



Issued September 14, 1912.

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF SOILS—MILTON WHITNEY, Chief.

---

SOIL SURVEY OF IBERIA PARISH,  
LOUISIANA.

BY

CHARLES J. MANN AND LAWRENCE A. KOLBE.

---

HUGH H. BENNETT, INSPECTOR IN CHARGE SOUTHERN DIVISION.

---

(Advance Sheets—Field Operations of the Bureau of Soils, 1911.)



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1912.

## BUREAU OF SOILS.

---

MILTON WHITNEY, *Chief of Bureau.*

ALBERT G. RICE, *Chief Clerk.*

SOIL SURVEY.

CURTIS F. MARBUT, *In Charge.*

G. W. BAUMANN, *Executive Assistant.*

COMMITTEE ON THE CORRELATION AND CLASSIFICATION OF SOILS.

Curtis F. Marbut, Chairman.

Hugh H. Bennett, Inspector, Southern Division.

J. E. Lapham, Inspector, Northern Division.

Macy H. Lapham, Inspector, Western Division.

J. W. McKericher, Secretary of Committee.

Issued September 14, 1912.

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF SOILS—MILTON WHITNEY, Chief.

---

SOIL SURVEY OF IBERIA PARISH,  
LOUISIANA.

BY

CHARLES J. MANN AND LAWRENCE A. KOLBE.

---

HUGH H. BENNETT, INSPECTOR IN CHARGE SOUTHERN DIVISION.

---

(Advance Sheets—Field Operations of the Bureau of Soils, 1911.)



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1912.

## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF SOILS,

*Washington, D. C., February 14, 1912.*

SIR: One of the projects completed during the field season of 1911 was the survey of Iberia Parish, La. This work was undertaken at the urgent request of the Iberia Truck Growers Association, and bore the indorsement of Hon. R. F. Broussard, Representative for the third congressional district of Louisiana.

The accompanying report and map cover this survey, and are submitted for publication as advance sheets of Field Operations of the Bureau of Soils for 1911, as authorized by law.

Very respectfully,

MILTON WHITNEY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*

## CONTENTS.

---

	Page.
SOIL SURVEY OF IBERIA PARISH, LOUISIANA. By CHARLES J. MANN and LAWRENCE A. KOLBE.....	5
Description of the area.....	5
Climate.....	8
Agriculture.....	10
Soils.....	25
Sharkey clay.....	27
Iberia silty clay loam.....	29
Iberia clay.....	30
Iberia silt loam.....	32
Olivier very fine sandy loam.....	35
Olivier silty clay loam.....	36
Olivier silt loam.....	37
Memphis silt loam.....	40
Lintonia silt loam.....	42
Miller silt loam.....	42
Tidal marsh.....	43
Peat.....	44
Swamp.....	44
Meadow.....	45
Drainage.....	45
Summary.....	48

---

## ILLUSTRATIONS.

PLATE.	Page.
PLATE I. Fig. 1.—Planting sugar cane in Iberia Parish. Fig. 2.—Plantation quarters, Iberia Parish.....	16
FIGURE.	
Fig. 1. Sketch map showing areas surveyed in Louisiana.....	5

### MAP.

Soil map, Iberia Parish sheet, Louisiana.





lying to the east of the mainland across Grand Lake; and Marsh Island, bordering on the Gulf of Mexico and separated from the mainland by Vermilion Bay. The parish may be divided into two main physiographic divisions, uplands and lowlands, the former of very limited extent, represented by the so-called islands of Weeks, Avery, and Jefferson. They comprise an area of approximately 4 square miles, with a maximum elevation of 175 feet above the surrounding lowlands. Their topography is rolling, the drainage excessive, and washing and erosion are serious problems.

The remainder of the parish is lowland, in which two subdivisions can be readily outlined. Beginning at Burke, there is an escarpment from 10 to 15 feet high, which follows the shore line of Lake Tasse directly into the city of New Iberia, there disappearing, but beginning again about 3 miles southeast of the town. It continues eastward on the south side of Grand Marais to within about 2 miles of the eastern parish line, where it again disappears. The highest lands to the north of this escarpment are the immediate banks of the Bayou Teche, from which, except for low, narrow ridges, there is a gentle slope in each direction. To the north of the bayou this slope extends either to Coulée Portage (Little Bayou) or Lake Fausse Pointe, and on the south to the Grand Marais or Lake Tasse. In the big bends of the bayou there are shallow valleys traversed by small coulées<sup>1</sup> or bayous.

From the escarpment southward to Vermilion Bay is a gentle slope, occasionally broken by short, almost imperceptible ridges. The region directly west of Burke has some relief, the topography in places being gently undulating.

The swamp region to the east, while practically level, is characterized by narrow fronts along the bayous and numerous low ridges and shallow depressions.

Marsh Island is highest along the gulf shore and in general slopes gently toward Vermilion Bay.

The mainland of the parish is drained by Bayou Teche, a navigable stream. Practically all of the region to the north drains into Lake Fausse Pointe, either directly or through Coulée Portage (Little Bayou). Natural channels are rare and drainage ways almost invariably artificial ditches. South of the Bayou, and particularly south of the escarpment, natural drainage ways are more numerous, leading into Vermilion Bay. In a region as low as this the matter of drainage is of paramount importance and will be discussed more in detail in a separate chapter.

Settlement of the area was begun about the middle of the eighteenth century, when the Spanish Government sent a colony from the

---

<sup>1</sup>The word "coulée" is here used as locally understood.

Canary Islands to engage in the culture of flax and hemp. This proved a failure, and many of the colonists took up grants on Lake Tasse. The earliest land grants date from 1760 to 1775.

A great many English-speaking settlers came from the Eastern States, and also many French settlers, among them being the Acadians, many of whom found a refuge in this region. Their descendants form a large proportion of the present population, and many of their customs still prevail. In fact, English is spoken but little in many of the rural sections.

There has been but little settlement by northern farmers, but they are always welcomed, particularly by the English-speaking inhabitants, and considerable encouragement is given them to buy and operate farms here.

The percentage of negroes to whites is considerably below the average for the South. The population of the parish in 1910 was 31,262; in 1900, 29,015; and in 1890, 20,997. About two-thirds of the inhabitants live in the rural districts and are confined almost entirely to the mainland of the parish. By reference to the map it will be seen that certain sections are quite thickly settled.

New Iberia, the county seat, is a modern city of 7,499 inhabitants. It has communication over all the railroads in the parish and is located at the head of navigation on Bayou Teche. A canal now under construction is expected to give it direct communication with the Gulf. Jeanerette, with a population of 2,206, is the second city of the parish, situated on Bayou Teche and the Southern Pacific Railroad. Loreauville, with a population of 291, located on Bayou Teche and the New Iberia & Northern Railroad on the northern part, is a small agricultural town. Delcambre, a small town in the southwestern part of the area, is only partly within Iberia Parish.

The industries of the parish are mostly agricultural, with some lumbering and fishing. The manufactures, which are based mainly upon agriculture, comprise sugar refineries, sawmills, a rice mill, the preparation of various seasoning condiments, plants for the manufacture of brooms and macaroni, and a canning factory. The mining of salt on Weeks and Avery Islands and lumbering are the only important industries in the parish not connected with agriculture.

Transportation and communication facilities throughout the parish are good. There is no cultivated land on the mainland more than 4 miles from water or rail shipping points, an unusually favorable condition. The main line of the Southern Pacific crosses the parish from east to west, with Jeanerette, Olivier, New Iberia, Segura, and Burke as shipping points. This road gives direct communication with New Orleans and also with western points. A branch of the

Southern Pacific also runs southwest from New Iberia, Rynella, Bob Acres, and Delcambre being its main shipping points. The Franklin & Abbeville, under local ownership, taps the territory in the southern part of the parish not already touched by the Southern Pacific lines. The New Iberia & Northern, a Frisco line, runs from New Iberia northward through the parish, with Loreauville as an important shipping point. Branch lines also run to Avery and Weeks Islands. Boats ply regularly between New Orleans and New Iberia through Bayou Teche, and though this traffic is not as great as formerly, it is still considerable. Delcambre and Avery and Weeks Islands have direct communication with the Gulf, and it is expected that New Iberia soon will have such a connection. A number of canals are so distributed that it is only a short distance from them to a railroad shipping point.

Rural free delivery is fairly well established; but the value of the telephone is by no means appreciated in the rural districts.

The main highways are usually in fair condition, but would be greatly benefited by the use of a split-log drag after rains to prevent massive clod and hole formation. They do not rut badly, because of the general use of wide-tired carts.

#### CLIMATE.

Lying on the Gulf coast, the climate of the area is almost subtropical. Climatic conditions vary little throughout the parish, except that frosts are more likely to occur along the bayous.

The mean annual temperature at New Iberia is  $68.4^{\circ}$ . The average temperatures for December, January, and February range from  $53.9^{\circ}$  to  $54.8^{\circ}$ , and of June, July, and August from  $80^{\circ}$  to  $81.5^{\circ}$  F., while between the means of the other months occur wider variations.

