

APPENDIX D

TECHNICAL FAUNAL REPORT

Augustine Creek Faunal Report

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Introduction

The faunal assemblages from the North and South Augustine Creek sites provided information about the presence of activity areas and about the diet and butchering practices of the sites' occupants. In order to discuss the presence of activity areas and the issues of diet and butchering practices, it was necessary to compile and consider certain types of data. These types of information included the range of species present and, specifically for large domesticated mammals, the relative importance of species, body parts distributions, and the spectrum of butchery units. Identifying activity areas was considered relevant only for the Augustine Creek South Site because it had a larger faunal assemblage, recovered from several features. The Augustine Creek North Site yielded a smaller faunal assemblage that was primarily contained in one feature. The issues of diet and butchering practices were addressed at both sites.

Augustine Creek South Site

Description of Deposits

The Augustine Creek South Site yielded a fairly large faunal assemblage. The assemblage consisted of 4,254 Total Number of Fragments (TNF), representing 1,352 Minimum Number of bone Units (MNU) (see the methodology in Appendix F for an explanation of the counts used). The faunal material was recovered from 15 features and a number of units and shovel tests. The discussion in this report is limited to bone obtained from the features. All of the features were considered in identifying the presence of activity areas at the site. Only the data from Feature 1 were used to examine the issues of diet and butchering practices.

The Minimum Number of bone Units (MNU) forms the basis for the discussions in this report. Table 1 summarizes the Minimum Number of bone Units (MNU) counts recovered from the features. The table shows that there was a predominance of domesticated species across the site, primarily large mammals, and that there was a very limited range of species expressed overall. Mammal was present in all of the features, whereas bird was present in only four features, fish in only two features, and reptile and amphibian in only one feature. The features with the most bone were Features 1, 2, 11, 15, and 18. Feature 1 is different from the other features in that it had a significantly large sample size, MNU 1092 (Table 2). Except for Feature 11 (MNU 69), all of the other features had less than 20 MNU. In addition to being the largest, Feature 1 was also the most varied in terms of range of species and types of skeletal materials present.

Identification of Activity Areas

Activity areas can sometimes be identified by distinct concentrations of skeletal elements. For example, at the Widow Harris Site, a farmstead located in Ripley County, Missouri, the distribution of food species, as well as the distribution of meat-bearing elements versus butchering waste, were examined. The data showed that distinct activity areas, such as slaughtering or processing areas and food discard areas, could be identified (Price 1985:40-56). This approach was used at this site to determine whether or not there were distinct activity areas. The range of species and the distribution of dietary refuse versus butchering waste for large domesticated mammals were examined.

Table 1 presents the Minimum Number of Units for each feature by species. The range of species consisted primarily of domesticated birds and large mammals. Most of the features only contained mammal species. Features 1, 15, 18, and 28/28A also contained small amounts of bird. Fish was found only in Features 1 and 15. Reptile and amphibian were found only in Feature 1. Therefore, food-related species were found in all of the features. Non-food-related species, including cat, dog, horse, and frog, were found primarily in Feature 1; horse was also present in Features 11, 15, 19, and 22. Feature 1 was unique at the site in that it contained small mammals and large mammals as well as the greatest range of species overall.

The skeletal elements of all large domesticated mammals were categorized as either dietary refuse materials or butchering waste based on whether they were meat bearing or not. Certain adjustments to the counts were made to compensate for over-representation of skeletal elements, such as loose teeth. Dietary refuse is associated with meat-bearing skeletal elements that include most longbones and vertebrae. Butchering waste is associated with the skeletal elements of an animal that are left over and discarded after the carcass has been reduced into large units of meat. These typically include the head and feet of cattle and sheep, though usually not pig. Pig is different in that the head and feet can contribute to the diet. Depending on the area, some people ate the tongues and brains of cattle and sheep during the 18th and 19th centuries. In addition, calf's feet were often boiled for gelatin. Therefore, it can be difficult to identify true butchering waste. For the purposes of this study, all skull and foot elements were treated as butchering waste, even pig, and all other skeletal elements were treated as dietary refuse. It should be noted, however, that almost all of the skull bone from the features was composed of mandibles, and that almost all of the foot bones consisted of metacarpals and metatarsals and very few phalanges. This suggests that these may be the remains of processed foods and trimming waste.

