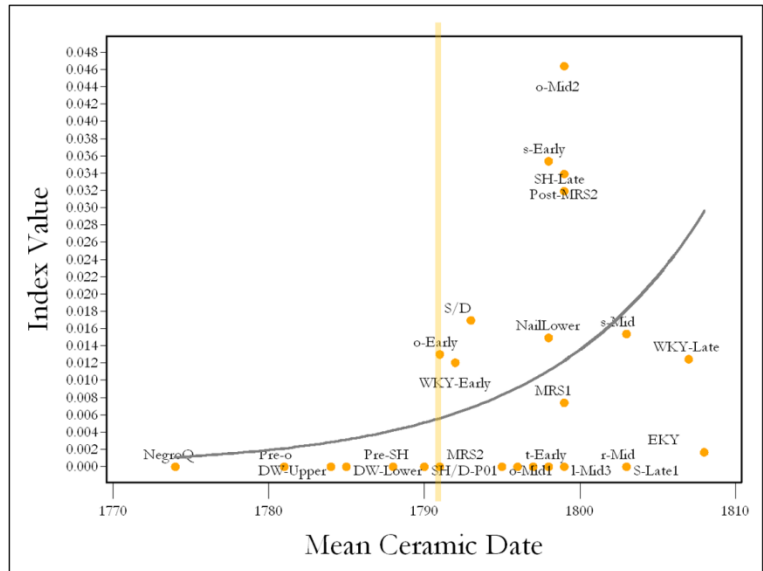


Exhibit 1.6. Turtle index values by site phase through time.

Turtles aside, the pattern of wildlife becoming less and less prevalent in faunal assemblages through time is very similar to the early settlement of the Chesapeake region. Joanne Bowen's extensive research and analysis of plantations in the Chesapeake throughout the 17th and 18th centuries describes this pattern at length. In brief, before herds of livestock were well established and before areas were deforested, owners and slaves alike took advantage of local wildlife to supplement their diet (Bowen 2008a and 2008b). This shift from "frontier" diet to "settled" diet is clearly visible in the trends at Monticello. Deer, for example, were not only more prevalent in the early Jefferson period on Monticello Mountain, but they were also a more necessary food source prior to the abundance of other large mammals, namely cows and sheep, in later years.

As previously stated, the shift from tobacco to wheat agriculture changed slave work routines. This new regime provided slaves with slightly more free time, as the new cash crop was significantly less labor intensive and no longer required gang labor organization. (Jefferson, Martha 1772-1782: 27) We know from historical documents that slaves took advantage of this time to grow vegetables and raise animals to then sell to the main house, providing them with cash to acquire the costly goods mentioned in several other papers today. (Stanton 2000: 28, 40) Joanne Bowen's extensive research of the Jefferson family account books shows that large quantities of goods including produce, fowls, eggs, and dairy products were routinely sold to the Jefferson family. The accounts

are incomplete, but they still paint a clear picture of how the slaves actively participated in the plantation economy.

As seen here, fowls and eggs were the primary animal products purchased by the Jefferson household from their slaves. This trend continued in the 19th century, as seen in the accounts kept by Anne Cary Randolph (not shown here). Similarly, turkey, goose, and duck remains are present at sites throughout Mulberry Row. Some of these animals, such as geese and ducks, may have been kept animals. Unfortunately, the data from the faunal remains is inconclusive as to whether they were predominantly raised or hunted animals.