The highest temperature recorded during 20 years is  $101^{\circ}$  and the lowest  $6^{\circ}$  F. The mercury seldom reaches  $95^{\circ}$ , and some years not at all. The number of days with freezing temperatures does not often exceed 20 in one year. As a rule freezes occur only with north winds, but ice sometimes forms on calm nights. Freezing temperatures with a south wind are almost unknown, only one instance in 30 years being noted. Cold spells seldom last more than three days, and they are rated of so little consequence that water pipes are not put underground.

The extreme total variation of  $95^{\circ}$  is much less than that of more northerly localities. The difference between the average temperatures of January and July, the coldest and warmest months at New Iberia, is but  $28^{\circ}$  F., while between the means of the same months at St. Louis occurs a variation of  $48^{\circ}$  F. A change of  $40^{\circ}$  in 24 hours within Iberia Parish is uncommon.

There have been periods of six years with no snowfall. As a rule snow quickly disappears, but in 1895 a fall of  $13\frac{1}{2}$  inches occurred in one storm and traces remained on the ground for five days. Sleet is slightly more common than snow, but none was seen during the winter of 1910-11.

The seasons are less sharply defined than in more northerly places. The opening of spring may come in February, and cane, vegetables, and rice are largely planted at that time. During the course of the survey plums were seen in bloom January 28, dewberries on the 31st, white clover on February 2, and wild roses on February 4. On February 7 pears were in full bloom and on the 9th fig leaves were out.

Occasionally temperatures below  $32^{\circ}$  F. occur in early March and late November. The average dates of latest and earliest killing frosts are, respectively, February 20 and November 29, with March 20 and November 3 as extremes. This gives a growing season, uninterrupted by frost, of  $7\frac{1}{2}$  to over 9 months. Temperature limitations permit the growing of any crops found in similar latitudes elsewhere in the country. Strawberries ripen as early as February. Four crops of certain vegetables are sometimes grown on the same ground in 14 months and two crops a year is the rule.

During 24 years the average annual precipitation has varied from 35 to 81 inches, with a mean of 55.5. The rainfall is well distributed throughout the year, only two months having less than  $3\frac{1}{2}$  inches each. June, July, and August each have over 6 inches.

The humidity is high, but daily breezes mitigate the otherwise sultry conditions. Nevertheless, in midsummer heat sometimes compels cessation of work in the fields for a time at midday. Despite the humidity there are over 135 clear and but 88 entirely rainy days during an average year. Hailstorms are infrequent and of little consequence. March and September have the most severe winds. Windstorms are rare in summer. Tornadoes are unknown and storms severe enough to uproot trees and remove roofs are uncommon.

The following table gives the normal monthly, seasonal, and annual temperatures and precipitation, and the average dates of last and first killing frosts at New Iberia:

*Normal monthly, seasonal, and annual temperature and precipitation at New Iberia.*

Month.	Temperature.			Precipitation.			
	Mean.	Absolute maximum.	Absolute minimum.	Mean.	Total amount for the driest year.	Total amount for the wettest year.	Snow. average depth.
	° F.	° F.	° F.	Inches.	Inches.	Inches.	Inches.
December.....	55	90	19	4.6	1.6	7.0	T.
January.....	53	84	19	4.3	6.1	4.4	0.0
February.....	51	85	6	5.1	1.9	7.9	1.3
Winter.....	53			14.0	9.6	19.3	1.3
March.....	63	84	25	3.4	3.3	6.6	.0
April.....	68	88	36	4.7	2.7	8.7	.0
May.....	74	95	48	2.8	.3	4.4	.0
Spring.....	68			10.9	6.3	19.7	
June.....	80	100	55	7.0	8.6	9.9	.0
July.....	82	101	65	5.9	5.7	7.0	.0
August.....	81	97	55	6.8	3.0	12.6	.0
Summer.....	81			19.7	17.3	29.5	
September.....	77	95	47	3.5	.3	2.3	.0
October.....	69	95	35	2.8	.0	3.8	.0
November.....	61	92	23	2.8	1.2	1.6	.0
Fall.....	69			9.1	5.1	7.7	
Year.....	68	101	6	53.7	34.7	76.2	1.3

Average date of last killing frost in spring Feb. 20, and of the first in autumn Nov. 29.

#### AGRICULTURE.

Since the settlement of the area by the early pioneers agriculture has been the one main source of income of the inhabitants. Different crops have held prominence for short periods, to be abandoned for others as changing conditions made such a variation necessary.

Hemp and indigo were grown for some time by the early settlers, but they soon found those crops unremunerative and turned to other more profitable lines. As early as 1840 large plantations were established in the parish, the owners settling along Bayou Teche and Lake Tasse.

Sugar cane, cotton, rice, corn, and cowpeas were the main crops. Cotton and sugar cane were given about equal acreage at first, but cotton for some time prior to the advent of the boll weevil was the

leading crop. Corn was a secondary crop, being frequently imported to feed the work stock.

Stock raising was an important branch of the early agriculture, the natural prairie grass and woodland pasture offering exceptional advantages for the production of both cattle and hogs.

Agriculture was completely demoralized by the Civil War and subsequent reorganization was slow but successful. It was found that crops could be produced at a profit without slaves and more land was constantly being brought under cultivation. The production of sugar cane and cotton both increased until 1893, when the loss due to panic conditions resulted in the ruin of many sugar plantations. Cotton then became the principal product until the boll weevil appeared in 1908, since which time it has been on the decline, while sugar cane and corn have increased wonderfully. At present the former is the principal source of income to the parish. Corn ranks second to sugar cane in acreage; rice is third, while cotton and oats are crops of very minor importance.

#### SUGAR CANE.

This crop is at present the most valuable grown in the area, the production for 1910 being 33,383 tons of sugar, 1,961,800 gallons of molasses, and 109,200 gallons of sirup, worth from \$2,225,000 to \$2,250,000. The capital invested in sugar-making equipment in the area is large, single plants, with rolling stock and portable tracks, representing outlays of from \$125,000 to \$500,000.

Sugar cane is planted at two seasons. (See Pl. I, fig. 1.) Fall planting is generally begun and completed in October. Spring planting is commenced as early as January 15 or 20 and continues into March.

Beds about 6 feet from center to center are prepared, opened in the middle with a double mold-board "lister" and two rows of seed cane laid in the furrows. The seed stalks are chopped to lengths of 15 to 24 inches, covered and rolled, being left 3 to 3½ inches below the surface when the operation is completed.

Before the cane is up it is "barred off" with a plow by throwing the soil away on both sides of the future row until a strip about a foot wide remains. Then the surface soil is scraped off with hoes down to within 1½ inches of the seed to hasten growth by giving air and heat better access. Sometimes this is the only hand cultivation given. As soon as the plants are several inches high the soil is worked back to the rows again with plows and cultivators. From three to six cultivations and two to four hoeings are usually necessary. From one to two and one-fourth sprout stalks to the linear foot, which throw out four or five suckers each, is considered a good

stand. When the suckering is completed and the plants shade the entire ground the crop is "laid by" with the soil raised 6 or 8 inches above the base of the stalks, transforming the beds into ridges rising 10 to 15 inches above the furrows. This is done to provide eyes for the stubble crop and to secure drainage during the heavy summer rains. The average date of "laying by" is close to July 4, being somewhat earlier for rich new land and later on "wornout" fields.

The rows in sugar-cane fields, as a rule, are not over 525 or 625 feet long, "turn rows" or driveways being maintained at those intervals. Drainage being all important, cross drains are placed every 200 feet or closer and opened after every machine cultivation. Numerous large open ditches are maintained, for there is no tile drainage. Approximately 15 per cent of the area of the cane fields is occupied by turn rows and ditches.

Harvesting begins about the middle of October and sometimes continues until late in January. The stalks are cut off close to the ground, stripped, and topped, three rows being piled together. If a freeze threatens the cane is "windrowed," i. e., cut without removing leaves and tops, and piled in furrows so that the stalks are protected by the foliage. One man can cut and trim about 3 tons a day. Wide carts and wagons of 2 to 4 tons capacity, provided with slings, take the sugar cane to loading stations, where entire loads are transferred by single lifts into cars. On some plantations cart loaders are used to lift the sugar cane from ground to cart. A mile and a half is deemed about the limit of profitable cart transportation with present prices. Growers allow from 50 cents to 75 cents a ton for cutting the sugar cane and hauling one mile to a delivery point. The total cost of production per ton of sugar cane may vary as much as \$1 on two plantations. For a 15-ton crop \$2.50 to \$2.75 is considered a fair figure.

The soils devoted to sugar-cane culture range from a very fine sandy loam to a clay in texture. The product of the coarse silts and very fine sandy soils has a higher sugar content, while a greater tonnage is often secured on the heavier black soils, particularly in dry years, when the heavier soils have an advantage in their greater moisture-holding capacity.

Most of the sugar houses have 36-inch gauge tram roads equipped with cars of 3 to 8 tons capacity. Some of the larger concerns receive trainloads of cane over standard-gauge lines. Some tramways, at least on owners' plantations, are equipped with movable derricks, making loading possible at every "turn row" and greatly reducing the expensive cart transportation. At the sugar houses the cane is transferred from car to cane carrier by gravity or by means of a grappling hoist capable of lifting a ton. Cane is also stacked with

a derrick about the sugar house, preventing delay in unloading cars when traffic is heavy.