Figure 1 presents the relative percentage of butchering waste to dietary refuse by feature. Features 1, 11, 13, 15, and 18 were included; the remaining deposits were eliminated because they contained less than four MNU. Figure 1 indicates that Features 1, 15, and 18 were equally represented by both butchering waste and dietary refuse. Features 11 and 13 were composed primarily of butchering waste, with small amounts of dietary refuse. The data

suggest that Features 11 and 13 were associated primarily with butchering or major carcass trimming activities, while Features 1, 15, and 18 were associated with both dietary refuse from the household and processing waste from the extraction of tongues and brains.

Diet and Butchering Practices

Feature 1 was chosen for the examination of diet and butchery practices primarily because of its integrity and the large sample size (MNU 1092). These two issues were addressed by looking at a variety of data that included the range of species, the relative importance of large domesticated mammals, the distribution of body parts of large domesticated mammals, and the variety of butchery units represented.

The range of species is an important source of information, because it indicates the diversity of foods in the diet. It can give insight as to whether or not the inhabitants exploited available wildlife resources. Table 1 summarizes the range of species recovered from Feature 1. Eight mammal species, two bird species, three fish species and a minimum of one species each of turtle and frog were identified. Of the mammal species, it is clear that cattle, pig, and sheep were used for food, while dog and cat probably were not. The lack of butcher marks plus the norms of the culture argue against their use for food. Horse also does not appear to have been used for food, because it was represented by a tooth and a toe bone. Rabbit and squirrel may have been eaten, though their longbones did not bear any signs of cut marks or butchery marks. Bird species included chicken and pigeon, both of which were used for food. In addition to longbones, chicken was also indicated by the presence of eggshell. Fish species included shad, catfish, and striped bass. Shad was the most common species. The high count of unidentified fish bone indicated in Table 1 was composed of skull bones, scales, and fins which resulted from processing fish. The turtle species was not identified. It consisted of a fragment of a skull orbital from a small species. The frog consisted of a longbone fragment. The limited range of species in the deposits, as well as in all other features (Table 1), demonstrates that the inhabitants placed a primary reliance on domesticated animals. It also suggests that they did not actively exploit local resources, with the possible exception of fish.

The three most important species in the deposit, and across the site in general, were cattle, pig, and sheep. These three species provided the residents with many resources, including labor, milk, meat, and wool. Figure 2 indicates the relative frequencies of these species. It shows that cattle was the most frequent species while pig was only slightly more frequent than sheep. Cattle were therefore the most important species consumed by the inhabitants at the site.

A further appreciation of the role cattle, pig, and sheep played in the diet can be obtained by examining body parts distributions. Each of these species contributed specific skeletal elements to the deposit in different frequencies. It is possible to reconstruct the types of foods represented based on patterns in body parts distributions. When the full range of

skeletal elements is represented for a given species, it is assumed that animals were slaughtered and butchered at a site. However, when there is an incomplete range of skeletal elements recovered for a given species, it is suggested that animals were slaughtered and butchered off-site. Furthermore, an incomplete range of skeletal elements suggests that secondary butchering occurred at a site, whereby large units of meat were processed into meat cuts and trimming waste. The identification of distinct activity areas, discussed above, was based on gross units of dietary refuse and butchery waste. However, it was noted that most of the material referred to as butchery waste consisted of mandibles, not heads, and metapodials, and very few phalanges. This shows that there are parts of each of the large domesticated mammals not accounted for in the archaeological record. Missing parts included primarily skulls, toes, vertebrae, and ribs. As a result, at this site it appears that the material identified as dietary refuse and butchery waste resulted from the further reduction of large sections of butchered carcasses disposed of after meals were consumed.

Figure 3 a-c indicates body parts distributions for cattle, pig, and sheep. Each species presents a slightly different distribution. Cattle was composed of a high frequency of bone from the foot, upper forequarter, and upper hindquarter (Figure 3a). The head, lower hindquarter, and upper forequarter were present in very low frequencies. The head was represented by butchered mandibles. Based on paired mandibles, a minimum of four individuals were present. The mandibles were aged as follows: one at 1½ years, two at 2¼ years, and one as a very old animal, whose teeth were ground down. There were very few vertebrae and ribs present. The low frequency of vertebrae and ribs sometimes results from classification of the bones as "large mammal." However, even in this category there were not enough vertebrae and ribs to account for four individuals. Most of the meat cuts consisted of large roasting units from longbones. Foot elements included both metapodials and phalanges. The metapodials were cracked as if for marrow extraction. The phalanges were present in very low numbers and may have been be trimming waste. In general, cuts were processed primarily by chopping, though a few bones were cleaved. Many of the bones bore signs of slice marks on their surfaces.

