

**African Studies Program, University of Wisconsin-Madison
Regents of the University of Wisconsin System**

The Technology of Production in Southern Dahomey, c. 1900

Author(s): Patrick Manning

Source: *African Economic History*, No. 9 (1980), pp. 49-67

Published by: [African Studies Program, University of Wisconsin-Madison](#)

Stable URL: <http://www.jstor.org/stable/3601387>

Accessed: 15/05/2014 10:49

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



African Studies Program, University of Wisconsin-Madison and Regents of the University of Wisconsin System are collaborating with JSTOR to digitize, preserve and extend access to *African Economic History*.

<http://www.jstor.org>

THE TECHNOLOGY OF PRODUCTION
IN SOUTHERN DAHOMEY, c. 1900

Patrick Manning
Canada College

Recent advances in the analysis of African economic history will require for their continuance the development of a steadily more solid and comprehensive base of description of African technology and economic institutions. Such descriptions are not only necessary for analyzing the economy of a given region, but are also of comparative interest, as economic historians continue the work of clarifying regional differences in products, in techniques and--what is hardest--in the relative importance of various economic activities. While archeology, anthropology, linguistics, and other disciplines may be expected to contribute to this effort, there is still much to be gained from the recovery and collation of European descriptions of African economies.

The case presented here is that of early colonial southern Dahomey, a region which includes peoples of the Aja-Ewe and Yoruba groups. The descriptions are taken from a remarkable set of studies by observers tied to the colonial government: the studies by Savariau, Foà, Chevalier, Henry, Pécaud, and Gruvel provide the bulk of the description; other studies provide confirmation of these and some additional detail. A total of twenty-nine articles and books, published between 1873 and 1917, were drawn on: their *median* date of publication was 1906, and one may surmise that the *median* date of observation was roughly 1904. Nineteen of the studies were published between 1890 and 1910. This material allows therefore for a comprehensive description of production within a short span of time.

The sources utilized here are not atypical: much of the best European analysis of African economies was done at the beginning of this century, as the conquerors cataloged what they had taken over. Later studies were often overly general or, when they were better on particulars, lost any sense of the general. Not until the 1950s were there again enough studies to have such a cumulative effect as at the turn of the century. Furthermore, published studies contain the bulk of the information collected on early colonial Dahomey: archival materials provide some additional information, but the best studies of these observers were published. Archival sources, therefore, will provide a more detailed regional differentiation on technology

African Economic History, no. 9(1980)

of production within an already small region: these are in the Benin archives in Porto-Novo (Dossiers 2-D, Rapports mensuels des cercles) and in the former AOF archives in Dakar.

II

The descriptions that follow are listed by product in five sections: agriculture; pisciculture; animal husbandry; hunting and gathering; and manufacturing. Yoruba and Fon product names have been checked in modern dictionaries. It should be emphasized that the descriptions are intended to be comprehensive for the region's production, but not for commerce or consumption. (In commerce, for example, the region had a very active domestic commerce; it had received substantial imports from trans-Atlantic commerce for two centuries, and it also participated in West African commerce.) Further, I have disaggregated the descriptions of production emphasizing the technology for each product rather than how they fit together. The interaction of many of these activities is illustrated in a handy and largely accurate agricultural calendar published in the *Annuaire de l'AOF* (AOF 1910).

Southern Dahomey formed a rectangle of 100 kilometers from east to west and 200 kilometers from north to south, with a population of some 600,000 in 1900, of which 500,000 were Aja peoples (and 200,000 of these were Fon of the kingdom of Danhome), and the rest, mostly along the eastern fringe of the region, were Yoruba. The descriptions refer to four conventional regions: (1) The *Coast*, the coastal band, some sixty kilometers deep, with good agricultural land and ample water transport routes, with two rainy seasons and with some 60% of the region's total population. Its main towns were Porto-Novo, Ouidah, Allada, and Athiémé. (2) The *Plateau*, a band comprising the next fifty kilometers inland, of higher elevation, with water less accessible, with two rainy seasons and with 30% of the region's population. Its main towns were Abomey, Kétou, Zagnanado, and Aplahoué. (3) The *Center*, including the next one hundred kilometers inland, an area with porous soil, rendering agriculture less productive, with a single rainy season and with only 10% of the region's population, though half its area. Its main towns were Savalou and Savè. (4) The *North*, including the northern two-thirds of modern Benin, is the home of eastern Voltaic peoples, and is not included in this study.

Agriculture

African fan palm (*Borassus aethiopum*). French: *rônier*. Fon: *agon*. Yoruba: *agbon olodu*. The wood of this tree was used in construction, the fruit was eaten, and the tree could be tapped for wine. (Savariau 1906a: 88).

African locust bean (*Parkia biglobosa*). French: *nété*. Fon: *ahua*. This tree grows to a height of ten meters, and is found throughout southern Dahomey, especially in the areas of Abomey and Savalou. It flowers at the end of the rains, and its fruit, consisting of pods with some fifteen seeds each, ripens in the dry season. The seeds were boiled or made into a green flour, which when cooked yielded a paste known as *makari*,

which was popular on the Coast. On the Plateau the fruit was used as famine reserve rather than for *makari*. (Savariau 1906a: 48-49).

Avocado. Fon: *avoca*. (Savariau 1906a: 58).

Banana (*Musa nana* and *M. sapientum*). Fon: *kokwe*. Yoruba: *ogede*. After oranges, the most common fruit. Grown especially in low-lying areas. (Savariau 1906a: 57).

Bean or cowpea (*Vigna unguiculata*). French: *haricot*. Fon: *aikun*. Yoruba: *ere*. Five main varieties were known--four with small seeds colored red, white, black, and red veined with black, and a fifth variety with larger seeds of white. The varieties were sown at different times during the rains, and harvested as they ripened at various times. Beans were grown under maize and sorghum on the Plateau, and alone on the Coast. They were dried after harvest, but shelled only on consumption. They were cooked in water, salted, and served with palm oil. (Savariau 1906a: 47-48; Dohmey 1917: 40).

Bitter kola (*Garcinia kola*). Fon: *akhro-we*. Yoruba: *orogbo, kola*. This tree grows in the same low, humid areas as the kola tree. It flowers from January to March, and its fruits ripen at the end of the rains: they are yellow-white oval seeds, with no separable cotyledons. They were consumed along with kola as a complement, reputedly enabling people to eat more kola nuts. (Chevalier 1909a: 443-44).