At harvest time cane for the spring planting is laid, two rows together, in the intermediate furrow and covered several inches deep with soil to protect it against frost. The fall-planted seed is taken directly from the standing cane. Three tons per acre, or from one-sixth to one-fourth of an average crop, is needed. As two crops are usually grown from one planting, and on very rich virgin soil three or more crops are sometimes produced from one planting, the actual proportion of cane used for seed is less than stated, materially reducing the expense for seed.

The usual division of land into one-third plant cane, one-third stubble, and one-third corn and peas leaves one-half of any given year's cane acreage in the stubble crop. This is "barred off" and a stubble shaver run over the foot-wide remaining strip, leaving the live ends of the stubble flush with the surface. A stubble digger follows to loosen the soil and hasten growth of sprouts. Subsequent operations are as with plant cane.

Fertilizer is generally used, at least on the larger plantations, applications of 400 to 600 pounds of ammoniated bone tankage being distributed in the furrow below the seed at planting time, and 300 to 500 pounds of cottonseed meal in drills on both sides of the row during a spring cultivation. The stubble crop and poor strips of the plant cane are favored, sometimes receiving cottonseed meal when other portions of the crop get none. A mixture analyzing 3.85-5-1.50 applied in the spring at the rate of 400 and 500 pounds to an acre of plant and stubble cane, respectively, is also used. Gains of fully 50 per cent on the fertilizer investment are made by applying 500 pounds of tankage to all cane planted and 300 pounds of cottonseed meal to the entire stubble and to thin portions of the plant crop. An increase of 3 to 4 tons per acre from 300 pounds cottonseed meal and of 5 to 7 tons from 500 pounds cottonseed meal is reported.

Cowpeas to supply nitrogen are a universal crop. Increasing yields of sugar cane are reported from old land which has been 10 years under this rotation without removal of vines.

The varieties of sugar cane grown are the "native" red or purple and striped or ribbon cane and the D-74 and D-75 introduced in the State in 1893 from Demarara.<sup>1</sup> The so-called native varieties were brought to Louisiana from Georgia in 1825, or evolved from the strain then imported. They have cylindrical stalks, and a comparatively large upper surface, which frequently causes them to lodge and makes cutting difficult. Especially is this true on rich, new land, where bracing the stalks with soil is difficult.

---

<sup>1</sup> Bul. 127, La Expt. Sta., p. 10.

The D-74, a yellowish-white cane, has a more tapering stalk and a stronger root system; hence it is not so easily blown down as the native varieties, though the tops are frequently broken off by storms. The sugar content of this variety is about one-half of 1 per cent higher than that of native cane, and it yields a greater tonnage on lands of good fertility. Its sprouts break off more readily than those of native cane, necessitating more care in handling the seed stock. It comes up slowly and does not shade the ground as soon as the native varieties, necessitating more work to keep the grass down. Cutting also involves more labor, unless the native cane has been blown down. But it will stand greater extremes of moisture, and its stalks remain straight, thus taking but 60 per cent of the cart or car space needed by an equivalent weight of lodged native cane which the sun has "warped."

On very rich new land the D-95 yields a higher tonnage than the other varieties. It neither breaks off nor lodges seriously, and in sugar content is equal to D-74 and superior to native cane. Unless very heavily fertilized it is unsuited to old land. D-74 is successfully grown on soils of much wider range of fertility. On the higher soils, and generally on thin, hard-used land, the native varieties have preference on account of greater tonnage and a more certain stubble crop. The purple cane is thought also to have slightly higher frost-resisting qualities. Probably 65 per cent of all the sugar cane grown in the parish is of this strain. The sugar content of all varieties is somewhat greater on a coarse silt loam than on the heavier soils.

On light, run-down soils 12 to 15 tons per acre of plant cane is a good yield. New land frequently produces 35 tons per acre, and over small areas yields as high as 50 tons are reported. The yield of stubble is a little over half that of the plant crop. Twenty tons per acre is a good average for both. Stalks weighing 9 pounds or over, trimmed, have been produced.

Nearly all the cane grown is made into sugar, a ton of cane yielding from 145 to 187 pounds of commercial sugars, depending on variety, soil, degree of ripeness, previous climatic conditions, and efficiency of the manufacturing processes. From  $4\frac{1}{2}$  to 5 gallons (54 to 60 pounds) of molasses, used to feed stock and make alcohol, is also secured. Formerly all cane was ground on the plantation producing it, but to supply the larger modern sugar houses the associated plantation does not suffice, and an increasing proportion of the cane is purchased from independent growers. Train roads in many instances extend far beyond the zone of profitable cart transportation, and offer the small grower a ready market at a local loading station. Barges convey large quantities of cane to the sugar houses on Bayou Teche.

Cane is paid for at a flat price per ton, or according to the sugar quotations, the grower being guaranteed a minimum and receiving an additional dollar per ton of cane for each cent that sugar advances per pound. Prices vary from \$3.50 to \$4 a ton and are not based on sugar content.

Only a small fraction of the sugar cane produced in the area is made into sirup. A sirup plant with a capacity of 50 tons of cane per day can be erected for \$2,500 by using second-hand machinery, making this manner of marketing their crop possible for some growers should reduced prices or lack of transportation facilities render sale of cane to the sugar makers unprofitable.

#### CORN.

Interest in corn production has greatly increased since the advent of the cotton-boll weevil. Some farmers are making it a money crop and nearly all produce enough to feed their own stock. On some sugar plantations it is grown more to fill in the rotation than for the profit to be secured. More varieties are grown than are commonly met with in one locality, owing to the fact that the farmers are in many cases trying to find a variety well adapted to their conditions. A native yellow corn locally called "Creole corn" is the most common, and, if given proper selection, could be made a very creditable corn. The Golden Beauty is a common early variety and is quite popular. The Shoe Peg is an early corn having short ears and peg-shaped kernels. White King is a medium early corn, but not generally grown. Mexican June is another early type, and, as the name implies, can be planted in June and make a crop. Among the newer varieties introduced is the Square Deal, a white corn of medium season, which is attracting considerable attention. Though it is unheard of here, the variety originated in southeast Missouri and known as New Madrid when planted on Mississippi River bottom land, has proved well adapted to this class of soils. It is a creamy white corn with pinkish cob and has a tendency to produce two ears on a stalk. It is a popular variety in Concordia Parish, and at least a trial is recommended for this parish.

So far the ideal corn for these conditions has not been developed. This would be a medium-sized ear from 10 to 12 ounces in weight and with fairly hard kernels. The stalk characteristics are the most important; hence the greater need for careful field selection, which, when so many other things are to be taken into consideration, will be difficult. The stalk should be erect, bearing two ears about  $4\frac{1}{2}$  to 5 feet from the ground and completely covered with husks.

The type of soil has a great influence upon corn. The corn that does well upon the Olivier silt loam will not give best results upon the gray subsoil phase of the Iberia silt loam or Iberia clay, and

different strains must be selected with such adaptation in view, no matter what variety is finally determined upon.

The seed bed for corn is prepared as for sugar cane and the seed planted on the ridge either with a drill or by hand. Planting may be done any time from the middle of February to the middle of June, depending upon the variety grown and the soil. A large quantity of seed is planted and after the birds, cut worms, black beetles, grubs, and other pests have done their work the stand is further thinned out to the number of stalks desired. Locally, one stalk to every 12 to 18 inches or two stalks to every  $2\frac{1}{2}$  feet, in rows  $5\frac{1}{2}$  to 6 feet apart, is considered a stand. If an ideal corn could be developed, with one stalk every 2 feet in rows  $5\frac{1}{2}$  feet apart, a yield of over 70 bushels per acre would be secured, which is a higher yield than yet reported in this parish, so far as the writer is aware. The greater part of the corn crop is laid by in May, cowpeas being sown at the last cultivation. If the stalks make a tall growth, it is a common custom to go over the field, usually in August, and break over each stalk just below the ear. This is done to let the ear hang down, thus preventing rain from getting under the husk and spoiling the grain, the wind from blowing the stalks over, or the pea vines from pulling it down. This custom is not so general as when cotton was raised, because at this season of the year cotton had to be picked while corn stood in the field. With care, the corn can be gathered earlier, before the sugar-cane harvest. Corn is usually pulled in the field and husked as used as a protection against the weevil.

There are some excellent corn soils in this parish, notably the Iberia silty clay loam, Iberia clay, Iberia silt loam, and Sharkey clay, and every effort should be made to secure higher yields.

#### RICE.

Small patches of rice were grown in early times in low places without irrigation and only for home consumption. The crop became an important one about 1880, but the acreage decreased nearly 36 per cent between 1900 and 1910, there being 3,954 acres, yielding 185,000 bushels, in the latter year. About 80 per cent of the crop grown in this parish is the Honduras variety, the rest being Japan rice. The Japan rice ripens too late, about the time of equinoctial rains. It is harder to thrash, makes but one crop, and is suited to sandier soils than those forming most of the land favorably situated for rice growing in this area.