Pig body parts distributions are in Figure 3b. The most frequent cuts of meat came from the lower hindquarter and upper forequarter. The head, feet, upper hindquarter, and lower forequarter were infrequent. Meat cuts included hams, stew meats, and processed foods such as tongues, brains, and facial meat. Based on the number of skulls and paired mandibles, there were a minimum of three individuals present. They were aged as follows: one aged at 1½ years, one aged at minus ¾ year, and one neonate. Like cattle, pig was underrepresented by certain skeletal elements, including vertebrae, scapulas, femurs, innominates, and phalanges. The few bones that bore actual signs of butchering were produced mainly by chopping.

Sheep body parts distributions are presented in Figure 3c. The upper fore- and hindquarter predominated, followed by the lower forequarter. The upper quarters consisted of large units of meat in the form of roasts. The lower foreleg was represented by stew cuts. The best

meat from sheep is from the lower hindleg. The chart shows that this was the least frequent part represented overall. Conspicuously absent were innominates, scapulas, metapodials, and vertebrae. The sheep skull bone in this deposit consisted exclusively of teeth. The mandibular bone was not evident even in the medium mammal category. Even more interesting, all of the teeth were molars; no incisors or premolars were present. This suggests that only the backs of the mandibles were brought with the tongue attached for further reduction and that the foresection of the mouth was removed elsewhere. It is estimated that there were a total of 2 MNI present. They were aged at 1½ plus years and at minus 2 years. Like the cattle and pig, the sheep meat cuts were produced by chopping and cleaving.

Augustine Creek North

The Augustine Creek North Site yielded 876 Total Number of Fragments, representing 234 Minimum Number of bone Units (MNU). All discussion of the site is based on the MNU counts. The discussion that follows focuses on the bone recovered from Feature 1. There was a paucity of bone from the other deposits. Only two of the issues were relevant to this site—diet and butchering practices. In order to address these issues, the same types of information were considered, including range of species, relative importance of large domesticated mammals, relative body parts distributions of large domesticated mammals, and the range of butcher units.

Table 2 summarizes the MNU counts and the range of species for Feature 1. Feature 1 yielded 219 Minimum Number of bone Units. Mammals were the most varied as well as the most abundant. Species included cat, cattle, horse, pig, rabbit, and sheep. The most frequent mammal species were the large domesticated species, while the small species such as cat and rabbit were rare. Cat consisted of a mandible and rabbit of a shoulder and leg. Horse, represented by one incisor, was also present in low frequency. Bird species included chicken, goose, and pigeon, and reptile included Blanding's Turtle. Bird and reptile were the least abundant classes. Fish was the second most abundant class, although no species were identified.

Diet and Butchering Practices

The relative abundance of cattle, pig, and sheep was examined in order to determine which species was the most important food source. Figure 4 indicates the relative frequencies of cattle, pig, and sheep. Cattle predominated, while pig and sheep were about evenly represented. Sheep is slightly more frequent than pig. This is very close to the same picture presented at the Augustine Creek South Site. The data indicate therefore that beef was the predominant source of meat.

The distribution of body parts was considered in conjunction with this information. Figure 5a-c presents the body parts distributions for cattle, pig, and sheep.

Cattle body parts distributions are presented in Figure 5a. The most frequent cuts came from the upper forequarter followed equally by cuts from the upper hindquarter, lower forequarter and feet. The least frequent cuts came from the lower hindquarter and head.

Most of the cuts from the upper quarters consisted of large roasting cuts. The lower quarters and foot represent stew cuts. Foot elements consisted almost exclusively of butchered metapodials, with the exception of a single phalange. The head was composed of a skull fragment and three mandibles. Only the part of the mandible that attaches to the skull was represented. Many of the elements exhibited butcher marks. These included chop and cleaver marks. Based on the pairing of mandibles, a minimum of two individuals are indicated. However, when additional ageing information from other skeletal elements is considered, three age groups appear: a neonate, one individual aged at between 1 and 2½ years and one aged at 3 ½ years plus.