Breadfruit (*Treculia africana*). Yoruba: *afon*. A common fruit tree, whose fruit can reach ten kilograms in weight, but which was not the object of much commerce. (Savariau 1906a: 60).

Cacao. Grown with little success in Dahomey. (Savariau 1906a: 62).

Calabash (*Lagenaria vulgaris*, and *Cucurbita*). Yoruba: *igba, apala*. Calabashes or gourds grow commonly on the Plateau and the area to the north. They were forced to grow into shapes appropriate for pots, plates, and many other implements. Once ripe they were dried, emptied, and decorated with relief sculpture; no use for food or oil is recorded. (Foà 1895: 131).

Cashew (*Anacardium occidentale*). French: *acajou*. Fon: *kaju*. Yoruba: *kaju*. This tree grows well along the sandy littoral. Its pear-shaped fruit (the "cashew apple") ripens at the end of the rains, and is widely appreciated. The nuts may be dried and eaten. (Laffitte 1873: 149).

Castor (*Ricinus communis*). French: *ricin*. Fon: *gbogbozo*. Yoruba: *lara*. This tree grew around all southern Dahomean villages, but especially north of Abomey. When shelled, its seeds were used medicinally, and were later exported in small quantities. Shelling, however, was difficult and slow. (Savariau 1906a: 74; Dahomey 1917: 24-25).

Coconut (*Cocos nucifera*). Fon: *agonke*. Yoruba: *agbon*. Coconut palms grew in small numbers throughout the country but, because they generally require more rain than is available here, they grow well only on the sandy soils of the coast: most coconuts were in the area of Grand Popo. The trees were usually planted in regular fields. They begin to yield in their eighth

to tenth year and reach full production of sixty to eighty nuts per year at the age of fifteen to twenty. Nuts were harvested either by climbing the tree and cutting them off, or by waiting for them to fall. The fruit could be treated in three ways: (1) the fresh fruit could be opened, the coconut milk drunk, and the albumen eaten fresh, which was the normal mode of Dahomean consumption (alcoholic drinks seem not to have been made from coconuts); (2) the coconuts could be opened with an ax, dried for a few days, and the albumen detached and dried further to make copra for export; (3) coconut oil could be extracted from the albumen for use in cooking. Observers complained that Dahomeans prepared their copra poorly by drying it insufficiently and contaminating it with sand. (Adam 1915: 7-9, 22-24, 72-74, 88; Savariau 1906a: 69-70; Dahomey 1917: 19-21; Laffitte 1873: 148; Albéca 1889: 77; Foà 1895: 140; Fonsagrives 1900: 356).

Coffee (var. *robusta*). Fon: *cafe*. Yoruba: *cafe*. Coffee experiments took place from the mid-nineteenth century with little success. Small plantations were set up in the early colonial years near Porto-Novo, Ouidah, and Zagnanado, and later in the Mono. (Savariau 1906a: 61-62; François 1906: 48; Baillaud 1907: 63; d'Albéca 1895: 121).

Cotton (*Gossypium*). Fon: *avokan*. Yoruba: *owu*. Cotton was grown in the area north of Abomey and among the Holli (Ohori-Ije). It grew best on light soils, but it needed the soil depth provided by mounds, where it was usually cultivated in association with yams. It was planted in May or June, after the yams, and was thinned to two or three plants a mound. When grown in isolation, it was sown in June or July, and three or four plants were left per mound. Harvest was in December and January. The Dahomean varieties were not well differentiated from each other. They were, however, hardier and less susceptible to drought than the varieties introduced by the French for sale on the world market. The harvest in December and January was often not performed at the best moment; instead the farmers collected the ripe bolls whenever they had time away from other duties. Seeds were separated by hand and dried. The cotton was transported to Abomey and the towns of the Coast for spinning and weaving. (Savariau 1906a: 74-76; Dahomey 1917: 41-43; Chevalier 1910b: 271; Henry 1906: 204; Henry 1913: 25).

Earth pea (*Voandzeia subterranea*). French: *Pois arachide*. Five varieties were identified by seed color: white, white with purple, dark red, light red, and black. They were sown in light soil in May and June, and harvested in November and December. They were grown using techniques similar to those for peanuts, had a shorter growing season, and were grown in similar quantities, but their commerce was quite restricted. The white varieties were most preferred. (Savariau 1906a: 46-47).

Ginger (*Zingiber officinale*). Fon: *dote*. Yoruba: *atale*. Grown in small quantities, it was used as a spice and for medicinal purposes.

Guava (*Psidium guajava*). Fon: *ken*. Yoruba: *guaba*. (Savariau 1906a: 59).

Indigo (*Lonchocarpus cyanescens*). Yoruba: *elu*. This plant was rarely cultivated: the leaves of the wild plant were collected for making dye. (Fonssagrives 1900: 357; see also under textile manufacture).

Kola. Two main varieties were known: *Cola nitida* (Fon: *golo*; Yoruba: *gbanja*) was imported from the west, had two cotyledons, and was consumed by Muslims. *Cola acuminata* (Fon: *vi*; Yoruba: *obi*) was the smaller, native variety of four and five cotyledons, which was consumed in association with Yoruba and Aja religion. Most of the nuts were red, but some were pink or white. It was grown near most villages on the Coast, but was most numerous near Abomey-Calavi. Trees were planted annually and kept cleared, though in some areas religious prohibitions kept people from touching them with iron, so that dead branches could not be cut off. The trees tended to bear fruit every second year in September and October, but many gave erratic yields. They began production in the tenth to fifteenth year, and were in full production from twenty-five to seventy-five years of age, producing some one thousand nuts each in a good year. (Chevalier 1909a: 134-36, 145-46, 294-95, 316-26, 357-67, 396, 468-69; Savariau 1906a; Dahomey 1917: 51; Fonssagrives 1900: 356).

Lemon (*Citrus medica* var. *limonus*). Fon: *kle*. Yoruba: *orombo wewe*. (Laffitte 1873: 147; Savariau 1906a: 58).