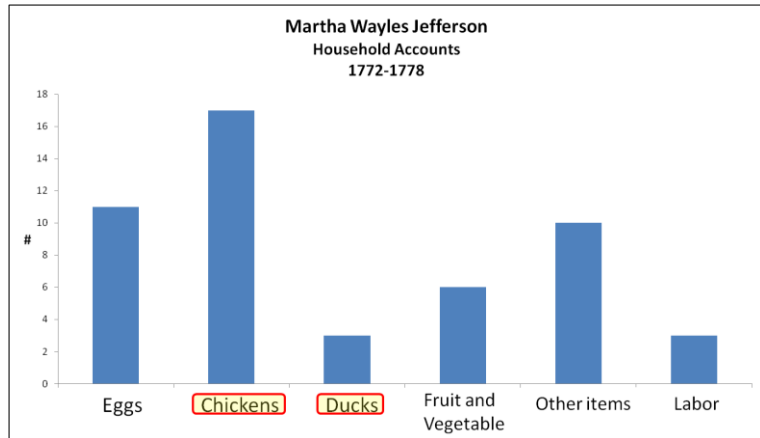


Exhibit 1.7. Items purchased by the Jefferson household from Monticello Plantation slaves.

Furthermore, while the account books record from whom products were purchased, it is extremely difficult to positively assign inhabitants to specific dwellings on Mulberry Row. We do know that some members of the Hemings family likely inhabited Buildings *r*, *s*, and *t* on the eastern end of Mulberry Row. John Hemings is recorded several times in Anne Cary Randolph's account book as supplying chickens to the main house in the early 19th century. All three of the above named buildings on the east of Mulberry Row have relatively high index values for chickens. One can posit that John Hemings was raising chickens, selling eggs for cash, and then consuming the chickens themselves at home.

However, other evidence of raising animals along Mulberry Row is abundant in the archaeological record. For example, chickens, likely kept in small yards and coops in adjacent to the slave cabins on Mulberry Row, were both consumed by slaves and sold, in addition to their eggs, for cash. The presence of chicken remains decreases very slightly through time, but overall chickens were a primary component of supplementation of provisioned diets.

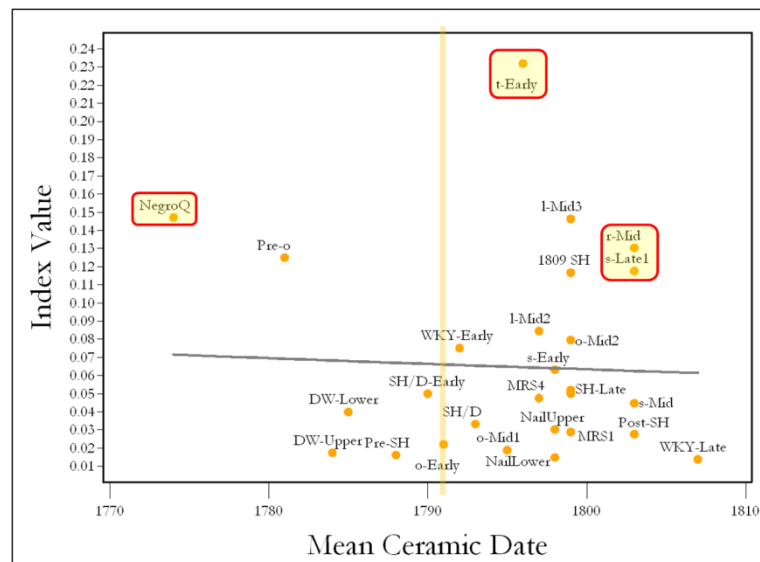


Exhibit 1.8. Chicken index values by site phase through time. Phased assemblages from Buildings *r*, *s*, and *t* are highlighted.

A less intuitive example of raising animals on Mulberry Row is found in the presence of rabbits in these assemblages. Habitat for these small mammals increased as more fields were cleared for the wheat crop rotation, likely making them a more readily available hunted animal. However, one account from a slave at Monticello indicates that rabbits were raised during at least one period of time on the mountain to be served on Jefferson's table (Bear 1967). It is highly likely that slaves on

Mulberry Row also raised rabbits for their own consumption. Analysis of rabbit bones from these assemblages to determine more decidedly what proportion of rabbits were domesticated is the focus of future research.