In some ways this distribution is similar to that from the Augustine Creek South Site. This is especially true of the predominance of cuts from the upper forequarter and the low frequencies of the lower hindquarter and the head. The types of cuts represented are also similar, consisting of large roasting cuts and processed food waste in the form of mandibles.

Pig body parts distributions are presented in Figure 5b. The head and lower hindquarter were the most frequent, followed by the upper hindquarter. The upper and lower forequarter and feet were the least frequent. Cranial bone consisted of four distinct individuals that were aged as follows: one at 1½ years, one at 1-1¼ years, one at 1½ years plus, and one at less than ¾ year. None of the mandibles exhibited butcher marks. In general, few of the longbones exhibited clear butcher marks. However, they represent the remains of large meat cuts such as hams. Processed foods and stew cuts were also represented. This distribution is noticeably different from that at the Augustine Creek South Site. There the head was far less frequent, while the upper forequarter was the most frequent. The sites are similar, however, in the high frequency of cuts from the lower hindquarter.

Sheep body parts distributions are presented in Figure 5c. The lower forequarter predominated, followed equally by slightly lower frequencies of the hindquarter, feet, and upper forequarter. The head is the least well represented. Not all skeletal elements were present. Missing from the full range were phalanges, scapulas, femurs, and mandibles. There was a minimum of one individual indicated in the deposit. Based on a partial maxilla, this individual was aged at two years plus. A few of the bones exhibited chop and cleave marks. Meat cuts consisted of roasts, chops, stew meats, and organ meats such as the tongue. This distribution shared certain similarities with that of the Augustine Creek South Site. The high frequencies of cuts from the upper hindquarter and the forequarter were similar. However, at the Augustine Creek South Site the lower hindquarter was almost absent and feet were less frequent.

Summary and Conclusion

Both of the Augustine Creek sites exhibited a limited range of species, and large domesticated mammal species were the most abundant. Within that group of mammals, cattle were the most important source of meat, and pig and sheep were about evenly represented. The types of foods represented for each of these species were generally similar, and included roasts, stew meats, and processed foods such as tongue. While there was some variation in the overall body parts distributions at the two sites, they shared many similarities. The two features considered were similar in being composed of cuts that were created from the reduction of already butchered carcasses, in their range of species, and in the predominance of cattle and the basically even representation of sheep and pig. In general, the two sites were close reflections of each other.

These two sites, while similar to one another, are different from other sites dating to this time period in Delaware, such as the Powell Plantation (1691-1735), the Strickland Plantation (1726-1764), and the McKean/Cochran Farm (1750s-1830). Each of these sites exhibited a much broader range of species, indicating an active exploitation of available wildlife resources by their inhabitants. They were similar to the Augustine Creek sites in having a predominance of cattle. However, they differed in that pig was consistently more frequent than sheep. At the Augustine Creek sites, sheep and pig were fairly evenly represented. It is difficult to determine the significance of these differences. The low range of species diversity at both sites may be due to a lack of children foraging in the wilderness at the Augustine Creek sites. The higher than expected frequencies of sheep, at least at the Augustine Creek South Site, may be due to the fact that Samuel Mahoe was a weaver. Since nothing is known of the inhabitants at the Augustine Creek North Site, it is impossible to comment on the higher than expected frequency of sheep. However, the two sites were close in proximity and shared many similarities in terms of the range of species present, the low species diversity, and the types of butcher units present, which suggests that they may have been operated in the same way.

