INTERSITE ANALYSES AND INTERPRETATIONS

This section of the report presents the results of several levels of intersite analyses conducted with the material remains of the Whitehart and Powell plantations. The goal of these analyses is to provide data on the late seventeenth and early eighteenth century society, domestic economy, and landscape of central Delaware as defined in the Delaware State Plan (De Cunzo and Catts 1990). Ames et al. (1989) defined the period from 1630-1730 in Delaware as one of "exploration and frontier settlement," and the Whitehart and Powell plantations represent the first generation of interior settlement in central Delaware. Because they are "frontier" sites spanning nearly five decades of life in Delaware, the Whitehart and Powell plantations can be analyzed in contrast to one another and other sites to define the lifeways of their occupants in the broadest sense.

The Whitehart and Powell plantations are the two earliest historical archaeological sites in Delaware to undergo complete data recovery operations. No other sites in Delaware from the same period have been comparably tested and analyzed. Two slightly later sites in Delaware, however, can be fruitfully compared to the two Pollack sites. The most intensively studied of the two sites is the Strickland Plantation (Catts et al. 1994). The Strickland Site is located approximately six miles north of the Powell and Whitehart plantations and was owner-occupied from ca. 1726-1764. The Stricklands were also relatively wealthy; by the time of William Strickland's death in 1754, he was one of the wealthiest ten percent of all taxables in Duck Creek Hundred. The second Delaware site is Thompson's Loss and Gain in southern Delaware. The site was a tenant-occupied dwelling from ca. 1720-1780. Salvage excavations did not fully excavate the site and only the broadest comparisons about site layout, architecture, and landscape can be made with the Whitehart and Powell plantations.

The following intersite analysis is presented in two parts. The first part concerns the domestic economy and overall social and economic context of Delaware's first inhabitants. Two related themes within domestic economy are explored: (1) ceramics and (2) foodways. The second major intersite analysis examines the social and physical landscape of the Whitehart and Powell plantations.

Domestic Economy

Ceramics. Historical ceramics are one indicator of the domestic economy of the people who purchased and used them. This domestic economy can be reconstructed on both household and local levels, and both levels of reconstruction can then be used to identify the broader social and economic context of local and regional change (De Cunzo and Catts 1990). The ceramic assemblages of the Powell and Whitehart plantations are unique in Delaware. Both sites have late seventeenth and early eighteenth century assemblages characterized by a predominance of coarse redwares and a narrow range of European kitchen and tablewares. Only four types of refined European wares were found at both sites: German and English salt-glazed stonewares, Staffordshire, and English tin-glazed earthenware. All four wares were common wares produced over most of the seventeenth and early eighteenth centuries. No later, second quarter of the eighteenth century wares such as white salt-glazed stoneware, Buckley,

North Devon, Chinese porcelain, or creamware were found in intact deposits at either the Whitehart or Powell sites. Our knowledge of these later wares is much greater than the early wares found at the Powell and Whitehart sites. Both sites date their ceramics rather than the ceramics dating the sites.

The presence of so few datable refined wares make the Whitehart and Powell assemblages difficult to compare to even slightly later sites like the Strickland Plantation. Sites occupied after the early 1730s contain a much wider range of imported ware types and vessel forms. Teawares especially begin to appear on Delaware sites after 1725. The Whitehart Plantation was abandoned ca. 1701 and no teawares were found at the site. The Powell Plantation was abandoned ca. 1730 and the five Staffordshire cups found there were probably not teawares as no teapots or other specialized teaware vessels were found.

The assemblages from both sites can be divided into three occupations. All of the ceramics from the Whitehart Plantation can be attributed to the single occupation of the site by one family from ca. 1681-1701. The Powell Plantation assemblage, however, can be divided into two occupations. The first occupation was the owner-occupation of the site by the John Powell family from 1691-1721. The artifacts from two deep features, Features H10 and H39, can be attributed to this first occupation. The second occupation of the site was by unknown tenants from ca. 1722-1735. Members of the related Powell/Pugh family may have been some of the tenants. The assemblages Features H11 and H47 date to the tenant occupation.

The frequency of different ceramic wares for the Whitehart, Powell, and Strickland Plantations are compared in Table 19. The Powell Plantation ceramics are broken into three categories: (1) owner-occupation ceramics from Features H10 and H39, (2) tenant-occupation ceramics from Features H11 and H47, and (3) total features. The ceramics from all of the features of the Whitehart and Strickland sites were treated as single assemblages. Sherd counts were used for all three sites.

The ranked frequencies and results of difference of proportion tests for each ware type from the three sites are presented in Table 20. While redware was by far the single most common ceramic ware at all three sites, the owner occupants of the Powell Plantation used significantly fewer redwares than the later tenants of the site and the Whitehart and Strickland families. Between 71 percent and 74 percent of the Powell tenant, Whitehart, and Strickland assemblages were redwares. Redwares, however, accounted for only 47 percent of the 283 ceramic sherds from the Powell owner assemblage. The difference in redware frequencies between the Powell owner occupation and the other three occupations is statistically significant (Table 20). Refined European wares accounted for the difference. The owner-occupied features at the Powell Plantation consistently contained higher percentages of imported Staffordshire, tin-glazed, and German blue-and-gray stoneware than either the later tenant occupation or the Strickland and Whitehart sites (Table 19).

Significant variation in the frequencies of four other wares were identified. The four wares were Staffordshire, tin-glazed, English brown salt-glazed stoneware, and German blue and gray stoneware. The later Strickland Plantation also contained significant percentages of white salt-glazed stoneware and Chinese export porcelain. None of these wares, however, were found at the earlier Powell or Whitehart sites (Table 19). Staffordshire accounted for six to nine percent of the Powell owner, Powell tenant, and Strickland assemblages (Table 19). No Staffordshire sherds were found in the Whitehart features. The absence of Staffordshire in the Whitehart features, however, is not archaeologically significant as 15 sherds were found in the plow zone and the difference in Staffordshire frequency is probably due to the degree of plowing at the site.