Cotton, sugar cane, or corn and cowpeas may precede rice. Rice is usually grown three successive years and followed by corn or sugar cane. Cultural operations depend somewhat upon the place of the crop in the rotation and the date fixed for planting. When rice follows another crop, the plowing is done in February. Succeeding



FIG. 1.—PLANTING SUGAR CANE IN IBERIA PARISH, SHOWING THE CHARACTERISTIC TOPOGRAPHY OF THE IBERIA AND OLIVIER SOILS.

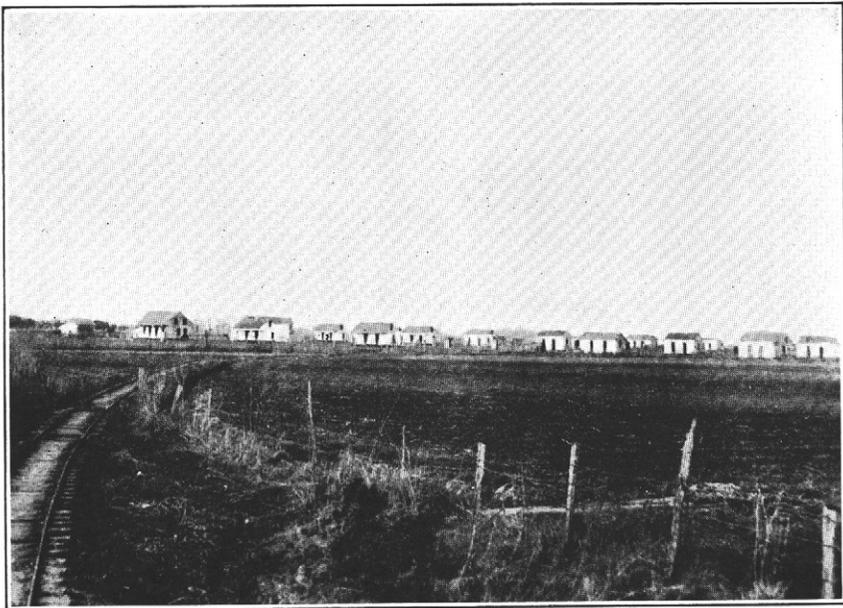


FIG. 2.—PLANTATION QUARTERS, IBERIA PARISH, SHOWING THE DOMINANT FLATNESS OF THE TOPOGRAPHY.



cultural operations follow quickly, the rice being sown before the weeds can reappear. When a second crop of rice is planted, the land is plowed in November, disked (to start the weeds) and replowed in March for late planting. For the first two years that land is in rice a second plowing is not so essential, but after that the spring plowing may give a  $33\frac{1}{3}$  per cent increase in yield over land plowed in the fall only. The ground is harrowed before seeding and again harrowed two ways after seeding. In this way weeds are severely checked. Levees from 15 to 24 inches high for holding water at the requisite depth over the several subfields into which they divide the tract are built at intervals of 50 to 100 feet. To keep birds from eating the seed the field is rolled or flooded.

To secure the highest returns, one grower should not attempt to handle over 130 acres.

For an early crop the seed is sown shortly after February 10, the crop maturing early in July. A second crop, except in case of Japan rice, is secured from the same seeding and harvested in September. Seeding is done through March and as late as May, the crop maturing in August or September. About 200 pounds of seed per acre is sown for early rice and 125 pounds for late crops. The expense for irrigating is also greater for the early crop. These additional outlays are, however, amply compensated for by the difference in price, the early shipments commonly commanding a much higher price.

When the rice reaches a height of 5 or 6 inches water is let on it and kept on until a few days before harvesting. To flood the fields, pumping plants are maintained, as gravity irrigation is impossible. One man to every 75 acres is sufficient to maintain the levees if crawfish are not exceedingly troublesome.

Harvesting is done by hand in most instances. Ten days would be needed to drain these heavy soils until they would be firm enough to support machines, and in that time the crop would lodge and be lost. The rice is cut and laid in piles or shocked to await thrashing. The straw is burned in many instances, instead of being returned to the soil. This is an unfortunate waste.

The average yield per acre is 13 to 14 sacks of 180 to 220 pounds each. On virgin soil a yield of 32 sacks of first crop and 4 to 5 sacks of second crop rice has been reported.

Rice is sold by the barrel of 162 pounds, but yields and returns are commonly reported in sacks. Frequently for the bulk of the crop, \$3.50 a sack is realized, and for the first consignments to reach market \$5 to \$6 is not an unusual price. The heavier the rice the higher the price it commands.

Practically all land devoted to rice is leased, the rice growers claiming it does not pay them to own the land, as only about three crops are grown on the same land in succession, and then another

property is leased. It seems to be customary for the rice planter to grow but little of other crops.

Rice growing benefits succeeding dry crops. It destroys coca grass and other weeds and enriches the soil or corrects conditions therein inimical to dry crops. Some sugar-cane planters lease their fields for rice growing to renew them.

Several weeds cause loss to rice growers. "Frizzly indigo" is probably the most common. It can be avoided by early planting and killed by prompt watering. "Red rice," which may be looked for if three successive crops are grown, and water grass are largely destroyed by plowing just before seeding. "Bull grass" is killed by plowing under when wet. "Barnyard grass" is becoming a serious pest in rice fields. It looks very much like rice and has similar habits, except that it heads earlier, and will supplant the crop unless a strenuous effort is made to kill it out. It is an annual, and if prevented from seeding can easily be held in check. It can be distinguished from the rice plants when young by the fact that the center of the leaf is nearly white, while that of rice is green. This weed is sometimes called Johnson grass locally, but is quite different from the true Johnson grass.

Land suited to rice growing must have a heavy subsoil impervious to water and a nearly flat or gently sloping surface. The Iberia silty clay loam, Iberia clay, and Sharkey clay are all well adapted to this crop, but the Iberia silty clay loam is usually most desired, as it is not so difficult to work and usually has a more even topography. The Iberia silt loam and Olivier silty clay loam are also well adapted to the crop where the proper surface features can be found.

#### COTTON.

Cotton ranked with sugar cane in importance until 1908, although the parish was never as completely devoted to this crop as many other sections. The output for 1907, a year of maximum yields, amounted to 6,068 bales of 500 pounds. In 1908 the production dropped to 2,100 bales, the decline being due solely to the boll weevil. While some have continued to plant cotton every year, so far as could be learned no remunerative crops have been secured since 1908, and the former cotton acreage has been given up to corn and sugar cane, mostly to the latter. It is doubtful if it is advisable to plant cotton where the boll weevil exists, and most certainly not in the vicinity of woods covered with moss, which offer ideal hibernating places for this pest. It is possible that some success could be had in the prairie section on the Olivier silt loam to the west and south of Burke. In any case the directions of the United States Department of Agriculture should be followed closely. The varieties most promising are Bank Account, Toole, Simpkins's Prolific, Cleveland Big Boll, and King.

## COWPEAS.

This crop has long been a most important one and still constitutes the only means of fertilization used by many of the farmers. The seed is sown broadcast in the corn just before the last cultivation, about 1 bushel to the acre giving a pretty thick stand. The vines grow freely, running up the cornstalks, sometimes injuring the corn by pulling it down. After the corn is gathered enough of the pea hay is pulled, with a wooden, rakelike implement run between the corn rows, to supply the farmers' stock, and the rest is plowed under in the fall. The cornstalks may be separated and the hay sold. The most popular variety is the Clay, though most of the seed used is decidedly mixed and contains some Whippoorwill, New Era, and other varieties. Up to 10 or 15 years ago no trouble was experienced in securing a seed crop of cowpeas, but at present the peas do not mature, and all seed must be purchased, a heavy expense at present prices. Different causes are assigned for the failure of the seed crop, but it is probable that a weevil which attacks the flower is largely responsible.

Cowpeas are a very valuable crop because of nitrogen-gathering power, and their culture should be encouraged.

## OTHER CROPS.

Some of the clovers are cultivated. "Buffalo clover" grows wild in places, but has no great value as hay or pasture. White clover abounds in pastures, particularly upon the heavier Iberia silty clay loam, Iberia clay, and Sharkey clay. It is easily disseminated by stock and affords excellent pasturage from February until June. It is probable that alsike clover would survive the conditions here the best of any of the clovers adapted to moist soils. Bur clover occurs on Avery Island, but was not seen in the bottom lands. Sweet clover (*Melilotus*) grows wild in one or two localities and it is believed could be cultivated with profit. On the gray subsoil phase of the Iberia silt loam, at least, it should make a rapid, succulent growth.

Much Carolina vetch (*Vicia caroliniana*) was seen growing wild, but apparently is not utilized, though stock eat it with avidity. This year it was ready to cut by the middle of March and would make a most valuable hay, especially for dairy cows. It can be recognized as a bright-green vine, with bluish-purple flowers, growing along the roadside and ditches. It is especially abundant north of the Bayou Teche.

While some attempts have been made to grow alfalfa, they have been rather unsuccessful, and the impression obtains that it will not grow in this parish. This is unlikely, and the failures are probably due to a lack of knowledge regarding the requirements of the plant.