Table 1. Summary of Class and Species by Feature, Augustine Creek South
 Counts Are Minimum Number of Bone Units (MNU)

Species/Size Range Category	Feature 1 MNU	Feature 2 MNU	Feature 11 MNU	Feature 15 MNU	Feature 17 MNU	Feature 18 MNU	Feature 19-22 MNU	Other Features MNU	Total MNU
Mammal									
Cat	2	-	-	-	-	-	-	-	2
Cattle	138	2	28	-	2	2	2	4	178
Dog	1	-	-	-	-	-	-	-	1
Horse	2	-	2	2	-	-	2	-	8
Pig	124	2	7	5	-	2	-	3	143
Rabbit	1	-	-	-	-	-	-	-	1
Sheep	32	-	7	-	-	2	-	2	43
Squirrel	4	-	-	-	-	-	-	-	4
Small Mammal	16	-	-	-	-	2	-	-	18
Large Mammal	54	2	5	5	-	1	3	2	72
Subtotal	374	6	49	12	2	9	7	11	470
Bird									
Chicken	12	-	-	1	-	5	-	-	18
Pigeon	1	-	-	-	-	-	-	-	1
Turkey	-	-	-	1	-	-	-	-	1
Unidentified Bird	27	-	-	1	-	1	-	-	29
Subtotal	40	-	-	3	-	6	-	-	49
Fish									
Shad	44	-	-	-	-	-	-	-	44
Catfish	7	-	-	-	-	-	-	-	7
Striped Bass	5	-	-	-	-	-	-	-	5
Unidentified Fish	618	-	-	1	-	-	-	-	619
Subtotal	674	-	-	1	-	-	-	-	675
Reptile									
Unidentified Turtle	3	-	-	-	-	-	-	-	3
Subtotal	3	-	-	-	-	-	-	-	3
Amphibian									
Unidentified Frog	1	-	-	-	-	-	-	-	1
Subtotal	1	-	-	-	-	-	-	-	1
Unidentified Bone	1	-	-	-	-	-	-	-	1
TOTAL MNU	1093	6	49	16	2	15	7	11	1199

Table 2. Summary of Class and Species for Feature 1,
 Augustine Creek North
 Counts are Minimum Number of Bone Units (MNU)

Species/Size Range Category	Feature 1 MNU
Mammal	
Cat	1
Cattle	39
Horse	1
Pig	42
Rabbit	2
Sheep	23
Small Mammal	5
Large Mammal	25
Subtotal	138
Bird	
Chicken	5
Goose	2
Pigeon	1
Unidentified Bird	7
Subtotal	15
Fish	
Unidentified Fish	65
Subtotal	65
Reptile	
Blanding's Turtle	1
Subtotal	1
TOTAL MNU	219