TABLE 19

Frequency of Ceramic Wares by Feature Sherd Count

Ceramic Types	Whitehart Plantation 1681-1701	Powell Plantation Owner Occup. 1691- 1721	Powell Plantation Tenant Occup. 1722-35	Powell Plantation Total Features	Strickland Plantation
Redware	18 (72%)	132 (47%)	284 (74%)	427 (63%)	5122 (71%)
Staffordshire	--	26 (9%)	30 (8%)	58 (8%)	419 (6%)
Tin-Glazed	--	29 (10%)	15 (4%)	48 (7%)	493 (7%)
English Brown Stoneware	2 (8%)	18 (6%)	3 (1%)	22 (3%)	33 (<1%)
German Blue and Gray Stoneware	-- --	27 (10%)	22 (6%)	50 (7%)	10 (<1%)
White Salt-Glazed Stoneware	--	--	--	4 (<1%)	585 (8%)
Porcelain	--	--	--	--	127 (2%)
Other and Unidentified Wares	5 (20%)	51 (18%)	27 (7%)	73 (11%)	452 (6%)
Total	25	283	381	682	7241

The Whitehart features also contained no tin-glazed earthenware. Tin-glazed earthenware frequencies at the other three occupations ranged from four to ten percent for the Powell tenants and seven percent for William Strickland (Table 19). The two assemblages with the least tin-glazed, the Powell tenant and the Whitehart assemblages, contained significantly less tin-glazed than the Strickland and Powell owner assemblages (Table 20). The frequencies of English brown and German blue and gray stonewares vary greatly among all four occupations (Table 20). The Whitehart and Powell owner assemblages contained significantly more English brown salt-glazed stoneware sherds than either the Powell tenant or Strickland Plantation. The paucity of such early wares at the Strickland Site may be due to its slightly later occupation when white salt-glazed and creamware hollowwares become available.

TABLE 20

Ranked Ceramic Ware Frequencies and Results of Difference-of-Proportion Tests

REDWARE	Frequencies		Test Results PO	PT	SP
Powell Tenant (PT) :	74%	WP	**2.43**	0.28	0.14
Whitehart (WT) :	72%	PO		**7.35**	**8.66**
Strickland (SP) :	71%	PT			1.59
Powell Owner (PO) :	47%				
STAFFORDSHIRE			PO	PT	SP
Powell Owner (PO) :	9%	WP	1.58	1.46	1.24
Powell Tenant (PT) :	8%	PO		0.60	**2.38**
Strickland (SP) :	6%	PT			1.69
Whitehart (WT) :	0%				
TIN-GLAZED			PO	PT	SP
Powell Owner (PO) :	10%	WP	1.68	1.01	1.35
Strickland (SP) :	7%	PO		1.67	**2.23**
Powell Tenant (PT) :	4%	PT			**2.19**
Whitehart (WP) :	0%				
ENGLISH BROWN SALT-GLAZED STONEWARE			PO	PT	SP
Whitehart (WP) :	8%	WP	0.32	**3.17**	**5.44**
Powell Owner (PO) :	6%	PO		**4.06**	**11.88**
Powell Tenant (PT) :	1%	PT			**2.52**
Strickland (SP) :	<1%				
GERMAN BLUE AND GRAY SALT-GLAZED STONEWARE			PO	PT	SP
Powell Owner (PO) :	10%	WP	1.62	1.24	0.19
Powell Tenant (PT) :	6%	PO		1.84	**22.18**
Strickland (SP) :	<1%	PT			**20.72**
Whitehart (WP) :	0%				

Note: Significantly different sites bolded. Values greater than 1.96 assumed to be significant.

The frequency of ceramic minimum vessels by function for the Whitehart, Powell, and Strickland sites are given in Table 21. The ranked vessel form frequencies and results of difference of proportion tests for the teaware, tableware, kitchen/storage, and toilet wares are given in Table 22. Minimum vessel analysis of the Powell Plantation did not distinguish between the owner and tenant occupations. The Strickland Plantation was the only site with a significant amount of teaware, 20 percent. In comparison, the Powell Plantation had only nine percent teawares. No teawares were found at the Whitehart Plantation.

TABLE 21

Frequency of Ceramic Vessels by Function

	Teaware	Tableware	Kitchen Storage	Toilet	# of Vessels
Whitehart Plantation	--	8 (32%)	17 (68%)	--	25
Powell Plantation	5 (9%)	31 (57%)	17 (31%)	1 (2%)	54
Strickland Plantation	43 (20%)	80 (38%)	82 (38%)	13 (6%)	218

Significant differences among the tablewares assemblages were also identified (Table 22). The Powell Plantation assemblage contained significantly more tablewares than either the Strickland or Whitehart sites. Fifty-seven percent of the Powell assemblage were tablewares compared to 32 percent and 38 percent respectively for the Whitehart and Strickland plantations. Moreover, three times more tablewares were found in the Powell owner features than the Powell tenant contexts.

TABLE 22

Ranked Ceramic Vessel Frequencies and Results of Difference-of-Proportion Tests

TEAWARE	Frequencies		Test Results PP	SP
Strickland (SP) :	20%	WP	1.57	**2.45**
Powell (PP) :	9%	PP		1.81
Whitehart (WP) :	0%			
TABLEWARE			PP	SP
Powell (PP) :	57%	WP	**2.10**	0.46
Strickland (SP) :	38%	PP		**2.77**
Whitehart (WP) :	32%			
KITCHEN/STORAGE			PP	SP
Whitehart (PP) :	68%	WP	**3.05**	**2.93**
Strickland (SP) :	38%	PP		0.84
Powell (PP) :	31%			
TOILET				
Strickland (SP) :	6%	WP	PP	SP
Powell (PP) :	2%	PP	0.68	1.26
Whitehart (WP) :	0%			1.22

Note: Significantly different sites bolded. Values greater than 1.96 assumed to be significant.