The soils best adapted to it in this parish are the Miller silt loam, because of its good drainage and lack of acidity; the Olivier silt loam, which is well drained, but would probably require applications of lime; the Olivier silty clay loam, where the drainage is good, though this type would also require lime to correct acidity; and the Iberia silt loam where thorough drainage can be secured. It is very essential that planting should be done on thoroughly clean ground. It is suggested that a small patch of any of these types which is well drained be selected and planted to oats. As soon as they can be taken off the land should be given a top dressing of manure and plowed and disked to a perfect seed bed. Every possible effort should be made to germinate all weed seeds and to kill the weeds by thorough disking at least once a week. The object at this time is to make conditions as favorable as possible for seed germination and then to kill the weeds. This process should be continued until the latter part of August or first of September; then alfalfa seed should be sown at the rate of about 25 pounds to the acre.

Seed could be sown as late as November and make sufficient growth to live over winter. Care should be taken in the seed selected, and under no circumstances should seed grown under irrigation methods be used in this climate and on these soils. It may be urged against fall sowing that the ground is too dry to germinate the seed, but where a dust mulch has been maintained all summer the soil should be in excellent condition as regards moisture and tilth. If it is seen that the ground is not clean of weeds by fall, it is suggested that the alfalfa be planted in rows and given several cultivations. In this case additional seed may be sown between the rows in the spring.

After a stand is secured care must be taken not to cut the crop until growth has started from the crown. It is very possible that inoculation will be necessary in this parish to produce lasting stands. There are in certain localities spots of sweet clover and also bur clover, the bacteria of which will perform their function upon alfalfa. It is suggested that some of the soil in which these clovers grow be scattered over the prospective plots. Pure cultures put up by the United States Department of Agriculture may be used, but great care is necessary in their use for good results. By correcting acidity with lime, ridding the soil of weeds, and with good drainage and inoculation, it seems that success will attend any efforts to grow alfalfa. While a strictly alfalfa farm would probably be out of the question here, there are few farms that would not find a small field of great value.

#### TABASCO PEPPERS.

An important but not very extensive industry in the parish is the growing of tabasco peppers and their manufacture into various

condiments. A firm at Avery Island were the pioneers in this industry, bringing their seed from Mexico in 1858. Several varieties have been originated on the island. At present it is reported that 14 are being grown, each having some peculiarity or individual advantage. About 500 acres in all are devoted to the production of peppers on the island.

The Memphis silt loam seems to be peculiarly adapted to the growth of peppers, but they are grown upon the same land only two years in succession, as after that the color does not develop properly. Considerable labor is connected with their production. The plants are started in hotbeds and transferred to rows in the field, where they are cultivated. The peppers are hand picked in the fall, and as they do not all ripen at once it is necessary to go over the fields at least three times. The tabasco pepper plant is bushlike and grows to a height of 3 or 4 feet. The pods are about 1 inch in length. Yields run from 30 to 50 bushels per acre, worth about \$4 or \$5 a bushel. About 200 acres of peppers are grown for another company, under contract. The lowland soils, mainly the Iberia silt loam, are utilized for this purpose. Practically no extension of pepper growing can be made, as the market requirement is limited and not a great many acres are required to meet the demands of the present manufacturers.

#### VEGETABLES AND FRUITS.

A canning factory in operation near Avery Island can use all the tomatoes and figs brought to it. As there is considerable land and a variety of soils suited to the production of tomatoes in the parish, there seems to be a good opportunity for extension in the production of these products. The general price paid for tomatoes is \$8 a ton.

The factory also handles okra, for which they pay about \$20 per ton. Figs for preserving purposes bring 4 cents per pound. Inasmuch as this crop does remarkably well and there is a great undeveloped market for fig preserves, there would seem to be an unusual chance for this parish to extend the culture of this fruit. At Avery Island there are about 14,000 fig trees of the Celeste variety and 500 of the Magnolia. The fig crop is rarely a failure and the trees apparently do well on all types of soil. Other fruit, however, is at a premium. One would naturally expect that the elevated "islands" would be most excellent locations for peach, pear, plum, and orange orchards, but all attempts at growing these fruits have proved unsuccessful.

Oranges are grown in a small way, but there are no commercial groves. The Satsuma variety would probably do especially well here. Grapes do well, but there is very little effort made to grow them. Small fruits, aside from strawberries, receive almost no attention. Wild blackberries of most excellent quality are abundant

and there is every reason to believe that blackberries, raspberries, currants, and gooseberries could be cultivated and possibly canned with profit. Care would no doubt be necessary in order to control fungus and insect pests. Not enough strawberries are produced to supply the local markets, so that that industry can well be extended. Some interest is displayed in market gardening and several farmers devote their entire time to this line. Only the local markets are supplied, however, though there seems to be no overproduction. A truck growers' association was formed some years ago, which failed, owing to lack of cooperation and mismanagement in not meeting the demands of the market. That there are some excellent truck soils in the parish and that truck crops of excellent quality and in great quantities can be produced on them during almost the entire year is practically certain.

Irish and sweet potatoes do well and can be grown commercially, but the market demands must be studied and complied with. One grower makes a specialty of sweet potatoes, growing between 40 and 50 acres upon the Iberia silt loam. The Queen of the South, White Yam, and Yellow Yam are the favorite varieties. The Queen of the South is planted in June, harvested in November, and yields about 50 barrels of 150 pounds each to the acre. The average price is \$1 a barrel. The White Yam yields from 40 to 50 barrels to the acre, if planted in May. The Yellow Yam more nearly meets market demands, if planted in early May and harvested in August. It brings from \$2.50 to \$5 a barrel. This parish is far enough south and has the soil to meet the early demands of the northern markets, if sufficient effort is made to do so. Two crops of Irish potatoes can easily be grown on the same land, or a crop can be grown after corn.

The large area of truck soils in the parish, comprising the Olivier silt loam, Olivier very fine sandy loam, much of the Olivier silty clay loam and Miller silt loam, Iberia silt loam, and, for heavier truck, the well-drained portions of the gray subsoil phase of the Iberia silt loam, should make this industry more attractive. The Iberia silt loam and Olivier very fine sandy loam are particularly adapted to it and do not give nearly so high yields of the general farm crops, sugar cane and corn, as do the other types.

#### STOCK RAISING.

Stock raising, which occupied a relatively prominent place in the early agriculture of the parish and later during the Civil War, is again receiving increased attention. Comparatively few cattle are fattened in feeding pens, as the pasture and range are available throughout nearly the entire year. The largest range is on Marsh Island, where large numbers of cattle are kept, many of them being turned out on the low, timbered lands, or swamps, to forage on

leaves, moss, and switch cane. The Tidal marsh and Peat areas are also utilized as cattle range, and while this land is soft and spongy cattle seldom sink in deeper than they can get out. Over much of these types excellent pastures of wild marsh grasses are found and cattle do fairly well. On some of the undrained cleared land adjacent to the timber white clover provides good pasturage, giving cattle a good finish, as it can be utilized from February to June.

But little pure-bred beef stock is found in the parish. The polled Durham would meet the demands of this parish better than most other pure breeds. While the presence of the Texas fever tick could not be definitely established, some reports strongly indicate its presence, but not in such quantities as to cause alarm. This insect and the mosquito are, of course, very troublesome. With the wide, nourishing range, and the clover and Bermuda-grass pastures obtainable, there is no good reason why, in the absence of the fever tick, cattle can not be fattened cheaply and in satisfactory numbers. With increased production of corn, some of which can probably be fed, the finishing process can be accomplished more rapidly than on pasture alone.

Hogs are also turned into the timber, where they subsist on acorns, cane, roots, and nuts. They are usually rounded up once or twice a year and the marketable stock sorted out. While this system of hog raising seems open to criticism, some remarkable profits are reported. Ordinarily some corn, at least as a forage crop, is cut and fed to hogs in the timber. These hogs are principally of the "razor back" type, but it is believed thrive much better than would pure-breed stock. Nevertheless animals of better blood are being introduced rapidly, Poland China being the favorite breed. Hogs can be raised cheaply and profitably and every encouragement is given the industry. An abundance of forage can be provided. Protein can be secured in the form of cowpeas and clovers. Cholera very rarely makes its appearance in the local herds.

Mules are used almost exclusively on the farm. Few horses or mules are raised within the parish.

Sheep are not uncommon and apparently do well on the white clover, Bermuda grass, and lespedeza pastures. The parish is not so well adapted to sheep raising, however, as many other sections, and the extension of this industry to supply more than the needs of home consumption is not advised.

Poultry farming is an important interest with most of the farmers. Many excellent pure-bred flocks were observed. The Rhode Island Red, Plymouth Rock, both barred and white, and the Leghorns are the popular breeds. Notwithstanding the large number of chickens, ducks, turkeys, and guineas seen on the farms, eggs and other products command a high price, and with proper management on well-

drained lots poultry keeping yields a good profit. The generally mild winter weather makes it possible to put young chickens on the market in February.