Maize (*Zea mays*). Fon: *gbade*. Yoruba: *agbado*. Several varieties were grown, each with different color, size, hardness, growing time, and taste. Early white--a variety with small, hard kernels, which ripened in two to two and a half months, required little water, was cultivated in the short rains, and was eaten boiled or grilled. Ordinary white--had hard kernels, ripened in three and a half months, was tall and of average productivity; it furnished the majority of maize exported and was made into *akansan*. Late white--the most highly regarded for taste, it had tender kernels, was grown only in the long rains, and was made into flour. Hard yellow--very hard kernels, little cultivated. Early yellow--similar to early white, had small kernels, ripened in three months, and was eaten boiled or grilled. Late yellow--the usual yellow maize, ripened in three and a half months, and was ground into flour. Late red--very tall and productive, ripened in four to five months, required much water, and was therefore little used.

Successive plantings were sometimes necessary, as occasional long dry periods just after planting would kill the seedlings. Late varieties were generally sown in the longer first rainy season, and early varieties were sown for the short rains. Most farmers sowed maize in rows (or mounds in the Center), in pockets with two or three seeds each, placed one-third of the way down the side of the row. They performed one or two weedings and perhaps a hoeing while the plants were young. The first crop, sown in March and April, came to maturity in August, when it was important to have as little rain as possible so that the seeds would not germinate, and so that the harvest could be dried properly. Poorly dried maize was invaded by molds and

weevils. (Some maize matured in July, and some varieties were harvested before maturity in June and July, grilled, and eaten on the cob.) The second crop was planted as soon as the first was harvested, and if for any reason the sowing was missed, the second rainy season was too short to permit replanting. Plenty of rain in September helped the new crop, while a dry December aided in its collection and preservation. If the harmattan began to blow early the development of the second crop was arrested. The yield of the second crop was roughly two-thirds that of the first.

Dried ears of maize were kept in their husks for a certain time but, once stripped, the tender varieties especially were easy prey for rats and weevils. For this reason only the harder varieties were exported, but they characteristically suffered in warehouses awaiting export. To avoid these attacks farmers often suspended maize from ceilings, where the smoky atmosphere protected it, or stored it in granaries elevated to keep out termites and other pests: they removed the kernels from the ears and put them in large covered jars in the granaries, which were made of mud with thatched roofs, and under which they often kept a fire burning. In some areas, as among the Dasha, the maize was sealed in the vessels, so the carbon dioxide generated prevented pests from breathing.

Maize was mostly consumed as *akansan*: women mashed and soaked the kernels to separate out the envelopes, ground and boiled the starch until it was pasty, and then wrapped portions of about 400 grams in two large leaves. They made a number of other maize dishes, involving cooking maize paste with vegetables, or with salt, red peppers, and fish. They prepared certain varieties of maize simply by boiling or grilling. Southern Dahomeans made a good deal of maize beer and some liquor distilled from maize (see Manufactures below). Leftover stalks and other refuse went to the pigs and chickens. (Henry 1912; Chevalier 1910b; Savariau 1906a: 38-39; Laffitte 1873: 144-45; Foà 1895: 153; Dahomey 1917: 27-28).

Mango (*Mangifera indica*). Fon: *amaga*, *yovo slo*. Yoruba: *mongoro*. The fruit range from seven to ten centimeters in diameter. (Bouche 1885: 62; Savariau 1906a: 58).

Manioc (*Manihot utilissima*). Fon: *fegnen*. Yoruba: *gbaguda*. Three varieties were noted in Dahomey. Black--dark stems, with ten to fifteen black-skinned tubers, ripening in five months. White--graying stems, large tubers, ripening in seven to eight months; the most productive. Red--red stem and tubers, of smaller size, ripening in five months. Manioc was grown in rows by itself on the Coast, especially along the sandy littoral, and in association with maize, yams, beans, and sweet potatoes on the Plateau and in the Center; it was also used to mark the limits of fields. It was planted from cuttings at some time from March to July, was earthed up during vegetation, and was harvested at some time from five to eighteen months later. Yields were both high and variable, averaging from twenty to thirty quintals per hectare. Manioc was consumed largely in towns and was grown nearby. There was little export of manioc

from southern Dahomey, but imports from Lagos were substantial. Most manioc was made into flour, but *gari* (granules made by heating flour over a fire) had been introduced in the nineteenth century by Brazilians, and its consumption grew steadily. Tapioca was made in a few places, notably Agoué. (Savariau 1906a: 52-53; Dahomey 1917: 33-35).

Millet (*Panicum*). French: *petit mil*. Fon: *li*. Grown mostly in the areas of Abomey and Savalou. The varieties noted had seeds of yellow, light gray, and dark gray. Millet was sown with the early rains, usually in association with maize or sorghum, and ripened after three months. While the yield was less than for other grains, millet was appreciated because of its taste and because it ripened early. (Savariau 1906a: 42-43; Dahomey 1917: 39).

Oil palm (*Elaeis guineensis*). Fon: *de*. Yoruba: *ope*. The oil palm is native to Dahomey and grows there spontaneously, but is numerous only where it has received human care. Dahomeans frequently planted or transplanted oil palms. The trees produce fruit in bunches year-round, but the main harvests are in the two dry seasons. Oil palms begin to yield at four or five years of age, and yield in large quantity from about eight to forty or fifty years, after which the yields decline until the tree dies at sixty to seventy-five years. Harvesting the fruit consisted of climbing the tree and cutting off all the bunches of fruit which were ripe or near-ripe, as well as any dead branches. An able man might climb over fifty trees a day; a well-tended tree was harvested three times a year.

Preparation of palm oil required time and effort. The fruit was usually left a few days to ferment, to make easier its removal from the stem. Fermentation was the most important aspect of quality variation: the esterified oils broke down into their constituent free fatty acids if treated too roughly or too slowly, and this gave the oil a bad taste and smell. Women usually did the work of boiling the fruit with about double its volume of water for a few hours, and then poured it into a rectangular basin of clay or into a canoe, where they trampled it or beat it with a stick to remove the oily pericarp from the nut. In some regions they did no heating, and simply allowed the fruit to ferment in the sun under some leaves or rocks--with a resultant high fatty acid content. They separated out the nuts, mashed the pulp to squeeze out the oil, and pulled the fiber into a pile at the corner of the basin. They then skimmed the oil off the top of the water with a calabash. They collected the pulp and extracted more oil and the rest of the nuts from it. In most areas they boiled the oil thus collected, first to separate out organic impurities, and then to evaporate the water. In a dry period or in dry regions, the washing of nuts and pulp was done until the water was very viscous, so the oil no longer surfaced. The water was used so intensively that the yield of oil was low, acid content was high, and the taste unpleasant. Finally, the palm nuts were dried, and were cracked open by women, children, and the elderly at their leisure. This method collected from 40% to 60% of the oil.