Mugs and jugs accounted for almost all of the variation among the three sites (Tables 23 and 24). Mugs and jugs were the only type of tableware that varied significantly among the three sites. Mugs and jugs were also the most common tablewares. The frequency of these wares ranged from 71 percent and 61 percent of the Whitehart and Powell assemblages to only 23 percent of the Strickland tablewares. The small number of Strickland mugs and jugs was statistically significant. The relative frequencies of all the other tablewares (plates, bowls, porringers, and pitchers) did not vary significantly among the three sites (Table 24). The Strickland tablewares consisted of 35 percent plates, 23 percent bowls, 15 percent pitchers, and 4 percent porringers. The Powell tablewares consisted of 22 percent plates, 10 percent bowls, and 3 percent each pitchers and porringers. The Whitehart tablewares consisted of 14 percent each bowls and pitchers. No plates or porringers were found at the Whitehart Site.

Three observations can be made about the frequency of tablewares at the Whitehart, Powell, and Strickland sites. First, teawares are

TABLE 23
Frequency of Tablewares

	Plates	Mugs/Jugs	Bowls	Porringers	Pitchers	Total
Whitehart Plantation	--	5 (71%)	1 (14%)	--	1 (14%)	7
Powell Plantation	7 (22%)	19 (61%)	3 (10%)	1 (3%)	1 (3%)	31
Strickland Plantation	37 (35%)	25 (23%)	24 (23%)	4 (4%)	16 (15%)	106

TABLE 24
Ranked Tableware Frequencies and Results of Difference-of-Proportion Tests

PLATES	Frequencies		Tests PP	SP
Strickland (SP) :	35%	WP	1.39	1.91
Powell (PP) :	22%	PP		1.29
Whitehart (WP) :	0%			
MUGS/JUGS			PP	SP
Whitehart (WP) :	71%	WP	0.50	**2.78**
Powell (PP) :	61%	PP		**3.95**
Strickland (SP) :	23%			
BOWLS			PP	SP
Strickland (SP)	23%	WP	0.36	0.52
Whitehart (PP) :	14%	PP		0.14
Powell (PP) :	10%			
PORRINGERS			PP	SP
Strickland (SP) :	4%	WP	0.48	0.52
Powell (PP) :	3%	PP		0.14
Whitehart (WP) :	0%			
PITCHERS			PP	SP
Strickland (SP) :	15%	WP	1.18	0.06
Whitehart (WP) :	14%	PP		1.76
Powell (PP) :	3%			

Note: Significantly different sites bolded. Values greater than 1.96 assumed to be significant.

TABLE 25

Frequency of Kitchen/Storage Wares

	Milk Pans	Butter Pots	Crocks & Pots	Jars	Other Pans	Bottles	Total
Whitehart Plantation	7 (47%)	–	2 (13%)	2 (13%)	4 (27%)	–	15
Powell Plantation	7 (41%)	–	8 (47%)	–	1 (6%)	1 (6%)	17
Strickland Plantation	23 (57%)	11 (28%)	2 (5%)	4 (10%)	–	–	40

not common on sites occupied before the 1730s. Second, tablewares appear to be an excellent indicator of wealth and socio-economic status. The Powell family, as the hopeful owners of a large plantation, could have set a much more impressive table than either the Whiteharts or the later tenants at the site. The Powell table could have included stemmed lead crystal wine glasses and more imported English and German wares. The Whiteharts relied on a small variety of tablewares, primarily mugs, jugs, and bowls. Redware vessels were more common than imported wares and heavy wear on all of the tablewares suggest that they were also used to prepare food.

The Powell family was also more likely to eat from ceramic plates rather than wooden trenchers than either the Whitehart or probably even Powell tenant families. Indeed the Powells could have set almost as impressive a table as the later and wealthier Stricklands. The tablewares from earlier Whitehart and Powell sites, however, are difficult to compare to the Strickland's because of the rise in teaware use and the availability of new imported wares, particularly white salt-glazed stoneware and creamware. The period of most rapid tableware change in central Delaware appears to have occurred ca. 1730.

The frequency of kitchen/storage wares also varied significantly among the three sites (Table 25). The Whitehart Plantation contained almost twice the amount of kitchen/storage wares than either the Strickland or Powell sites. The high percentage of kitchen/storage wares (68%) at the Whitehart Plantation reflects the paucity of other vessel types at the site. The Whitehart Plantation consistently contained fewer tea, table, and toilet wares than the other two sites. The Strickland and Powell assemblages contained 38 percent and 31 percent kitchen/storage wares respectively. Almost all of the variation in kitchen/storage wares were due to significantly different amounts of only two ware types, butter pots and crocks/pots (Table 26). Twenty-eight percent of the Strickland assemblage were butter pots. In comparison, no butter pots were found at either the Whitehart or Powell sites. Milk pans, however, constituted 41 percent to 57 percent of the kitchen/storage wares of all three sites.

The variation in butter pots is related to commercial butter production. Butter pots were used to transport large quantities of butter and William Strickland and his family clearly used their 23 milk pans to produce commercial amounts for butter for sale in the nearby town of Smyrna. The Powell and Whitehart families produced butter as evidenced by the presence of at least seven milk pans at each site, but do not appear to have transported their product in butter pots. The Powells and Whiteharts may have used other containers to transport butter, but more likely, simply consumed most of their butter themselves.

TABLE 26
Ranked Kitchen/Storage Ware Frequencies and Results of Difference-of-Proportion Tests

MILK PANS	FREQUENCIES		TESTS PP	SP
Strickland (SP) :	57%	WP	0.31	0.72
Whitehart (WP) :	47%	PP		1.13
Powell (PP) :	41%			
BUTTER POTS			PP	SP
Strickland (SP) :	28%	WP	0.00	**2.27**
Powell (PP) :	0%	PP		**2.41**
Whitehart (WP) :	0%			
CROCKS AND POTS			PP	SP
Powell (PP) :	47%	WP	**2.05**	1.06
Whitehart (PP) :	13%	PP		**3.82**
Strickland (SP) :	5%			
JARS			PP	SP
Whitehart (WP) :	13%	WP	1.55	0.35
Strickland (SP) :	10%	PP		1.35
Powell (PP) :	0%			
OTHER PANS			PP	SP
Whitehart (WP) :	27%	WP	1.55	0.35
Powell (PP) :	6%	PP		1.35
Strickland (SP) :	0%			
BOTTLES			PP	SP
Powell (PP) :	6%	WP	1.55	0.35
Strickland (SP) :	0%	PP		1.35
Whitehart (WP) :	0%			

Note: Significantly different sites bolded. Values greater than 1.96 assumed to be significant.