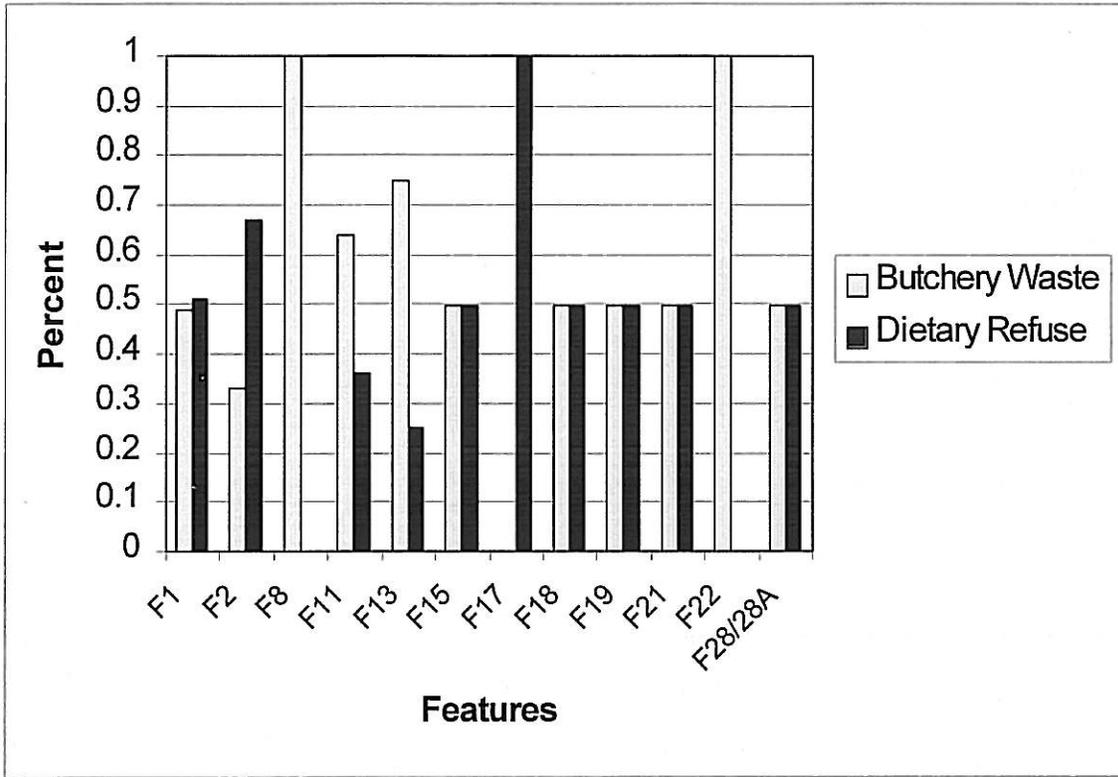


Figure 1. Relative percentage of butchering waste to dietary refuse by feature.

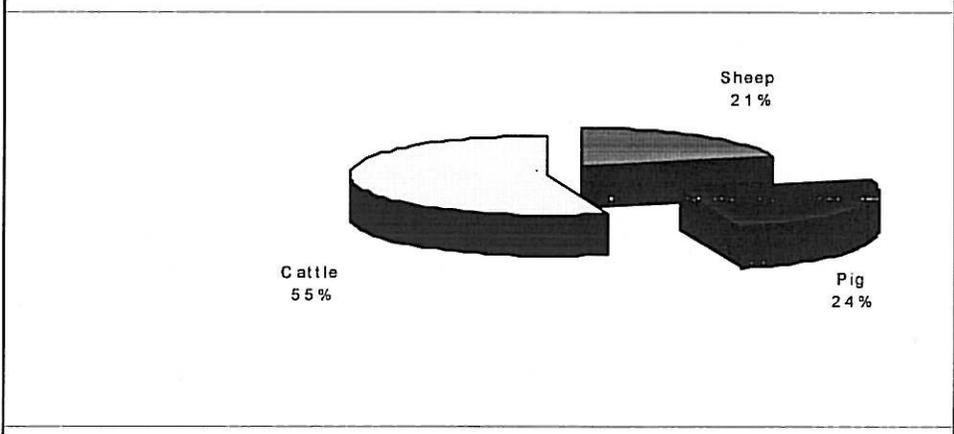
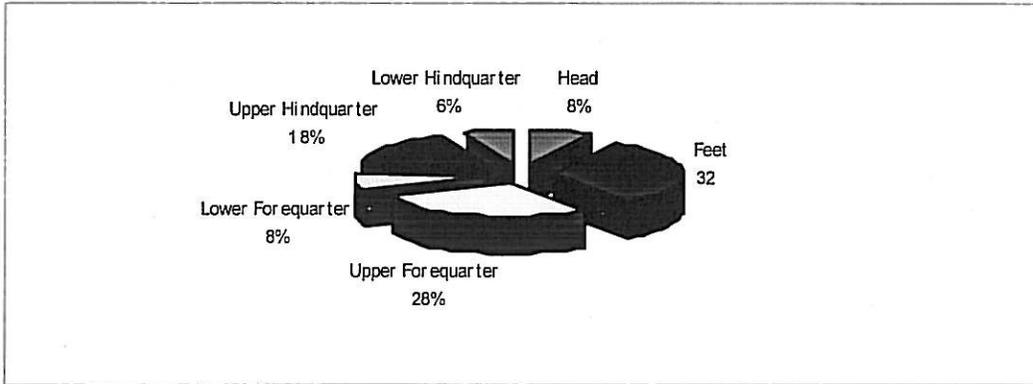
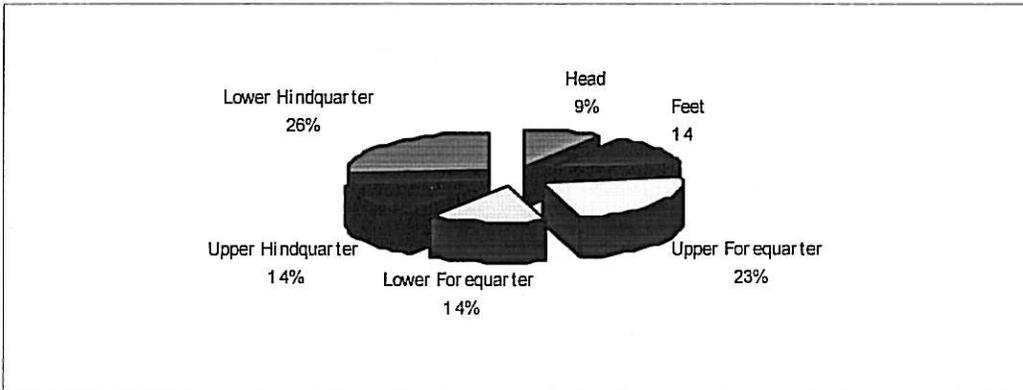