Dahomeans kept palms around the house well cleared, pulled off vines, and cut off dead leaves on harvesting the trees. They treated similarly the palms along paths, near sources of water, and in cultivated fields. Those which were not in cultivated areas but which were regularly visited had circles of two to three meters cleared around them. Trees in secondary bush were visited when the land was cleared or when the owners needed money. Every palm had an owner, and disputes over ownership and inheritance were similar to those over land, which was owned separately.

As the palms grew old, they became too tall to climb conveniently and they began to yield less. Ultimately they might be cut down. Smaller trees were removed from fields when they interrupted the cultivation of food crops. The Aja peoples prepared palm wine by felling trees, but they were usually careful to pick unproductive trees for felling (see Manufactures, below, on palm wine). People were reluctant to cut down trees which required so long to grow, and which would take years to replace; there was a tendency in the early twentieth century for the average age of palms to increase, as many palms had been planted in the last half of the nineteenth century. Jean Adam noted groves throughout the country of from ten to forty years of age; the most famous of these were those of Sinhoué, south of Abomey, planted and maintained by the slaves of the Fon king. (Adam 1910; Savariau 1906a: 37, 63-69; Dahomey 1917: 14-15; Foà 1895: 136-39; François 1906: 142; Brunet and Giethlen 1900: 450).

Okra (*Hibiscus esculentus*). French: *gombo*. Fon: *fevi*. Yoruba: *ilasha*. Sown at the end of the rainy season throughout the country, it yields small conical fruit in the dry season, which are harvested when three or four centimeters long and consumed immediately, often in sauces, or dried and conserved. (Savariau 1906a: 50).

Orange (*Citrus aurantium*). Fon: *gbo, yovozen*. Yoruba: *osan, orombo*. The trees grow to a height of six to seven meters, and were most numerous around Abomey. The fruit remains green even when ripe. (Savariau 1906a: 58).

Papaya (*Carica papaya*). Fon: *kpen*. Yoruba: *ibepe*. (Bouche 1885: 62; Savariau 1906a: 59).

Peanut (*Arachis hypogaea*). Fon: *azin*. Yoruba: *epa*. Grown throughout the country, peanuts grow best in the light soils of the Plateau and the Center, but also around Cotonou. They were sown during April and May, usually in rows, and were earthed up as they flowered. At harvest, mainly in December, the plants were pulled out whole, then set back in the ground upside down, and the nuts were removed as they dried. The nuts were stored in houses or in earthen silos. (Savariau 1906a: 44-45).

Pepper. The main sorts of pepper known were Guinea pepper (*Capsicum annum* and *C. frutescens*), which has both red and black varieties; the West African black pepper or Benin pepper (*Piper guineense*); and the Guinea grain (*Aframomum melegueta*). References often fail to distinguish among them. French: *piment, poivre, poivre de Guinée*. Fon: *takin, vavo, gbatakin*. Yoruba: *ata*.

Pigeon pea (*Cajanus cajan*). French: *pois d'Angol*. Fon: *kulekun*. Yoruba: *otinli*. This bush grows to over two meters high, and was used to form hedges throughout the country. It was also grown in fields in association with yams near Abomey. Sown in May or June in clayey soil, it was cut back before the second rains, and gave fruit after a year. It received no more care, and lived for three years. The seeds were boiled and eaten with palm oil and salt. (Savariau 1906a: 47).

Pineapple (*Ananas comosus*). Fon: *agon*. Yoruba: *opeyinbo*. Grown in small quantities around dwellings, but also in large fields on the Coast. (François 1906: 78).

Pistachio. French: *acajou*. Both fruit and nuts were consumed. (Bouche 1885: 62).

Raphia (*Raphia vinifera*). Fon: *muen*. Yoruba: *iko*, *apako*. This actually includes several species known as bamboo or wine palm. It grows best in marshy areas. Fiber was taken from young leaves, bamboo came from the rib of the palm frond, and wine was tapped by piercing the base of the terminal bud. (Savariau 1906a: 80).

Rubber. Various trees of genus *Ficus* and *Fruturnia* were present in small quantities, plus the vine *Landolphia owariensis*. Fon: *loba*. Yoruba: *ire*. Dahomeans collected the latex for such uses as repairing canoes. In the rubber export boom of the 1890s many of the wild plants were bled to death. Plantations of the above as well as *Ceara* were established at the turn of the century, but led to little export. (Foà 1895: 140; Henry 1907: 75-78; Chevalier 1910a: 3-11).

Shea butter (*Butyrospermum Parkii*). French: *karité*. Fon: *limu*. Yoruba: *emi*. In the Center and the North the tree grows to a height of twelve meters. Fruit were collected as they fell and the pulp was often eaten. Once the pulp was removed, the nuts were cooked in large clay pots and dried several days in the sun, and the nuts were then cracked open. The kernel was removed, dried for ten days, and then stored in silos or made into shea butter. In making shea butter the kernels were crushed and cooked five to six hours, cooled, and again pulverized. The resultant paste was put in a jar with water--the oil surfaced and was removed by hand, being solid, and was then repurified. The butter, which becomes rancid rather quickly, was made into small lumps. Good quality butter (white) was used for cooking; poor butter (yellow, from unripe kernels) was used for lighting: a cotton wick was laid on a wooden receptacle containing shea butter to make a lamp. Shea butter was traded widely: consumers in Savalou bought it from as far away as Atakpamé. (Savariau 1906a: 71-74).

Silk-cotton tree. Two varieties exist. On the Coast, *Ceiba pentandra* (French: *fromager*; Fon: *hun*; Yoruba: *araba*). In the Center, *Bombax buonopozense* (French: *kapokier*; Fon: *hun*; Yoruba: *ponpola*). The fiber of each was used in cloth; kapok was also the object of a modest export trade.

Sorghum or Guinea corn (*Sorghum*). French: *sorgho* or *gros mil*. Fon: *abokun*. Yoruba: *baba*. Grown to some degree on the Plateau, and quite widely in the Center. Five varieties were

noted in Dahomey, based on seed color: red, pink, yellow, and two kinds of white. The seeds were sown during May and June in pockets in rows. Sorghum was often grown in association with maize or millet. It was weeded and hoed once when the plants were small, and harvested in November and December. The seeds were not shelled on harvest, but were stored in elevated silos covered with straw. As needed the sorghum was shelled and ground into flour which was used to make *akansan* and pancakes. White, red, and especially yellow sorghum were used to make beer (see Manufactures, below). (Savariau 1906a: 41-42; Dahomey 1917: 37-38).