Further investigation of wildlife and raised animals along Mulberry Row suggests that some inhabitants supplemented diet more than others or supplemented in different ways. While all the sites along Mulberry Row, when looked at as a whole, comprise and follow the aforementioned general trends, there is variation amongst the Mulberry Row sites. We identified two statistically significant trends in these variations.

First, when the pig index values for rabbits and the turkey-geese-duck category (grouped together because they are all large fowl that were likely hunted but possibly raised at times) are graphed against each other, we see that some sites have very high turkey-geese-duck index values (plotted vertically) but very low rabbit values and vice a versa. There are several possible explanations for this trend. It could be evidence of some slaves hunting (turkey, geese, duck) versus other slaves raising animals (rabbits). Or it could be differences in dietary preference. Or it could be people hunting near home (rabbits in nearby fields and field boundaries, garden south of Mulberry Row) versus people traveling to hunt (woodlands for turkeys, river for geese and ducks).

Opossums and deer follow a similar trend (not pictured here). Opossums are not dependent on a specific habitat and are thus more likely to be found over most of the mountain and were more readily available and less labor intensive to hunt. Conversely, the deer's natural wooded habitat was depleted quickly on the mountain and thus those hunting deer in later years likely had to travel farther to find and hunt those deer. Future research will try to identify the "why" behind these and other similar trends.

Finally, we investigated trends in diet change, or lack thereof, in the Jefferson household and how it compared with their Mulberry Row counterparts. In general, the Kitchen Yard assemblages follow the same general trends as the sites on Mulberry Row, as seen on the domestic grazers graph (see Exhibit 1.4). One exception is found in the turkey-geese-duck category. Two of the Kitchen Yard

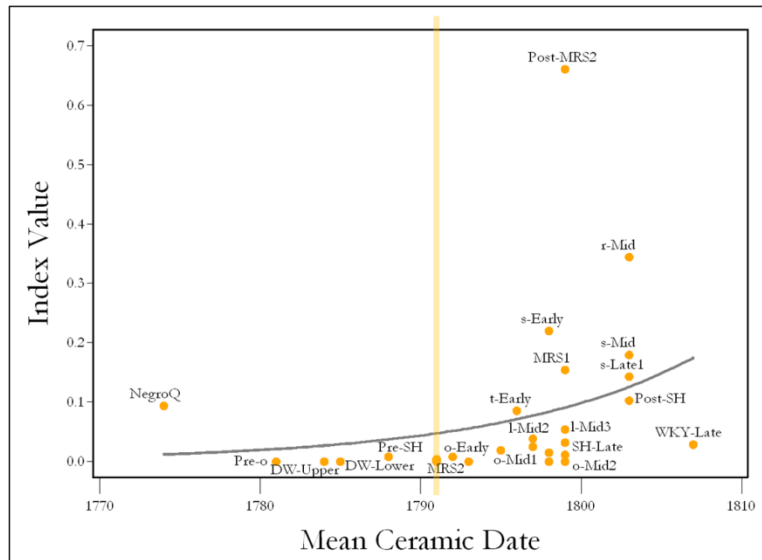


Exhibit 1.9. Rabbit index values by site phase through time.