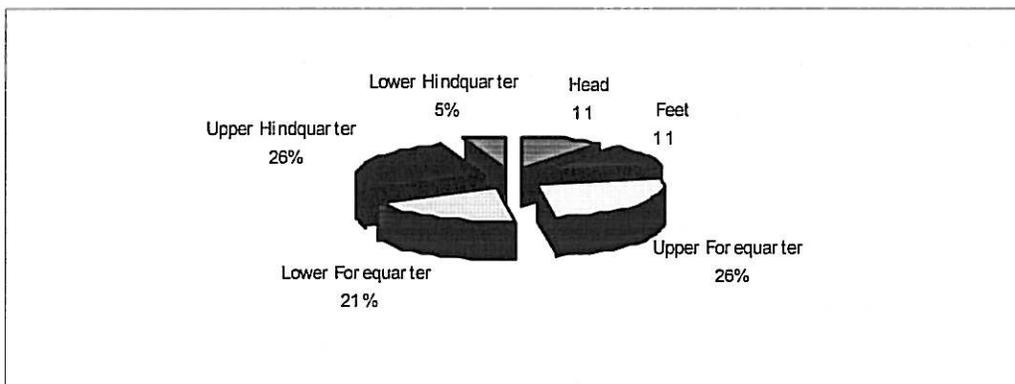
Figure 2. Relative frequencies of cattle, pig and sheep.



a. Cattle



b. Pig



c. Sheep

Figure 3. Relative body parts distributions of cattle, pig and sheep.