Sugar (*Saccharum officinarum*). Fon: *leke, sukle, yovoje*. Yoruba: *ireke*. Dahomeans chewed sugar cane as a snack. Some rum was made and even exported. (Foà 1895: 155).

Sweet potato (*Ipomoea batatas*). French: *patate*. Fon: *doukouin, weli*. Yoruba: *odokun, kukuduku*. These were grown throughout the country, but were grown in large quantity only in the area of Porto-Novo and around Zinvié. Two varieties were known, with pink and white skins respectively. Sweet potatoes were reproduced with cuttings--tubers from the previous harvest were germinated, and the stems were cut and planted. They required plenty of hoeing, weeding, and earthing up. The difficulty of conserving sweet potatoes after harvest limited both cultivation and commerce. Only small areas of sweet potatoes were planted at a time, and the plantings were spread over a four-month period, so the tubers could be consumed as they ripened. The white variety was preferred to the pink; both kinds were prepared by boiling or frying in palm oil. (Savariau 1906a: 54; Dahomey 1917: 39).

Tangerine. Fon: *lima*. (Savariau 1906a: 58).

Tobacco (*Nicotiana rustica*). Yoruba: *taba*. Grown in small quantities in the Center, especially in Savè. It was sown in March in pockets on the flanks of mounds of yams, and later thinned to one plant per mound. The plants grew for six months, but leaves began to dry in July. These were harvested immediately, and drying was continued under the roofs of houses. The tobacco was used in pipes or as snuff. Its role in commerce was greatly overshadowed by that of imported tobacco. (Savariau 1906a: 91).

Yams (*Dioscorea rotundata*--bitter yam; *D. praehensilis*--sweet yam; *D. alata*--water yam). Perhaps ten varieties of these species were known. Chevalier correctly identified the leading species as the Guinea yam (*D. rotundata*), while Henry and Amman and others identified it as the Asian yam (*D. alata*). Yams were grown most intensively in the Center and among the Yoruba. Hunks of yams were planted in mounds of light soil during March. The young plants were weeded carefully. Other crops such as cotton, okra, beans, and pigeon peas were planted in the mounds later. The first tubers could be harvested and eaten in late August, when the yam festivals were held, but most varieties took seven to nine months to develop. Farmers sometimes harvested the fields completely in February in order to use them again the next year, and conserved the yams in elevated

wooden racks. But because of the attacks of insects, the general tendency was to leave yams in the ground until they were to be consumed. Yields averaged fifteen quintals per hectare. The earliest yams were grilled on hot coals; the water yam and bitter yam were peeled, boiled, and eaten in hunks; the sweet yam was often ground into flour. Another small, sweet yam, *D. trifida* (Fon: *lefe*), was used in desserts. (Savariau 1906a: 51-52; Chevalier 1909b; Henry and Amman 1913: 55-61; Dahomey 1917: 30-32).

Further notes on agriculture: garlic, onions, tomato, taro and *cannabis*, while not mentioned in the sources, were probably grown in the region. In addition, various unspecified greens were consumed. Substantial quantities of rice were imported, but none was grown in Dahomey. Eggplant, sesame, sisal, plantain, and baobab seem also not to have been grown.

Pisciculture

Callinectes (crab).

Caranx (mackerel). Fon: *ajagwe*.

Chrysichthys nigrodigitatus. The most common, after *Tilapia*.

Clarias lazera (catfish). Fon: *aboli*, *ason*.

Clupea (sardine). Fon: *dewi*.

Cybtium tritor. Fon: *guse*.

Cyn glossus senegalensis (sole). Fon: *afokpakpa*.

Hemirhamphus.

Heterotis niloticus.

Hydrocyon forskalii (tiger-fish). Fon: *weti*.

Lates niloticus (Nile perch). Fon: *aniato*.

Lichia. Fon: *gangba*.

Macrobrachium (shrimp).

Mugil grandisquamis (mullet). French: *mulet*, *truite*.
Fon: *akplo*.

Ostrea edulis (oyster).

Otolithus senegalensis and *O. macrognathus*. Fon: *aoju*.

Penaeus (shrimp).

Pristopoma jubelini. Fon: *kokukoku*.

Schilbe mystus.

Tilapia macrocephala and *T. heudeloti*. French: *carpe*.

Fon: *akpavi*. The most common fish of lakes and lagoons.

The waters of the lagoons from Agoué to Ouidah and of Lake Ahémé were salty because of the opening to the sea at Grand Popo; Lake Nokoué and the Porto-Novo lagoon were salty because of the opening to the sea at Lagos and the occasional opening at Cotonou. This meant that the fish in the lagoons had to be adapted to both fresh and salt water, and to seasonal variations in salinity, and it accounts for the large numbers of shrimp, oysters, and crabs taken in those areas. Most fish were taken in the lagoon and lake system, with smaller numbers along the rivers. Ocean fishing was dominated by migrants from the Gold Coast.

The basic types of fishing equipment were lines, nets, weirs, and shelters. Short hand lines with one or two hooks

were used by children. In Lake Ahémé long lines with many hooks were held up by floats holding snail shells which clattered in the wind and could thus be found. The casting net, which generally was thrown from a canoe by one man while a second man piloted, was the most important fishing implement. Shrimp and sardine fishermen used special nets; groups of fishermen used large nets. The Hueda set weirs across the Ouidah lagoon and the Aho, with traps at the openings. In addition they dug trenches leading from the lagoon and the lakes, so that fish would swim up them to lay eggs, and then set weirs across the trenches. The use of highly remunerative traps was reserved to the old. The Weme dug long trenches in the flood plain of the Ouémé, which served in part for drainage; they too were closed off with weirs and the fish, after they had grown, were gradually enclosed into small areas and captured. Shelters were used along the Ouémé, in Lake Nokoué, and along the Porto-Novo lagoon. On the river, where fishing was tied to the annual flood, floating grass mats were fixed by stakes in shallow areas. These were periodically surrounded by nets and the fish which had taken refuge there were captured. In the lagoon and lake, large numbers of sticks were forced into the bottom, making refuges of a few yards in diameter at a minimum, but which eventually came to cover as much as a hectare for some of the very rich. The fish which took refuge there were of marine origin.