TABLE 27
Summary of Minimum Number of Edible Animals by Species

Species	Whitehart Plantation 1681-1701	Powell Plantation 1691-1735	Strickland Plantation 1726-1754
DOMESTIC			
Cow	1	8	9
Pigs	1	22	24
Sheep/Goats	0	7	9
Total	2	37	42
WILD			
Deer	1	6	2
Racoon	0	2	1
Opossum	1	2	1
Rabbit	1	1	1
Turtle	1	4	8
Fish	1	5	17
Other	1	0	7
Total	6	20	37
TOTAL	8	57	79

No significant differences were seen between the amount of toilet wares at all three sites (Table 22). Six percent of all minimum vessels at the Strickland Site were toilet wares. The Powell Plantation contained only two percent toilet wares (Table 21). No toilet wares were found at the Whitehart Plantation. The absence of large numbers of toilet wares at the Whitehart and Powell plantations is consistent with the presence of high phosphorus densities near the corners of buildings where human wastes were probably deposited.

Foodways. Foodways are an important aspect of the domestic economy of past people and faunal assemblages in particular are sensitive indicators of past diets. Moreover, changing dietary patterns have been used to reconstruct major social and economic changes at both local and regional levels (Miller 1988). A summary of the minimum number of edible animals by species from the Whitehart, Powell, and Strickland plantations is given in Table 27. Sample size ranged from eight minimum animals at the Whitehart Plantation to 79 animals at the Strickland Site. While the number of animals does not accurately represent the amount of edible meat from wild versus domestic sources, comparing the minimum number of individuals does identify sources of significant variation. Thus, despite small sample size, two conclusions about the faunal assemblages of the three sites can be made.

TABLE 28
Ranked Frequency of Wild Animals by Species and Results of Difference-of-Proportion Tests

DEER	FREQUENCIES		TESTS PP	SP
Powell (PP) :	30%	WP	0.65	1.00
Whitehart (WP) :	17%	PP		**2.55**
Strickland (SP) :	5%			
RACOON			PP	SP
Powell (PP) :	10%	WP	0.81	0.41
Strickland (SP) :	3%	PP		1.18
Whitehart (WP) :	0%			
OPOSSUM			PP	SP
Whitehart (WP) :	17%	WP	0.45	1.51
Powell (PP) :	10%	PP		1.18
Strickland (SP) :	3%			
RABBIT			PP	SP
Whitehart (WP):	17%	WP	0.94	1.51
Powell (PP) :	5%	PP		0.45
Strickland (SP) :	3%			
TURTLE			PP	SP
Strickland (SP) :	22%	WP	0.18	0.28
Powell (PP) :	20%	PP		0.14
Whitehart (WP) :	17%			
FISH			PP	SP
Strickland (SP) :	46%	WP	0.42	1.35
Powell (PP) :	25%	PP		1.55
Whitehart (WP) :	17%			
OTHER			PP	SP
Strickland (SP) :	19%	WP	1.86	0.13
Whitehart (WP) :	17%	PP		2.08
Powell (PP) :	0%			

Note: Significantly different sites bolded. Values greater than 1.96 assumed to be significant.

TABLE 29
Ranked Frequency of Domestic Animals by Species and Results of Difference-of-Proportion Tests

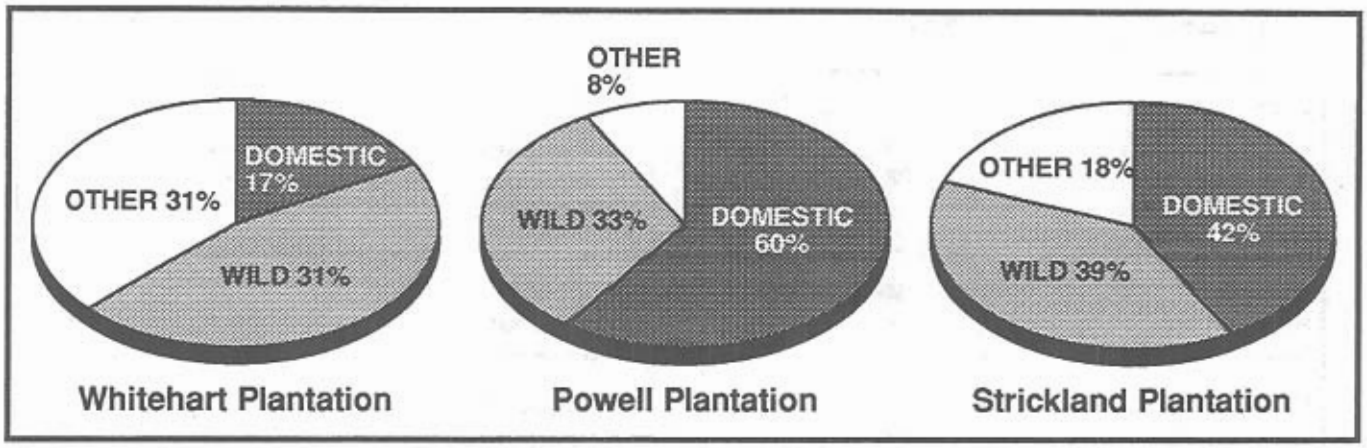
COWS	FREQUENCIES		TESTS PP	SP
Whitehart (WP) :	50%	WP	0.93	0.94
Powell (PP) :	22%	PP		0.02
Strickland (SP) :	21%			
PIGS			PP	SP
Powell (PP) :	59%	WP	0.26	0.20
Strickland (SP) :	58%	PP		0.21
Whitehart (WP) :	50%			
SHEEP/GOATS			PP	SP
Strickland (SP) :	21%	WP	0.68	0.73
Powell (PP) :	19%	PP		0.28
Whitehart (WP) :	0%			

First, the proportion of domestic to wild animals did not vary significantly among the three sites (Figure 92). Wild animals consistently accounted for one third to one half of all minimum animals at the three sites. When compared at the species level, only the number of deer showed any significant variation (Table 28). The two deer found at the Strickland Site were significantly fewer than the seven deer identified at the earlier Powell and Whitehart plantations. No significant differences were found in the number of raccoons, opossums, rabbits, turtles, fish, or other wild species. This lack of variation suggests that the inhabitants of all three sites hunted, trapped, and fished similar proportions of their diet. The difference in the number of deer suggests that deer may have become less abundant by the 1720s.