#### DAIRYING.

There is abundant room for expansion in dairying in the parish. The business of supplying the towns with milk is fairly well developed, but there are no creameries and nothing but home manufacturing of butter, which is, as a rule, of low quality. Herds consist principally of Jersey cattle. Some very fine pure-bred herds were seen, but the majority of the milch cows are grade stock. White clover and Bermuda grass ordinarily provide pasturage from February to December, and it is customary to sow oats for pasturage during the winter months. Cattle very rarely need be kept in stables for any length of time, on account of cold or inclement weather. Forage crops, cowpea or vetch hay, can be grown for supplying protein, which can also be bought in cottonseed meal. Milk can be produced very cheaply, but sells in New Iberia for  $7\frac{1}{2}$  cents a quart.

#### CROP ROTATION.

The system of crop rotation is well established and consists of two years sugar cane, the first year "plant cane" and the second year "stubble," and one year corn, in which cowpeas are planted and turned under. Sugar cane follows corn again in the fourth year. This rotation is followed throughout the parish and on all types of soil where sugar cane is the principal crop. On the rice plantations little sugar cane is grown and that usually on land not well adapted to rice. There is no small grain or clover in the rotation, as in many places.

On the heavier black soils this rotation appears to meet the conditions fairly well, but on the lighter colored soils the one crop of cowpeas in the corn is not sufficient to maintain the supply of nitrogen in the soil. Whenever tried, nitrogenous fertilizers or stable manure give good increases in crops. It is thought that on the lighter colored soil it would be better to devote the third year to corn alone and the fourth year to cowpeas alone, giving both the corn and peas the full benefit of the ground. Two crops of peas could be grown the fourth year and much more nitrogen and organic matter would be incorporated in the soil for the benefit of the succeeding sugar cane and corn crops.

#### LABOR CONDITIONS AND FARM TENURE.

While labor is not always available, it is not as scarce as in many places, so that no unusual difficulty exists in this respect. Both white and colored laborers are employed. On the large plantations col-

ored help predominates, but on the smaller farms there are about as many white as colored hands. From 70 to 85 cents a day, without board, is paid for ordinary work, while cane harvesters usually command \$1 a day. Colored women receive from 50 to 75 cents per day for field work.

Land rents vary considerably. The usual charge for sugar-cane land is \$5 an acre, or one-third of the crop. Sometimes the rent is paid at 50 cents per ton of cane produced. In such case the renter furnishes everything except the land. If the owner furnishes all necessary implements, fertilizers, etc., one-half of the crop is commonly paid as rent. For corn land \$2.50 an acre is a usual rental, but the tenant must plant cowpeas in the corn, from which he realizes no direct profit, and this costs him about \$2.50.

#### SIZE OF FARMS.

The size of farms is believed to be decreasing. The large plantations are being split up into smaller farms constantly, and only in a few instances are present farmers increasing the size of their holding. Over half the farms are operated by their owners. Plate 1, figure 2, shows the living quarters on a plantation in this parish.

#### SOILS.

The soils of Iberia Parish may be grouped into three distinct divisions: (1) Loessial uplands; (2) old alluvial soils, not subject to overflow; and (3) recent alluvial soils, subject to overflow. The low-lying land to the south of the escarpment has been correlated by geologists with the Port Hudson formation.<sup>1</sup> This is probably an old alluvial formation and in some respects resembles second bottoms. The bulk of the parish was once upland, but the Mississippi River during past ages has reduced all but Weeks, Avery, and Jefferson Islands to the level of its flood plain, leaving them the only remnants of the previously existing land surface.

The escarpment previously noted can be nothing but the immediate bank of an ancient channel of the Mississippi River, which upon changing its course left Lake Tasse, which must formerly have been very much larger than at present. Lake Peigneur is the result of similar circumstances, though there the old banks can not be traced beyond the boundaries of the lake with much precision. Still it is

---

<sup>1</sup> See 1899 Annual Report Louisiana Geological Survey, Part 5. There is no necessity for discussing in this report the geological question of relationship between the Port Hudson and recent alluvial formations. The question has not been settled and is of little importance here. Harris and Veatch say (Annual Rept., Louisiana Geological Survey, 1899): "Indeed criteria for separation of the Port Hudson proper from the more recent deposits in the lower Delta region seem to be entirely lacking. All our present knowledge seems to justify is to lump the whole together, as has been done east of the Mississippi."

evident that the river was severely cutting and would probably have soon reduced Jefferson Island had it not changed its course.

It seems likely that Lake Peigneur occupies the oldest channel of which there is positive evidence and that the escarpment near New Iberia is the result of the last invasion of the river. There is no evidence that it occupied any channel in the northern or eastern part of the parish for any length of time. It is possible even now that the Mississippi River, unless prevented, may change its course and again touch the parish in its search for a shorter outlet to the gulf. When the river flowed along this escarpment it must have had a wide flood plain to the north, while it only overflowed to the south at times of high water, as there is a well-defined front to the south and none on the north side. The channel of Bayou Teche is a comparatively recent stream and was either made or occupied for a considerable time by the Red River.

As most of the coarse material had been laid down elsewhere from swifter currents, the soil deposited by the river water within Iberia Parish ranged from fine clay to very fine sand. As is usual, the coarsest materials were deposited where a swift current became suddenly checked as the depth suddenly lessened, as occurs when a stream overflows its banks. Consequently, we have coarse silt and very fine sand occupying ancient fronts, and silt and clay occurring back from the front and occupying the old channels, in which positions silt and clay laden water stood a sufficient time to permit the deposition of these fine particles.

In the lower moister areas, away from the higher and drier fronts, vegetation was more abundant and less susceptible to disintegration, thus permitting the accumulation of a large quantity of organic matter, which gives the black or dark-colored soils found in such places. On the front lands vegetation grew well, but decayed much faster, so that not so much organic matter was incorporated with the soil, leaving it as a rule lighter colored.

The several soils have been grouped in series, the members of which have the same origin and marked similarity in color, profile arrangement, and drainage condition. The various members of each series differ in texture or relative content of clay, silt, and the various grades of sand, each member constituting a soil type. There are in the low, flat land soil division of this parish two well-defined, though incomplete, series of soils, while other series are represented by certain members. The Olivier series, in which the very fine sandy loam, silt loam, and silty clay loam members are recognized, consists of light-colored soils, with yellow and drab mottled subsoils, occupying slightly elevated and well-drained front lands. The Iberia series typically comprises dark-colored or black soils with yellowish-gray to yellow heavy subsoils becoming somewhat lighter in the lower por-

tion. In this series the clay, silty clay loam, and silt loam members were recognized.

The Sharkey clay has a dark surface soil, but has a color distinct from the Iberia clay in that it is highly mottled. Peat, Tidal marsh, Meadow, and Swamp constitute soils not classified on the basis of texture.

Soils of the glacial and loessial province occupy practically all of Weeks, Avery, and Jefferson Islands, over which is a mantle of silty material, undoubtedly loess. There is a vast area of this loess material throughout the upland portion of the Mississippi Valley. The soils from this material are usually dark colored in the north, lighter browns and yellows prevailing in the south. As the loess over these islands is a light chocolate brown, it is correlated with the predominating southern loess type as Memphis silt loam. There are in the parish 14 types altogether, 1 on the upland and 13 in the bottoms, the actual and relative extent of which are shown in the following table:

*Areas of different soils.*

Soil.	Acres.	Per cent.	Soil.	Acres.	Per cent.
Tidal marsh.....	99,968	27.2	Peat.....	3,904	1.1
Sharkey clay.....	99,648	27.1	Miller silt loam.....	3,840	1.0
Iberia silt loam.....	40,192	17.9	Memphis silt loam.....	2,880	.9
Gray subsoil phase.....	25,600		Sandy phase.....	384	
Iberia silty clay loam.....	25,664	6.9	Olivier very fine sandy loam..	1,536	.4
Olivier silt loam.....	22,656	6.2	Lintonia silt loam.....	1,152	.3
Swamp.....	19,776	5.4	Meadow.....	192	.1
Iberia clay.....	10,112	2.8			
Olivier silty clay loam.....	9,856	2.7	Total.....	367,360	.....

#### SHARKEY CLAY.

The Sharkey clay, to a depth of about 5 to 8 inches, consists of a clay of a dark-gray or drab to grayish-brown color, mottled with rusty brown, underlain by a drab or bluish gray, tenacious, and plastic heavy clay, mottled with rusty brown or yellowish brown. Incorporation of organic matter with the surface soil has given it a darker color than the subsoil, some areas being almost black. The mottling as a rule increases with depth, while the yellow and brown colors become less conspicuous.

The soil becomes exceedingly hard when dried from a puddled condition. If properly handled in the field it mellows down and assumes the tilth of a heavy silt loam. Upon drying in the field the particles flocculate and tend to form small cubes; hence the popular term of "buckshot land" sometimes applied to this type. The soil should always be fall plowed either when very dry or very wet.

When dry its buckshot structure makes it somewhat friable, and when wet it tends to soften and run, so that in either condition it may be readily turned; but if only in a fairly damp condition plowing is very difficult and good work impossible. If plowed wet it becomes hard and intractable to implements, yet it will mellow down with alternate drying and wetting in the early spring, so that no trouble will ordinarily be had in securing good tilth.