The list of individual pieces of equipment and specific methods of fishing is very long, and indicates the inventiveness which seems to be characteristic of African fishermen. Many of the lines, hooks, and sinkers were imported, although local products such as raphia cord were also employed.

Fishing spots, including small lakes, areas of lagoons, and canals, were owned and inherited. The use of the most productive fishing techniques was regulated or even forbidden, usually by religious authorities. For example, all fishing stopped on Lake Ahémé for a certain time each year, and certain parts of the Porto-Novo lagoon were never fished.

Fishing peoples ate much of their catch fresh. Other fish were salted and dried whole in the sun. Larger fish tended to be smoked, an operation which required two to five days and a faggot of wood for every twenty kilos of finished fish. The women of fishing villages did the drying and smoking at home, and then took the fish to market.

Sources on pisciculture: Bouche 1885: 58; Gruvel 1913: 82-89, 98; Gaillard 1907; Toutée 1899: 136-37; Lambinet 1893: 22).

Domestic Animals

Cat. Fon: *awili*. Yoruba: *ologbo*.

Cattle. Fon: *gnibu*. Yoruba: *maluu*. Most of the cattle of southern Dahomey were kept along the lower Ouémé and in the area of Porto-Novo. They were of the tsetse-resistant lagoon race, cattle of small stature and little meat. They were raised for their meat only--they were not milked nor were they used for transport or plowing. The Weme kept cattle in communal

pastures on the ridge of the river bank near the villages. In the dry season cattle grazed on the flood plain, guarded by small children. During the floods they had to be led swimming to small elevated pens, where food (maize stalks and vegetation from the river) was brought to them daily. As the flood receded, the feet of the cattle were often revealed to be corroded from standing so long in water. North of Porto-Novo, the land was so intensively cultivated that it was not possible to accumulate herds. Each owner had several cattle which he kept around the house, or tied to a palm tree in a fallow field. Rich men in Porto-Novo had herds which they kept in the sandy, less populated area near the ocean. Small numbers of cattle were kept elsewhere in southern Dahomey. The people of the Center kept a certain number of cattle of the Borgu race which was the dominant strain in northern Dahomey, and which was susceptible to tsetse. (Laffitte 1873: 152; Savariau 1906a: 93-99; Pécaud 1912: 6-9, 57-77, 99; Albéca 1895: 65; Gaillard 1907: 112-13).

Chicken. Fon: *koklo*. Yoruba: *adia*. The most numerous of domestic animals, chickens ran loose around the household and were fed on scraps. Some eggs were consumed. Chickens were not only the object of a lively domestic commerce, but were exported in substantial quantities. (Pécaud 1912: 45).

Dog. Fon: *avun*. Yoruba: *aja*.

Duck. Fon: *kpakpa*. Yoruba: *kpekpeiye*. Ducks were kept in relatively small numbers, in the same fashion as chickens. (Pécaud 1912: 45).

Goat. Fon: *gbo*. Yoruba: *ewure*. Goats were relatively numerous and relatively evenly distributed throughout southern Dahomey. They were of the small, short-legged variety of West Africa. They roamed and foraged for themselves, returning to the houses at night. They were often kept tied up while crops were growing. Goats were consumed widely, often being used in sacrifices. (Pécaud 1912: 34-35, 61, 68, 71-72).

Guinea fowl. Fon: *sonu*. Yoruba: *etu*.

Pig. Fon: *agluza*. Yoruba: *eledé*. The second most common domestic animal after chickens, although the great hog cholera epidemic of 1907/08 reduced its numbers sharply for some years. Pigs were more likely to be penned than goats or sheep, and were fed maize stalks and other scraps. (Pécaud 1912: 41-42, 61-62, 72, 97-98).

Pigeon. Fon: *ahuane*. Yoruba: *aukuku*.

Sheep. Fon: *lengbo*. Yoruba: *aguton*. Sheep were slightly less numerous than goats and had a similar distribution, except that Muslims tended to keep larger numbers of sheep, instead of pigs. The sheep had no wool, only hair. They were exported in large numbers, especially to Lagos. (Pécaud 1912: 34-35, 61, 68, 71-75).

Turkey. Fon: *trotro*. Yoruba: *tolotolo*. Small numbers were grown near the coastal towns for consumption by the wealthy. (Pécaud 1912: 47).

A general problem with raising domestic animals was their susceptibility to disease. Epidemics periodically wiped out large numbers of each of the above.

Hunting and Gathering

Hunting and gathering comprised a relatively small portion of production in southern Dahomey, and they were not described in detail by observers. Most hunting was with firearms rather than with bow and arrow; the nature of the game pursued is unclear. Foà reported that hunting was a part-time occupation rather than a specialist's job (Foà 1895: 142). Herskovits, however, later reported that professional hunters had existed in the Fon kingdom, and that they had acted as a military reserve (Herskovits 1938: 40-41, 121). Very modest quantities of ivory were exported from Dahomey, but it came from the far interior. Honey production is mentioned but not described (Herskovits 1938: 123); sugar imports, in any case, were large and growing. Wild indigo was collected for use in dyes (Fonssagrives 1900: 357). Other instances of hunting and gathering--of fruits, greens, roots, insects, and game--no doubt took place but were not described.

Two collection activities remained indispensable: provision of water and firewood. Both were considered women's work and both involved long walks carrying heavy loads. Water was scarce in much of southern Dahomey in the dry season. Wells were of some use on the Coast, and cisterns were constructed on the Plateau. In a densely populated country which was more savanna than forest, firewood required time-consuming searches. Some commerce took place in water and somewhat more in firewood, but neither collection nor commerce of these necessities received adequate description at the turn of the century.

Manufactures

The most difficult handicrafts were performed by specialists, and such specialists as blacksmiths had little time for activities other than smithing. Other crafts--including spinning, weaving, tanning, dyeing, pottery, woodwork, calabash making, and salt making--were performed largely by specialists, but could be performed by others in their spare time. Specialized building trades had grown up in the larger towns, but most construction in town and country was done by non-specialists.

In almost every case there existed on the local market imported substitutes for the domestic manufactures listed below. Nevertheless, since this competition and interaction of imported and domestic manufactures had gone on for the preceding two hundred years, the areas of equilibrium between the two were as important as those of rapid change. One interesting example of change, however, is the rapid increase in the use of kerosene beginning in the 1890s: lamps were fashioned out of tins, and kerosene lighting quickly displaced palm oil lamps.