Very little variation was also between all domestic species (Table 29). Sixty percent of animals at the Powell Plantation were domestic compared to only 42 percent and 17 percent respectively for the Strickland and Whitehart sites. Although the Powell Plantation contained a significantly higher percentage of domestic animals than either the Whitehart or Strickland plantations, most of the variation appears to be due to differences in the number of unidentified species at each site (Figure 92). When broken down by species, no significant differences were seen among cows, pigs, and sheep/goats (Table 29). The lack of variation in the faunal assemblages suggests that all three sites may be part of a larger foodways tradition. This tradition was based on primarily domestic animals supplemented by a wide range of wild foods. Beef and pork were clearly the most important domestic meat sources. Sheep were consistently

FIGURE 92

Percentage of Wild vs. Domestic Animal Foods



less popular. Although the differences among the number of sheep at the three sites were not significant, the number of sheep increased consistently over time. Nearly one quarter (21%) of all domestic animals at the later Strickland Plantation were sheep or goats.

Cooking techniques at all three sites do not appear to have changed over time. Chop and knife marks remained the most common butchering marks and were found on similar varieties of cranial and post-cranial bones. Animals were butchered on-site and almost every cut of meat was used. William Strickland, however, sold livestock in nearby Smyrna and tended to butcher slightly older animals than either the Whitehart or Powell plantations. Strickland may have chosen older animals for his table and sold his prime livestock.

Landscape

Archaeologists and historians study cultural landscapes to learn how past people lived. The ways by which people changed and interacted with the land around them is important and can be used to reconstruct significant social and economic changes. Landscapes, in the broadest sense, are "artifacts" of the people who lived there (i.e., Lewis 1985, Samuels 1979, and Glassie 1972). Cultural landscapes include both physical and cultural variables. How farms are arranged, where they are sited, and how they were used can be studied. Landscape studies of the early Chesapeake have been particularly fruitful, and range from pioneering studies of impermanent architecture (Carson et al. 1981) to broad treatments of broad ecological change (Miller 1986). Two key variables have been identified in the study of historical landscapes. The first variable is where farms are located and how they are organized and laid out on the land. The second variable is how the farmstead was used, particularly where specialized activities occurred and where trash was disposed. Changes over time in both variables are important and usually mark significant local social and economic changes.

Farmstead Siting, Layout, and Plan. Where the Powell and Whitehart farms were located and how they were laid out can be fruitfully compared to two other sites in Delaware and two sites in Maryland. The two Delaware sites are the Strickland Plantation (Catts et al. 1994) and the Thompson's Loss and Gain Site (Guerrant 1988a and 1988b). Both Delaware sites were first occupied in the 1720s, 10 years after the Whitehart Plantation was abandoned, but at approximately the same time when the Powell Plantation was reorganized and became tenant occupied. The two Chesapeake sites are the slightly earlier King's Reach (Pogue 1990) and Middle Plantation (Carson et al. 1981) sites. King's Reach was occupied from ca. 1690-1715 (Pogue 1990:1). Middle Plantation was occupied from ca. 1665-1760 (Carson et al. 1981:166-67).

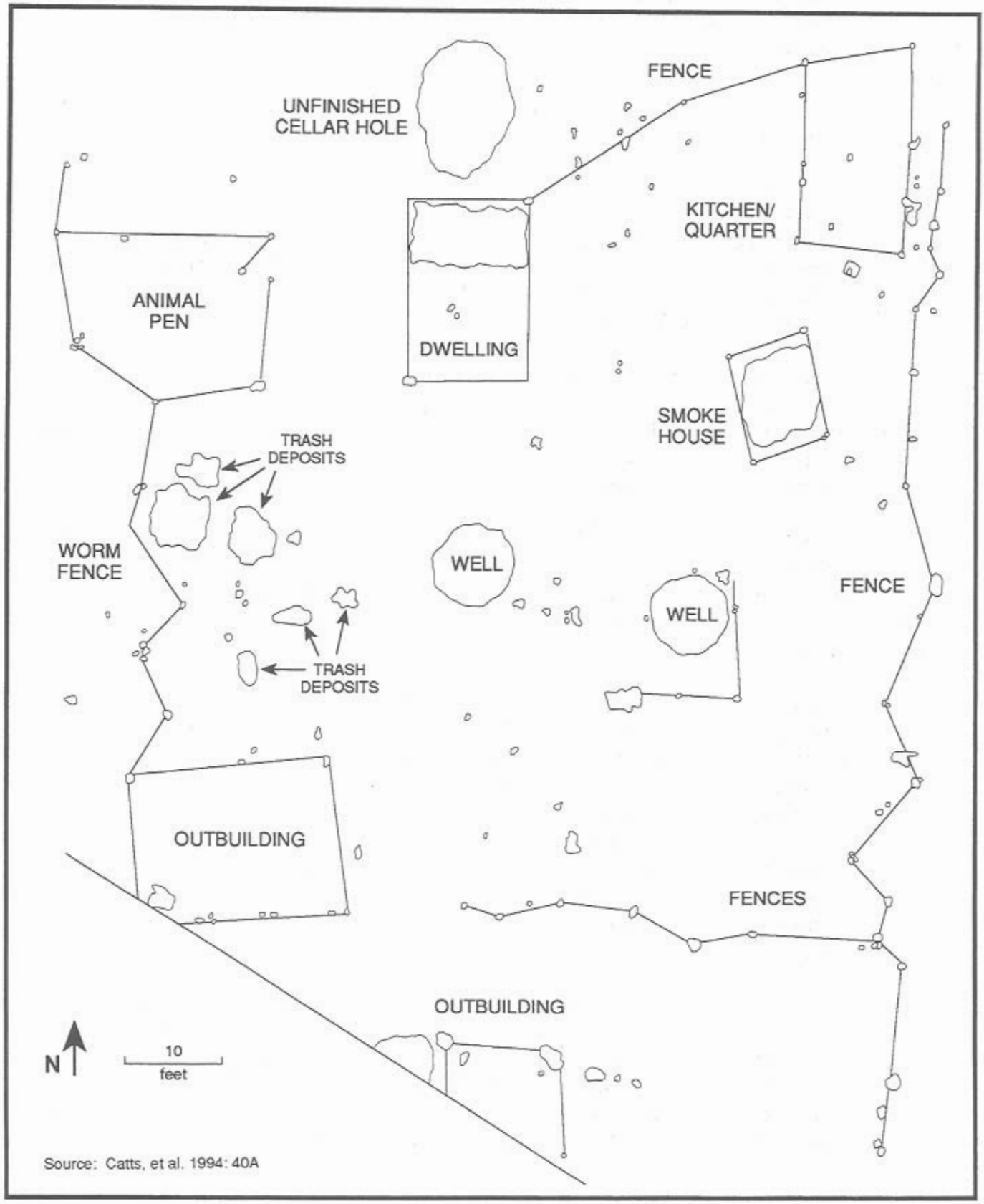
The Strickland Plantation consisted of a 24- x 17-foot earthfast dwelling, 28- x 15-foot kitchen/ quarter, smokehouse, and two agricultural outbuildings. Two wells, several fencelines and large trash deposits, and a partially completed cellar hole for a new brick house were also found (Figure 93). The earthfast dwelling was built on a two room (hall-parlor) plan. A cellar hole was found under the kitchen/ hall half of the house. Both wells were within 25 feet of the house and almost the entire yard was enclosed by substantial post-and-rail and worm fences.