Except for a few small areas of other types, the Sharkey clay occupies the entire portion of the parish which borders upon Lake Dauterive, Lake Faussee Pointe, Grand Lake, and Grand River. The type as developed north of Bayou Teche has a slightly lighter colored surface soil than the large areas, and the subsoil is very highly mottled. This constitutes the only portion of the type in cultivation, as the boundary between this and the types fronting on the Teche coincides closely with the timber line. It is therefore practically all covered with a dense forest growth of cypress, sweet gum, black gum, and tupelo gum and some oak, though the cypress predominates and is the chief merchantable timber, vast quantities of which are taken out in rafts every year.

There is but little relief within the type, though as a rule the surface has a gradual rise toward the fronts. There are slight rises or ridges which may stand as much as 5 feet above the lowest land. These are natural levees along the present bayous or the remnants of former stream fronts.

Most of the type is subject to annual overflow from water which comes into Grand River from the Mississippi. Notwithstanding this fact, it can be cleared, leveled, and drained and made available for cultivation. There is no question as to the fertility of this soil, as it contains an abundant supply of organic matter and other constituents necessary for crop growth, and within the next decade much of it will be drained and tilled. A large levee along Lake Dauterive, Lake Faussee Pointe, and Grand Lake would close the source of overflow and make possible the cultivation of thousands of acres.

The Sharkey clay has been formed by processes similar to those now in operation. Most of the area mapped as this type is still receiving deposits of silt and clay from almost stagnant water during inundations. If all this area were cleared and made accessible there would undoubtedly be found variations in the soil which would warrant classification with other types. If this land is left unimproved, and the processes of formation are not interrupted, it is probable that the soil will become more uniform; the low places which now exist will be filled up to the general level, and after many years will be more valuable and can be improved more cheaply than at present. In the meantime much valuable lumber can be constantly produced. With proper drainage corn, forage crops, a number of

grasses, and sugar cane could be successfully grown. This soil is also adapted to rice culture.

Below are given the results of mechanical analyses of samples of the soil and subsoil of the Sharkey clay:

*Mechanical analyses of Sharkey clay.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431435.....	Soil.....	0.0	0.3	0.4	1.0	0.2	35.4	62.6
431436.....	Subsoil.....	.0	.4	.5	1.3	.8	27.0	69.8

IBERIA SILTY CLAY LOAM.

The Iberia silty clay loam varies from a dark-gray with a slightly brown cast to black silty clay loam, 6 to 12 inches deep, underlain by a dark-yellow to grayish-yellow plastic and tenacious silty clay slightly mottled with rusty brown and drab. This grades below 30 inches into a lighter textured material—silty clay loam or very fine sandy loam.

The line of demarcation between soil and subsoil is very indistinct, there being usually several inches of intermediate soil material which in some sections develops into a distinct subsurface stratum similar to that of the Iberia silt loam.

Lime concretions are occasionally found in the subsoil, though not in sufficient quantities or near enough to the surface to interfere with cultivation.

This type is one of the strongest soils of the parish. Locally it is known as "black land." It is fairly extensive and occurs on both sides of the escarpment, the greatest development being to the north, between New Iberia and Jeanerette. It is normally developed as the third type back from the Bayou Teche, the Miller silt loam and Olivier silty clay loam intervening. To the rear of it usually occurs either the Iberia clay or Sharkey clay. This position indicates that the material comprising this type was deposited from overflow waters from the Bayou Teche, the current being such that most of its coarser particles were dropped nearer the stream, while silt and clay were deposited together to form this type, and the clay carried still further back to form the clay soils. In many places there is a constant increase in clay and decrease in sand particles as one goes back from the Bayou Teche. Consequently this type and the Iberia clay grade into each other so imperceptibly that boundaries are largely arbitrarily placed.

As might be expected from its position, this type nearly always has a very gentle slope away from the Bayou Teche and into the

swamps or marshes. When these are cleared more of the Iberia silty clay loam will no doubt be found to exist than is shown on the map.

The slope of this type makes good drainage possible by open ditches, though tile could be utilized to advantage in many places.

While fairly heavy this is not a difficult soil to handle. If taken at the proper state of moisture it plows readily, but does not always scour. A well-cultivated field works up with the tilth of a silt loam, mellow and loose.

Although the type originally supported a luxuriant prairie growth or forest most of it is now under cultivation and is one of the best general farming soils of the parish. Sugar cane yields about 20 tons per acre, although much higher yields are frequently obtained. Corn varies from 35 or 40 bushels to the acre, yields of 65 and over being reported in good years. Cowpeas also do well and help to keep this soil in good tilth by maintaining the organic matter. The type is the favorite soil for rice, of which from 15 to 18 sacks per acre are secured.

While occasional areas may be found that are slightly acid, this feature is not characteristic of the type and ordinarily no lime is required. Nitrogen is present in large quantities and can be maintained by cowpeas, although cottonseed meal sometimes aids in the early growth of plants. Altogether this type is one of the strongest soils of the area.

The following table gives the average results of mechanical analyses of samples of the soil and subsoil of this type:

*Mechanical analyses of Iberia silty clay loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431437, 431439.	Soil.....	0.1	0.1	0.1	0.3	1.3	64.8	33.2
431438, 431440.	Subsoil.....	.0	.3	.3	.5	4.4	68.1	26.1

The following sample contained more than one-half of 1 per cent calcium carbonate ( $\text{CaCO}_3$ ): No. 431440, 5 per cent.

#### IBERIA CLAY.

The Iberia clay consists of 5 or 6 inches of heavy black waxy clay, grading below into a heavy clay of a grayish yellow color, slightly speckled or mottled with dark drab, greenish yellow, and bluish colors. This is usually underlain at 30 to 40 inches by lighter textured yellowish material similar to the subsoil of the Iberia silt loam.

The heavy black surface soil is characteristic of the type, the land retaining this color even when dry. Locally it is known as "black waxy land," "terre gras," or fat land, and "black-jack" land, the last term referring to the character of the soil and not to the timber

growth as there is no black-jack oak upon it. Roads running through this type become very rutty and pack with a shiny, polished surface.

The type is an exceedingly difficult soil to work, but if plowed wet in the winter the rains melt it down and it can be put into surprisingly good tilth, as it tends to granulate after the manner of "buck-shot land." The subsoil is very heavy, tenacious, impervious to water, and usually carries some lime concretions.

This type is extensively developed both north and south of the escarpment, the areas southeast of New Iberia and in the northern part of the parish, where Coulée Portage forms the parish line, being the largest. It occupies low, flat areas marked by almost imperceptible slopes. Its formation is due to the settling in almost still water, under lake or back-water conditions, of silt and clay. The black surface is, of course, due to accumulation of vegetable matter under the wet conditions. The type still has very poor drainage, the subsoil seldom drying out completely. Much of the area now mapped as Tidal marsh and Peat will, no doubt, when reclaimed and allowed to weather, result in the formation of Iberia clay. Part of the type was originally in marsh and part in forest, and while most of the marsh is now under cultivation the timbered areas for the most part remain.

This type is a strong soil and in favorable years, with not too heavy and frequent rains, produces abundant crops of sugar cane and corn. It is preeminently a corn soil and one of the best in the area where well drained. Much of it is now used as pasture, but on cultivated areas yields of 25 or more tons of sugar cane and 25 and 35 bushels of corn are reported in favorable years. With better drainage much better yields, especially of corn, could be secured. Good crops of rice have also been produced on this land, it being an excellent soil for this crop if properly handled.

It is a very valuable soil, but most of it must be reclaimed at large expense for drainage. However, the result would certainly justify this, as the land, after being put into good condition, should be worth at least \$100 an acre.

The following table gives the results of mechanical analyses of samples of the soil and subsoil of the Iberia clay:

*Mechanical analyses of Iberia clay.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431427.....	Soil.....	0.0	0.3	0.6	1.1	1.0	58.1	38.9
431428.....	Subsoil.....	.8	.5	.2	.6	.5	48.1	49.3

The following sample contained more than one-half of 1 per cent calcium carbonate ( $\text{CaCO}_3$ ): No. 431428, 4.97 per cent.

## IBERIA SILT LOAM.

The soil of the Iberia silt loam, to a depth of 6 to 12 inches, is a dark ashy gray to black mellow silt loam to silty clay loam showing a slight mottling of yellowish-gray in the lower portion. The upper subsoil is a brownish silt loam slightly mottled with bright yellow. The lower subsoil, i. e., below 22 inches, is typically a yellow silt loam. The deep subsoil samples show a little lower content of clay and higher content of silt than the soil samples. The silt content is unusually high ranging from about 80 per cent in the soil to 87 per cent in the subsoil. Cultivated fields appear very black after a shower, but on drying in places assume an ashy gray cast. Lime concretions are frequently found in varying quantities in the sub-surface and subsoil.

The greater proportion of this type is easily worked, although some of the heavier spots are somewhat troublesome and in some places lime concretions occur in such quantities and so close to the surface as to make plowing difficult. The uncultivated ground appears very much heavier than where it has been worked up by cultivation.