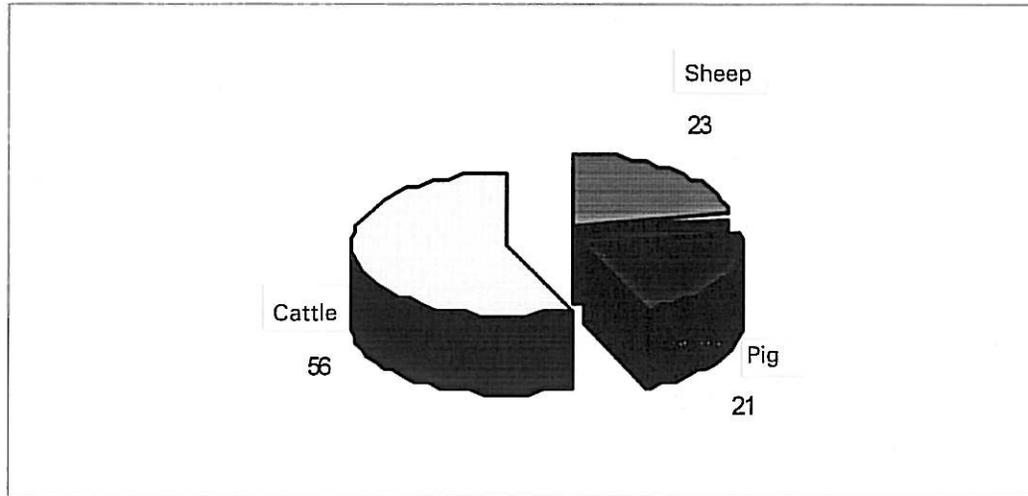
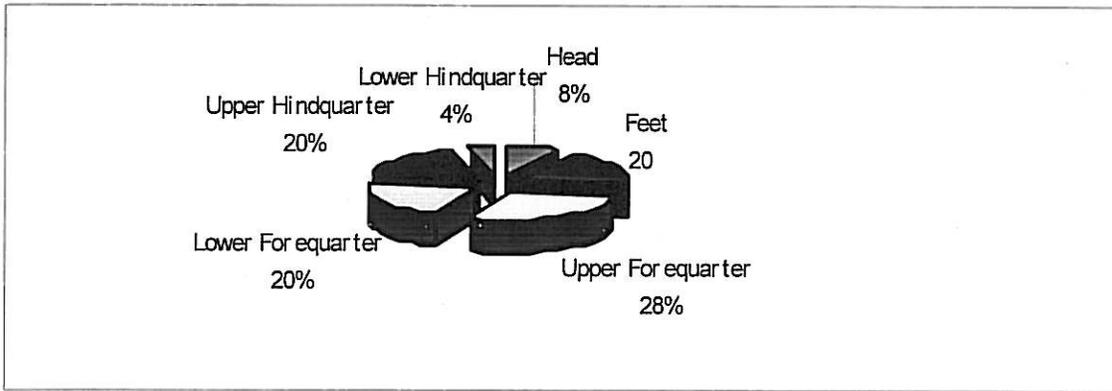
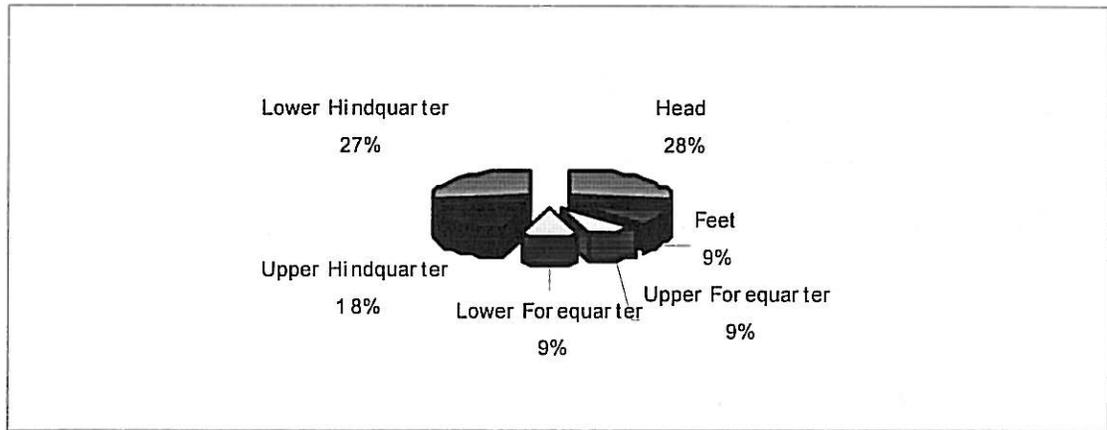


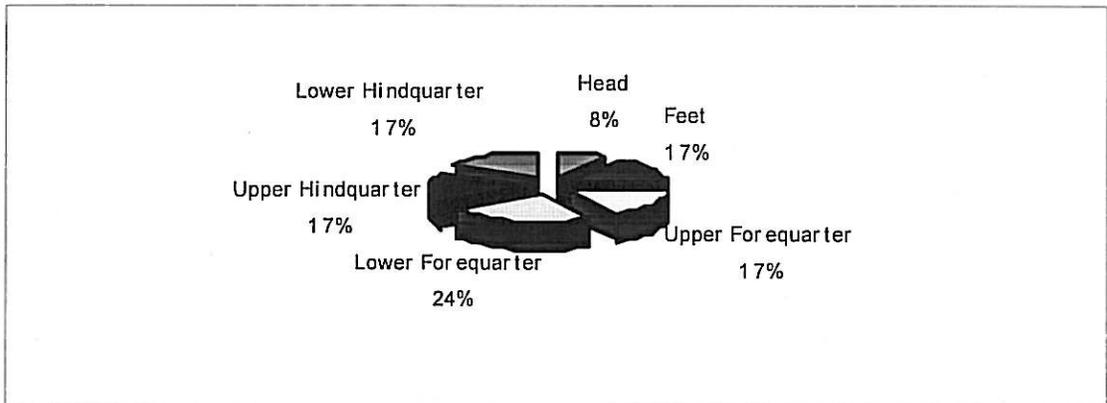
Figure 4. Relative frequencies of cattle, pig and sheep.



Cattle



Pig



Sheep

Figure 5a-c. Relative body parts distributions of cattle, pig and sheep.

APPENDIX E

PROBATE INVENTORY RECORDING FORM