The Thompson's Loss and Gain Site (Figure 94) was the remains of a small tenant dwelling occupied from ca. 1720-1780. The site is located in southern Delaware. Salvage excavations prior to the destruction of the site identified the remains of a 24- x 18-foot post-in-ground dwelling. Archaeological testing was limited to the house and its immediate surroundings. The dwelling was built on a two room (hall-parlor) plan. Evidence of a wattle and daub chimney in the kitchen/hall and a corner brick chimney in the parlor were found. The hall contained nine small root cellars clustered around the fireplace. The smaller parlor fireplace had two small brick-lined cellars near it. The structural posts to the house had been repaired or replaced and a floor may have been added inside the structure. A small shed, interpreted as a possible buttery was located along the south wall of the house. A wooden crib-lined well was found 25 feet southwest of the house. A large trash midden at least 15 feet in diameter was found along the edge of the parlor.

King's Reach Plantation consists of the remains of a 30-foot square post-in-ground dwelling and 10- x 20-foot quarter (Pogue 1990, Figure 95). The house was built on a two room, hall-parlor plan with an attached 10- x 30-foot shed. The kitchen/hall and parlor core of the dwelling measured 20 x 30 feet. A second 5- x 7-foot dairy shed was added to the gable end of the kitchen/hall. Six large storage pits were found under the parlor and kitchen/hall. Evidence of a hearth was found in the kitchen/hall near the dairy shed and north gable wall. The quarter was located 10 feet from the house and was connected to it by two generations of ditch-set fences. The fences formed an enclosed foreyard where smoking and other activities took place. The fences also protected the foreyard from free-roaming livestock who left high concentrations of soil phosphorus along them. The entire plantation was located within 660 feet of the Patuxent River.

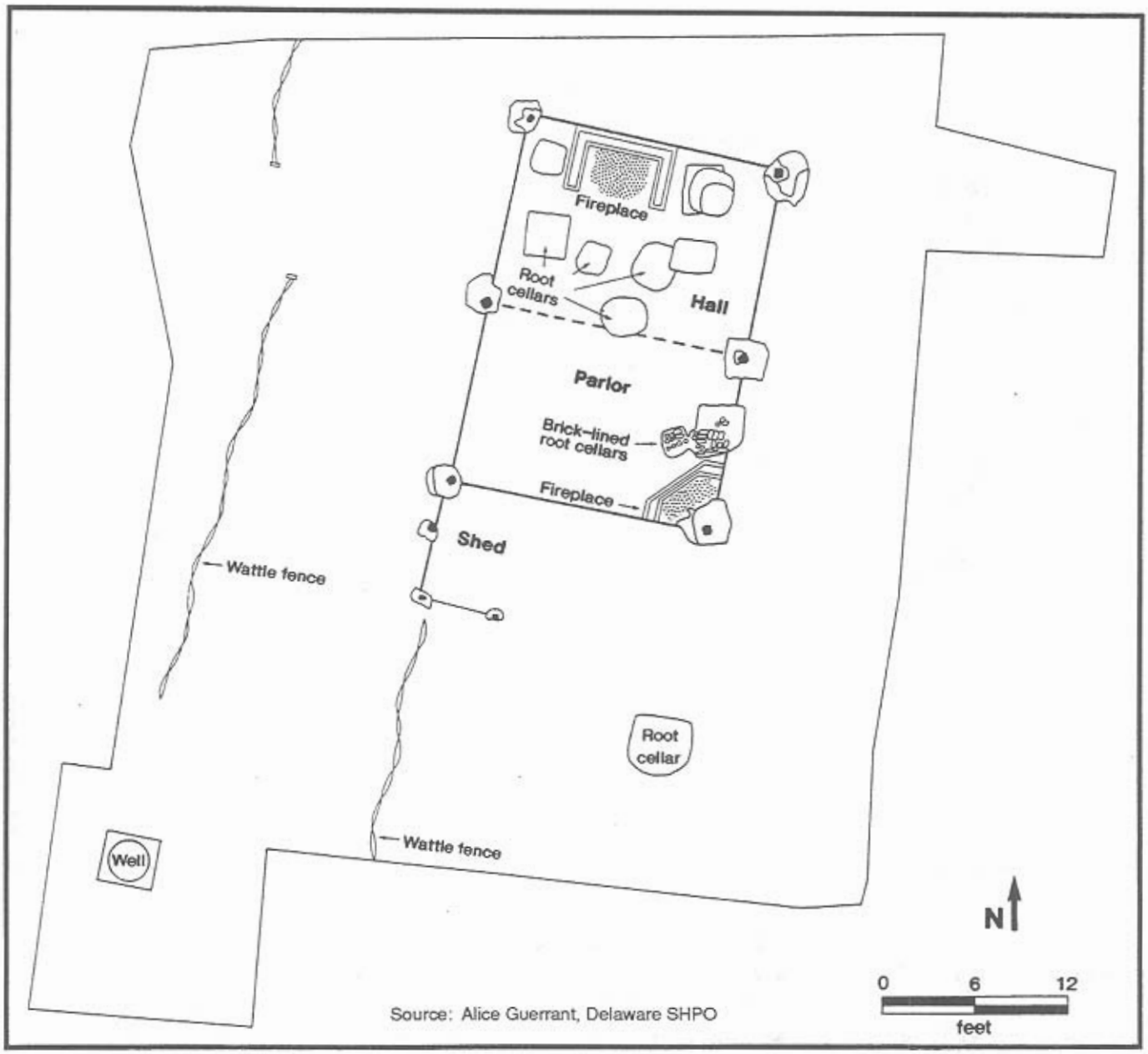
Middle Plantation was a tobacco plantation settled ca. 1665 by Maureen Duvall, a planter-merchant (Carson et al. 1981). The site was located nearly two miles from the South River, the nearest navigable waterway. The site was later occupied and continuously rebuilt by tenants until ca. 1760. Eight large structures were identified including a 40- x 20-foot post-in-ground house, two ca. 20- x 13-foot quarters, and two large kitchens. The three remaining structures were a 12- x 8-foot milk house and two large tobacco houses. The two tobacco houses measured 40 x 22 feet and 40 x 21 feet and