Alcoholic beverages. *Palm wine*: While the Yoruba tapped oil palms and raphia palms to get palm wine, the Aja cut down the tree, left it ten to fifteen days, then cut a hole in it through which the sap flowed for about three weeks, to a total of about twenty liters. The palm sap ferments with yeast spores in the air within twelve hours of exposure, becoming steadily higher in alcoholic content. The Aja of the Mono region planted

palms very close together with an eye to felling them for palm wine. (Adam 1910: 96, 156-57; Savariau 1906a: 67; Dahomey 1917: 15). *Maize beverages*: Ears of maize were germinated in water for about four days, this malt was then crushed into a mortar, and the resultant paste was boiled for several hours. The liquid was decanted, put in a jar containing a little beer, and allowed to ferment for three days, after which it was drunk, though it could be kept for a week. In addition, small quantities of distilled maize liquor were made in stills with a clay pot from which protruded a reed of several meters in length, covered with glazed earth. (Foà 1895: 136-37; Henry 1912: 22-23). *Sorghum beer*: White, red, and especially yellow sorghum were used separately or together for beer. The sorghum was soaked for a day, then laid on mats in huts to germinate. After three days it was put in the sun to dry. Then it was ground, put in a jar with two volumes of water, and boiled seven to eight hours with stirring. The product was then poured through a filter of basketry, and the residue went to the animals. The liquid was boiled eight hours, cooled, and put in receptacles of fifteen liters impregnated with yeast. Fermentation took three to four days, but sometimes consumption began as soon as carbonic acid began to form. (Savariau 1906a: 41-42).

Basketry. *Raphia* fiber was the main raw material, although reed bark and other materials were employed. Techniques are not described, but the products included traps, cages (as for poultry), fans, supports for oil pots, pots, hats, sacks (to carry maize and palm kernels), ropes, and mats. (Foà 1895: 131; Savariau 1906a: 81).

Calabashes. Calabash makers grew their own calabashes, forcing them to grow into the shapes desired, after which the calabashes were dried, emptied, and carved with decorative relief sculpture. Products included trays, bottles, plates, and pots with covers. Larger numbers of calabashes were imported from the North. (Foà 1895: 131).

Dyeing. Women dominated dyeing. Wild indigo leaves were collected, pulverized, dried, and fermented with potash for several days. Cloth was dipped in the resultant dye several times, with patterns created by tie-dyeing. Red and black sorghum stalks yielded red and black dyes, used to color skins and mats; the stalks were pulverized and mixed with water, potash, and some clayey soil. The bark of the roots of *Cochlospermum tinctorium* was collected on the Plateau and used to make a yellow dye used to color shea butter and mats. Imported dyes were also used for domestic cloth. Most local cloth, however, was left uncolored or was bleached. (Foà 1895: 130; Savariau 1906a: 82-83; Brunet and Giethlen 1900: 264-65).

Fishing gear. A wide range of equipment was used in the various fishing techniques, some made by the fishermen, some purchased from local craftsmen, some imported. Included were nets (made and repaired by fishermen using domestic and imported twine), hooks, floats, weights, barrages, traps, and weirs. Canoes were purchased from specialists (see Woodwork). The work of smoking, salting, and drying fish required workshops,

firewood, and salt. (Gruvel 1913: 84-86; Gaillard 1907: 122).

Leather work. Specialized tanners (male) were known among the Yoruba, but the Aja did not do tanning. Instead they prepared skins, usually goat skins, by putting them in the sun, rubbing them with mallets or rocks soaked in water, then greasing them. The process took two to three days. The same leather workers did the decorative work--garnishing handles, boxes, canes, belts, calabashes, and baskets--and made leather cartridge bags, game bags, thongs, bowstrings, and strings for musical instruments. (Foà 1895: 132).

Metal Work. *Iron:* Every village had a smith. Virtually all iron was imported in bars from Europe or was scrap, although a very small amount of iron was imported for religious purposes from the North. Iron working required two men: the smith and the operator of a set of bellows made of two ceramic cylinders covered with skins. The smith used a pair of big pincers, a hammer, and an anvil which was usually a large stone set into the ground. The fire was of locally-made charcoal; the iron was heated red-hot and then worked, and it had to be put back into the fire several times. Tempering was not well-known. Among the products of the smiths were axes, hammers, nails, scissors, hoes, knife blades, chains, arrowheads, harpoons, hooks, sinks, hairpins, awls, balls, cartridges, and some guns. (Skertchly 1874: 386-87; Laffitte 1873: 137; Officiers 1894: 16; Foà 1895: 126-28; Brunet and Giethlen 1900: 287). *Silver:* With the influx of silver into the region during the nineteenth century, blacksmiths also became jewellers, making a variety of decorative pieces out of melted-down coins. Little gold, however, was present in Dahomey. (Officiers 1894: 16; Foà 1895: 128). *Brass:* Sculpture in brass was restricted to priests, both male and female, and seems further to have been concentrated on the Abomey Plateau. The brass was imported, cast by the lost-wax method, then filed and polished. (Foà 1895: 133).

Pottery. While pottery was made everywhere, certain centers produced large amounts: the towns of Agrimé and Oumbégamé at the southern fringe of the Abomey Plateau were examples. The potters, usually women, worked by hand and used no tools. They tempered their clay with sand, and built the pots upside down from top to bottom. They dried their pottery in the sun for several days, and fired it for ten to fifteen hours, after which it turned from gray to red. The ceramics were then cleaned and decorated. Individual potters or even towns tended to specialize in a certain item: they made storage jars, bowls, lamps, pipes, bellows, and portable stoves. (Laffitte 1873: 137; Skertchly 1874: 25, 85; Foà 1895: 130-31; Toutée 1899: 155; Brunet and Giethlen 1900: 289).

Salts. *Sodium chloride:* The competition of imported salt, which was carried as far north as the Niger, caused the abandonment of salt manufacture in many places, but people in several areas along the lagoons continued to make salt. In Kéténou on Lake Nokoué, salty water was filtered through a layer of sand in the bottom of a barrel, and the water was drawn off

and boiled to dryness in jars. Each year where the recession of the flood of the Mono left salt deposits near Grand Popo, women scraped up the surface layer, filtered it through a layer of sand, and boiled off the water. (Officiers 1894: 54; Foà 1895: 134; Albéca 1895: 57). *Chalk*: Used for whitening houses, chalk was made by burning oyster shells taken from the Ouidah lagoon. (Bouche 1885: 58; Foà 1895: 134). *Potash*: Potassium salts, used in making soap, were obtained by burning vegetable material, but most potash was imported from northern Nigeria. (Brunet and Giethlen 1900: 390).