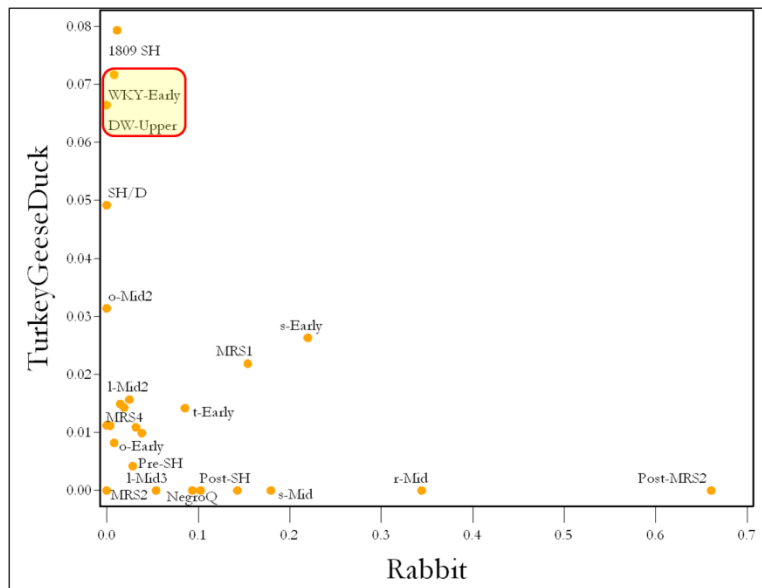


Exhibit 1.10. Rabbit index values plotted against Turkey-Geese-Duck index values. Assemblages from Jefferson household deposits are highlighted.

assemblages have very high index values for this category (see Exhibit 1.10). We know from the account books that the Jeffersons purchased many of these animals from their slaves, which may explain why they are seen in higher proportions in the Jefferson deposits. While the inhabitants on Mulberry Row consumed some of these animals for themselves, it seems likely that they sold large quantities to the main house in preference for cash instead of personal consumption.

When grouped together and reviewed in light of different agricultural regimes, some additional differences emerge between the inhabitants of Mulberry Row and the Jefferson household (Exhibit 1.11). However, these variations are only very slight. One can see that the WKY assemblages consistently have more beef than their MR counterparts. However the sheep/goat category, which one would expect to also be consistently higher for Jefferson household assemblages, is more prevalent in MR assemblages after the transition to wheat agriculture.

Furthermore, the presence of non-provisioned animals in the MR assemblages (animals that are hunted, raised, trapped, fished, etc) goes up slightly in the wheat agricultural phase. This illustrates the greater access to these types of animals as slaves have more personal time available to hunt, trap, fish, and raise animals under the new agricultural regime. Finally, the slight increase of “non-provisioned animals” in the Jefferson deposits is likely due to the increased availability on the mountain of raised animals such as chickens and rabbits, as previously demonstrated.

The dietary practices of the inhabitants of Monticello Mountain hinged on the availability of food resources, be they provisioned, raised, purchased, or hunted. Ecological changes affect slaves and owners alike and demonstrated the complex and essential relationship between those living at Monticello and their environment. We hope that this analysis is only the beginning of an examination of that complex relationship and look forward to future research.

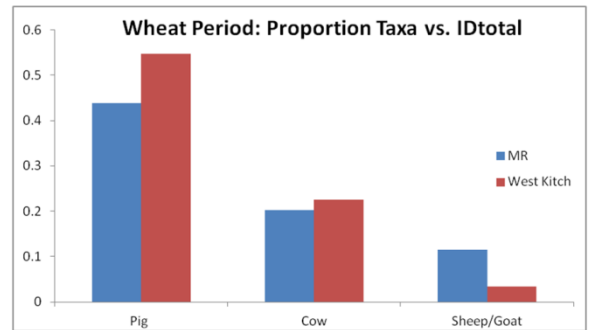
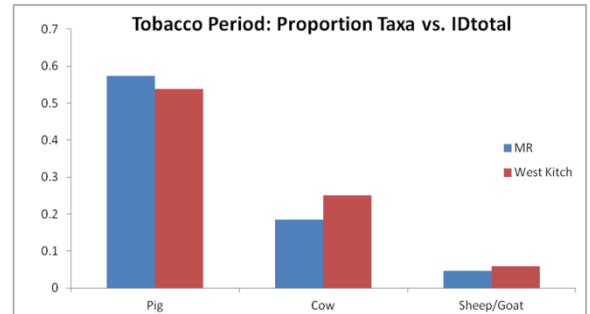


Exhibit 1.11. Proportions of different taxa, relative to the identified total of specimens, grouped by agricultural regime.

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