FIGURE 93
Site Plan of the William Strickland Plantation (7K-A-117), Kent County, Delaware



Source: Catts, et al. 1994: 40A

FIGURE 94
Site Plan of Thompson's Loss and Gain (7S-G-60), Sussex County, Delaware



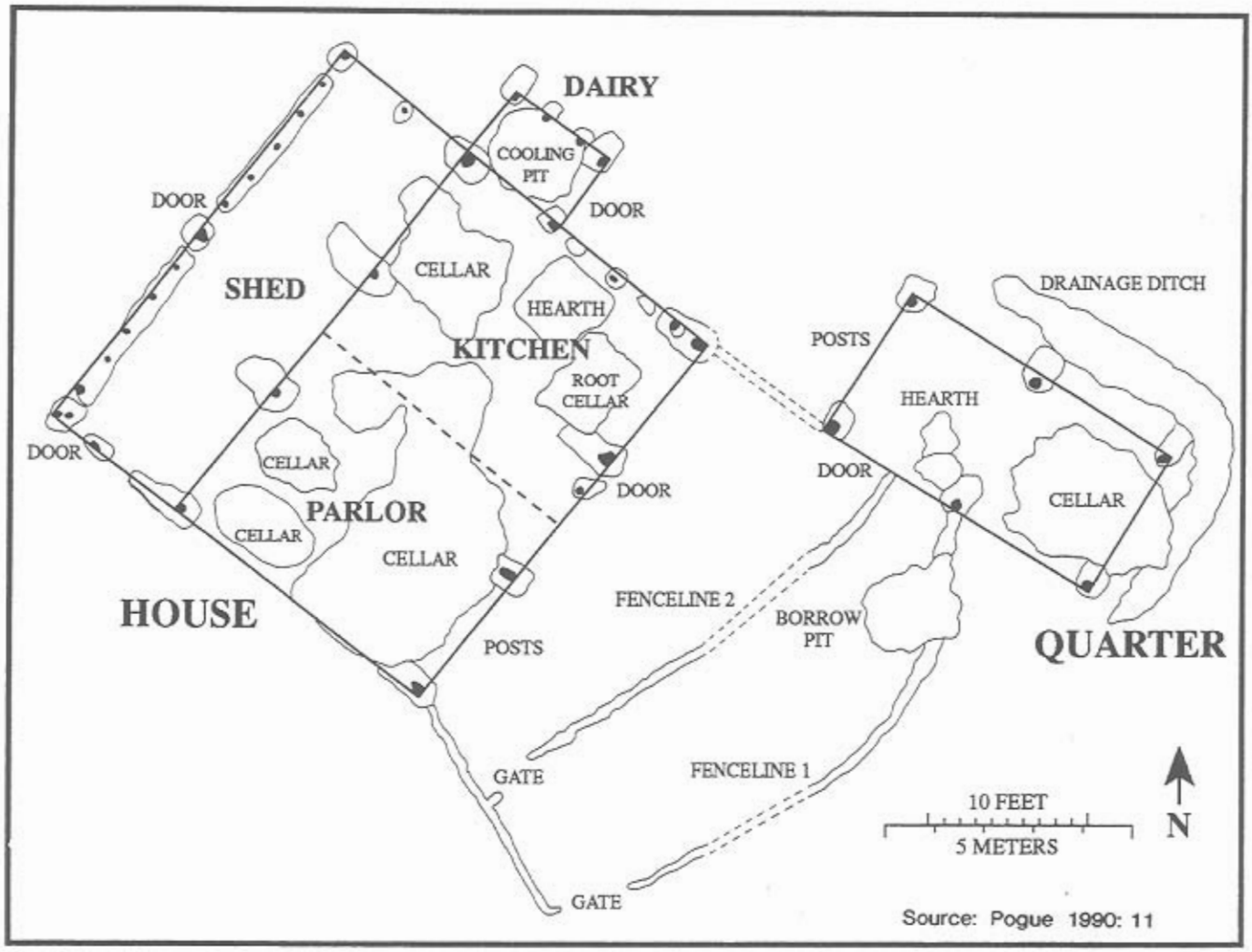
Source: Alice Guerrant, Delaware SHPO

were similar in size to the Powell and Whitehart tobacco houses. The slightly larger tobacco house probably replaced the smaller structure. At least nine small roofed coolers or cellars were also found at the site.