Soap. Soap was made by boiling palm oil with potash. (Foà 1895: 134).

Textiles. *Spinning*: Women were the spinners. They made cotton thread after separating the fiber from the seeds by hand; three types of local cotton fiber were identified. After carding the cotton, spinners set it on a piece of bamboo of 25 centimeters in length, held in the left hand, while with the right hand they spun the thread, at the same time making it roll around a bobbin set in a calabash. Other sources of thread were raphia leaves, from which the fiber was washed and dried, and kapok. Used in lesser quantities were fibers from pineapple (said to resemble linen), breadfruit trees, and other leaves and barks, which were soaked in water, then dried and beaten. (Foà 1895: 129; Savariau 1906a: 79). *Weaving*: Weavers were mostly male, and used looms of the narrow horizontal type, on which they produced long bands of cloth about fifteen centimeters in width; a weaver might expect to finish a meter's length in four hours. Yoruba weavers used a great deal of imported thread, while Aja weavers used only locally-made thread. (Laffitte 1873: 137; Skertchly 1874: 495; Foà 1895: 129; Savariau 1906a: 79). *Tailoring*: The work of the tailor was not described but was nevertheless of importance. Yoruba tailors, who were particularly skilled at embroidery, not only served the domestic market but exported sizeable quantities of clothing to Afro-Brazilians. By 1900 the introduction of sewing machines had already begun to bring changes to the work of tailors. (Foà 1895: 129).

Woodwork. *Carpentry*: Woodworkers acted at once as carpenters, joiners, and sculptors, and their products included mortars, handles for axes and hoes, plates, paddles, sculpture, and knick-knacks. Sculpture in wood was most practiced among the Yoruba peoples, whose *gelede* masks are both intricate and striking. Carpenters in the employ of merchant factories took apprentices. Furniture making, a slightly different industry, included the construction of sofas, stools, and chairs from rattan and bamboo (raphia ribs). (Foà 1895: 132, 135; Albéca 1895: 163). *Canoes*: These were built by specialists--Gen and Hula, for instance--located along waterways, who sold them to fishers and transporters. All canoes were made from single logs, sometimes finished on the spot where the tree was felled, and at other times floated to a village for finishing. They were carved, inside first and then outside with the aid of fire, ax, and adze. The smallest were less than three meters long and forty centimeters wide; those of more than five meters'

length were reinforced with crossbeams. (Skertchly 1874: 311-12; Foà 1895: 133-34; Gruvel 1913: 83-84).

SOURCES

- Adam, Jean, 1910. *Le Palmier à huile*. Paris.
- _____, 1915. *Le Cocotier*. Paris.
- Albéca, Alexandre d', 1889. *Les établissements français du Golfe de Bénin*. Paris.
- _____, 1895. *La France au Dahomey*. Paris.
- AOF, 1910. *Annuaire de l'Afrique Occidentale Française*. Gorée.
- Baillaud, Emile, 1907. *La situation économique de l'Afrique occidentale anglaise et française*. Paris.
- Bouche, Pierre B., 1885. *Sept ans en Afrique occidentale. La Côte des Esclaves. Le Dahomey*. Paris.
- Brunet, L., and Louis Giethlen, 1900. *Dahomey et dépendances*. Paris.
- Chevalier, Auguste, 1909a. *Les kolatiers et les noix de kola*. Paris.
- _____, 1909b. "L'igname africaine." *L'agriculture aux pays chauds*, as cited in D.G. Coursey, *The Yam* (London, 1967).
- _____, 1910a. *L'exploitation du caoutchouc et la culture des plantes productrices au Dahomey*. Paris.
- _____, 1910b. "La culture du maïs en Afrique occidentale et spécialement au Dahomey." *Journal d'Agriculture tropicale*, 111, pp. 269-73.
- Dahomey, Colonie du, 1917. *Notice sur l'agriculture au Dahomey*. Porto-Novo.
- Dalziel, J.M., 1948. *The Useful Plants of West Tropical Africa*. London.
- Foà, Edouard, 1895. *Le Dahomey*. Paris.
- Fonssagrives, Jean Baptiste, 1900. *Notice sur le Dahomey*. Paris.
- François, G., 1906. *Notre colonie du Dahomey*. Paris.
- Gaillard, Dr., 1907. "Etude sur les lacustres du Bas-Dahomey." *L'Anthropologie* (Paris), 17, pp. 99-125.
- Gruvel, A., 1913. *L'Industrie des pêches sur la côte occidentale d'Afrique*. Paris.
- Henry, Yves, 1906. *Le coton dans l'Afrique occidentale française*. Paris.
- _____, 1907. *Le caoutchouc dans l'Afrique occidentale française*. Paris.
- _____, 1912. *Le Maïs africain, culture et production au Dahomey*. Paris.
- _____, and Paul Amman, 1913. *Maïs, igname et patate*. Paris.
- Herskovits, Melville J., 1938. *Dahomey: An Ancient West African Kingdom*. 2 vols. New York.
- Laffitte, J., 1873. *Le Dahomé. Souvenirs de voyage et de mission*. Tours.
- Lambinet, Colonel E., 1893. *Notice géographique, topographique*

- et statistique sur le Dahomey*. Paris.
- Officiers de l'Etat-Major du Corps expéditionnaire de Bénin, 1894. *Notice géographique, topographique et statistique sur le Dahomey*. Paris.
- Pécaud, G., 1912. *L'élevage et les animaux domestiques au Dahomey*. Gorée.
- Savariau, N., 1906a. *L'agriculture au Dahomey*. Paris.
- _____, 1906b. "Le kolatier au Dahomey." *Journal Officiel du Dahomey*, 15, pp. 346-50.
- Segurola, B., 1963. *Dictionnaire fon-français*. Cotonou.
- Skertchly, J.A., 1874. *Dahomey as it is*. London.
- Toutée, Commandant, 1899. *Du Dahomey au Sahara*. Paris.

NOTE: The descriptions of maize and oil palm as reproduced here are taken from Patrick Manning, *Slavery, Colonialism and Economic Growth in Dahomey, 1640-1960* (Cambridge, forthcoming), and appear by permission of Cambridge University Press.