The extent of the archaeological remains found at these sites varied, but several generalizations about farmstead layout, siting, layout, and size can be made. First of all, all four sites are laid out in an informal pattern. The number and arrangement of outbuildings varied between each site. All four farmsteads, especially the Powell and Whitehart sites, appear to be clusters of rather haphazardly placed structures. The buildings are clustered around a common workyard where a variety of domestic and

FIGURE 95

Site Plan of King's Reach Plantation (18CV83), Calvert County, MD



agricultural activities took place. Glassie (1972:50) refers to this plan as a "hollow square." The largest of the sites, Middle Plantation, shows the greatest degree of symmetry in farm layout. This site, however, was occupied until the 1760s when Georgian precepts of order and symmetry where beginning to be felt throughout the Chesapeake and Middle Atlantic regions. When William Strickland died in 1754, he left a partially completed cellar hole for a brick dwelling that would have been the beginning of a new, rational Georgian style farm with symmetrical and evenly spaced outbuildings (Catts et al. 1994).

Fences defined the limits of the workyards of all four sites. The fences also protected the yards and work areas around the houses from free-roaming livestock. The placement of the fences suggests that cattle, horses, and pigs were allowed to forage freely. Indirect evidence of this early animal husbandry pattern was the lack of clear evidence of animal pens at the Whitehart Plantation and only one animal pen at the Powell Plantation. Livestock were allowed to range freely in Delaware until the early nineteenth century when population pressures, changing agricultural practices, and changing perceptions of the landscape forced landowners to pass restrictive livestock laws (Grettler 1990).

Included in the hollow square organization of the four Delaware sites were wells. Wells were significant factors in the health of livestock and humans, particularly in tidal areas where salt poisoning, typhus, and dysentery were major causes of death (Earle 1979). Wells were located within 20 to 60 feet of the dwellings at the Whitehart, Powell, Thompson's Loss and Gain, and Strickland sites. All four sites are located on the Delaware's lower coastal plain and within 100 yards of tidal waterways. Only the Middle Plantation, an inland site, did not have a well. Middle Plantation is nearly two miles from the nearest brackish water and the inhabitants used nearby freshwater springs. Indeed, the springs were probably a key factor in the siting of the plantation.

Trash Disposal and Activity Areas. Animal pens, trash pits, and sheet middens occur around and throughout the workyards of the Whitehart, Powell, and Strickland sites. Not enough of the Thompson's Loss and Gain and King's Reach sites were excavated to determine the placement of these features. The archaeological evidence of these features at the Middle Plantation is not clear, due perhaps to the long occupation of the site.

Trash disposal at the Whitehart Plantation was much more concentrated than at either the Strickland or Powell plantations, the two sites with the most comparable data. The large sheet midden at the Whitehart Plantation was singular in size and depth. In a period when any location beyond the immediate confines of the yards around the house were legitimate trash disposal areas, the huge sheet midden dominating the primary workyard of the Whitehart Plantation is particularly important. While the Whitehart family also deposited trash in excavated daub/trash pits, they appear to have disposed of household wastes immediately outside of their house. The sheet midden at the site, Feature C648, even survived 300 years of plowing to leave thick, dark deposits in the subsoil.

The inhabitants of the Powell Plantation used both excavated daub/trash pits and sheet middens to dispose of domestic refuse. The pits were confined to the rear yard of the house. While refuse was also deposited in the front and side yards of the house, the artifacts in these sheet middens included tobacco pipes and gunflint debitage from specialized activities. Smoking and gunflint maintenance activity areas were also found near the Whitehart and King's Reach dwellings.

Earthfast Structure Dimensions. The first floor dimensions of the major earthfast structures at the six sites are compared in Table 30. In general, houses varied more in size than outbuildings, particularly tobacco houses. The two upper Chesapeake houses at the King's Reach and Middle plantations were consistently nearly twice as large as the Lower Delaware River sites. The King's Reach and Middle Plantation houses were 800-900 square feet in size while the Whitehart, Thompson's Loss and Gain, Strickland, and Powell houses were consistently between 225-450 square feet in dimension. The variation between the upper Chesapeake and Lower Delaware River house sizes suggests different vernacular building traditions in each region. The houses at five sites (Whitehart, Powell, Strickland, Thompson's Loss and Gain, and King's Reach) represent the "first homes" of settlers who may have intended to rebuild or supplement their dwellings at a later date.

Tobacco houses consistently measured between 800 and 880 square feet. Tobacco houses also consistently measured approximately 20 x 40 feet in dimension. All of the tobacco houses consisted of four bays, measuring approximately 10 x 20 feet, and were constricted of hole-set posts. The tobacco houses at the Powell and Whitehart sites were consistently nearly twice as large as the dwellings.

TABLE 30

Summary of Earthfast Structure Dimensions

DWELLINGS AND KITCHEN/QUARTERS		
King's Reach		
Dwelling	30' x 30'	900 sq. ft.
Quarter	10' x 20'	200 sq. ft.
Middle Plantation		
Dwelling	40' x 20'	800 sq. ft.
Kitchen	30' x 15'	450 sq. ft.
Kitchen	25' x 15'	375 sq. ft.
Quarter	19' x 13'	247 sq. ft.
Quarter	20.5' x 13'	226 sq. ft.
Whitehart Plantation		
Dwelling	15' x 30'	450 sq. ft.
Thompson's Loss and Gain		
Dwelling	24' x 18'	432 sq. ft.
Strickland Plantation		
Dwelling	24' x 17'	408 sq. ft.
Kitchen/Quarter	28' x 15'	420 sq. ft.
Powell Plantation		
Dwelling (Fea. H10)	18' x 18'	324 sq. ft.
Dwelling (Fea. H11)	15' x 15'	225 sq. ft.
TOBACCO HOUSES		
Middle Plantation		
Tobacco House	40' x 22'	880 sq. ft.
Tobacco House	40' x 21'	840 sq. ft.
Powell Plantation		
Tobacco House	20' x 40'	800 sq. ft.
Whitehart Plantation		
Tobacco House	18' x 36'	648 sq. ft.

The variation in house size between the two regions did not extend to construction techniques. Identical earthfast building techniques were found at all six sites. Post-in-ground and ground laid sills were the most common techniques. Both techniques were especially common at the Powell and King's Reach sites. The mix of earthfast techniques indicates the range of choices available to Chesapeake and Delaware River builders.