The Iberia silt loam is one of the predominant soil types of the mainland, occurring both north and south of the main escarpment, usually in large areas with very irregular boundaries. The areas in the vicinity of Loreauville have, as a rule, heavier subsoils with less of the yellow color than the true type, as there it is associated more closely with Iberia silty clay loam. Along the immediate coast on Marsh Island near Chenier la Croix there occurs a narrow strip of shell sand. This was included with the Iberia silt loam, not being of sufficient extent to warrant separation.

With relation to the other types of the area it is normally the second type developed back of the main escarpment, being bounded on the front by Olivier silt loam. This relative position is not always maintained, as it sometimes marks the position of the front itself and is frequently developed without the presence of either of the other types. Its position depends upon the strength of current from which the particles were deposited and upon its subsequent condition, which was evidently somewhat marshy, though not continuously so.

There is less relief in the typical areas than in the Olivier silt loam, but much more than in the gray subsoil phase of the Iberia. Many of the coulées or bayous have their headwaters within its areas, and it is marked by alternating rises and depressions, each of which cover several acres. Characteristically the type is smooth and flat.

Natural drainage is not sufficient for successful agriculture, making artificial ditches necessary. These can, over most of the area, find an outlet to canals.

Most of the type was originally prairie, but some forest areas also occurred. These have been for the most part cleared, though some still exist, notably northeast and northwest of Avery Island.

Sugar cane, corn, and peas are the general crops grown, although some trucking is also done on the lighter phases. Well-matured sugar cane yields from 15 to 18 tons per acre of plant cane and 12 to 15 tons of stubble, although 25 tons are reported in exceptional years with good cultivation. Corn yields about 15 barrels per acre. Cowpeas, usually sown between the corn rows, make a luxuriant growth. This is admittedly a stronger soil for general farming than the Olivier silt loam.

For the improvement of this type additional organic matter should be incorporated with the lighter colored phases and the lower places thoroughly drained. It is also very probable that subsoiling would be very beneficial on much of this type to break up the compact subsurface soil, thus permitting water to percolate more readily and causing a greater storage of moisture for the use of crops. The soil shows no acidity and apparently requires no lime, as large quantities are commonly present in the subsoil.

*Iberia silt loam, gray subsoil phase.*—Typically the Iberia silt loam, gray subsoil phase, to a depth of 12 to 15 inches is a black, rather heavy silt loam, underlain to about 30 inches by a solid gray silt loam or silty clay loam, somewhat plastic when wet, but rather crumbly when dry, and frequently carrying a considerable quantity of lime concretions. At about 30 inches a sharp line of demarcation occurs between the gray upper subsoil and the yellow mottled silty loam deep subsoil.

The Iberia silt loam, gray subsoil phase, occurs in rather large areas and is practically confined to the region south of the main escarpment, as the small areas north of it are not typical, in that the gray strata is not highly developed. Its normal position is immediately back of the typical Iberia silt loam, which lies between it and the Olivier silt loam skirting the escarpment. The Olivier silt loam in the front is rather high bottom land, while the typical Iberia silt loam has a gentle slope back from the front. The gray subsoil phase occupies the flats lying to the rear of the first-mentioned types. Its topography is practically level or so nearly so that the eye can seldom detect any relief. Its boundaries with the typical Iberia silt loam are sometimes poorly defined, and on some of the long, almost imperceptible slopes there is a wide gradation zone, most of which has been included with the typical soil.

The soil material composing the gray subsoil phase of the Iberia silt loam is unquestionably alluvial. Its present peculiar characteristics are due to conditions subsequent to deposition. When the ancient river overflowed its banks (the escarpment) most of its

coarse sediment was deposited on the front, forming the Olivier silt loam, though some of the very fine sand and more silt was carried a little farther back, forming the typical Iberia silt loam. The finer silt and considerable clay was carried still farther back to what must have been very low land. These marshy conditions were created which retarded oxidation within the soil, preventing the decay of vegetation, and providing a suitable situation for various shell animals. This entire process continued over considerable periods, and differentiated the phase from the typical soil sufficiently to call for separate discussion.

The black soil of this phase is due to the large quantity of partly decomposed vegetation, the gray color of the subsoil to lack of oxidation, while the lime now present as concretions was probably derived from the remains of the shellfish. In some localities the surface soil still shows a large quantity of lime, but in most localities it has been leached out.

As the type occupies low, flat areas, its natural drainage is deficient, and open ditches connecting with canals for outlets are required to remove rain water. Lack of outlets has until recent years been a great drawback to the development of this soil, but now there is a canal within connecting distance of practically all of it.

Originally a luxuriant prairie, nearly all the type is under cultivation and well improved. It is locally known as "black land" and is not difficult to handle. The large quantity of lime and organic matter present prevents severe clodding, but when wet the soil becomes mucky and will push rather than scour on the plowshare.

Sugar cane and corn are the principal crops. The former yields ordinarily from 18 to 20 tons per acre, though frequently 25 to 30 tons are secured and even higher yields are reported with good cultivation and a favorable season. All varieties are grown, the D-74 doing especially well, usually growing strong enough to withstand the winds. Corn yields about 20 barrels as an average, though yields of 30 and more are sometimes obtained. Pears also grow well on this type. If proper drainage can be secured, alfalfa would undoubtedly make a good crop, because of the high lime content. Unless thorough drainage can be secured, it would be useless to try this crop. Satisfactory drainage would be somewhat difficult, though entirely practicable over much of the type. Rice would no doubt do well on this soil, but irrigation water is not easily obtainable.

This rich soil is highly prized and none is reported as on the market. Values are said to be in the neighborhood of \$75 an acre.

Following are the average results of mechanical analyses of the typical Iberia silt loam and its gray subsoil phase:

*Mechanical analyses of Iberia silt loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
Typical:		<i>Per cent.</i>						
431421, 431424.....	Soil.....	0.6	0.8	0.2	0.3	0.4	80.1	17.3
431422, 431425.....	Subsoil.....	.1	.9	.4	.7	1.0	84.1	12.9
431423, 431426.....	Lower subsoil.	.1	.5	.2	.3	.9	86.4	11.3
Gray subsoil phase:								
431417, 431419.....	Soil.....	.0	.2	.2	.6	2.7	82.6	13.8
431418, 431420.....	Subsoil.....	.5	1.4	.6	.9	2.8	75.9	17.7

The following samples contained more than one-half of 1 per cent calcium carbonate ( $\text{CaCO}_3$ ): No. 431418, 20.81 per cent; \*No. 431419, 1.29 per cent; No. 431420, 18.04 per cent; No. 431421, 4.29 per cent.

## OLIVIER VERY FINE SANDY LOAM.

The Olivier very fine sandy loam consists of about 10 inches of grayish-brown very fine sandy loam, usually of high silt content, underlain to a depth of 36 inches by a mottled yellow and drab or dingy yellow heavy silt loam to silty clay loam subsoil. The surface soil has a tendency to bake and form a crust, and when in this condition appears much heavier than it really is, its mellow structure being revealed only by close examination. The lower 2 or 3 inches of the surface soil usually contain considerable fine sand and form a rather sharp line of demarcation between soil and subsoil. There are thin lenses of sandy and clayey material in the subsoil and sometimes considerable dark-colored material in the upper subsoil.

This is not an extensive type, the largest areas lying to the west of New Iberia and other small isolated areas occurring over the mainland of the parish. It occupies positions similar to the Olivier silt loam, displacing that type in many cases. When occupying small ridges they are usually somewhat more pronounced than those of the Olivier silt loam and the color is usually lighter. It is an old frontland type, and the water from which it was deposited must have had a stronger current than that which deposited the Olivier silt loam, as the average size of its particles is larger. Small spots of this type occur promiscuously within the Olivier silt loam, but the map scale was too small to allow such areas to be shown.

The type is practically all in cultivation to the general farm crops. Sugar cane ordinarily yields from 10 to 15 tons to the acre, though higher yields are reported. Corn yields 10 to 12 barrels—seldom more. This soil would yield greater incomes from truck than general crops if it were so utilized. It is the lightest soil type of the area, is very easy to handle, should warm up early, and is naturally the best truck soil of the parish. Sweet potatoes, Irish potatoes, cabbage, and a number of other vegetables would succeed. Cowpeas do well,

and it is likely that peanuts<sup>1</sup> would thrive. The surface soil shows only slight acidity, but an application of lime would very likely prove beneficial. Organic matter is the chief requirement of this soil, as the drainage and tilth are excellent. This can be advantageously supplied by growing cowpeas. Deep early cultivation, followed by shallow constant stirring, is also recommended, in order to insure a large water capacity and its subsequent conservation.

Following are the results of mechanical analyses of samples of the soil and subsoil of the Olivier very fine sandy loam:

*Mechanical analyses of Olivier very fine sand loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431409.....	Soil.....	0.0	0.6	0.3	4.3	34.7	53.1	6.9
431410.....	Subsoil.....	.0	.3	.1	1.1	17.6	61.3	19.7

OLIVIER SILTY CLAY LOAM.

The Olivier silty clay loam, the heaviest member of the Olivier series, is a somewhat variable grayish brown to brown silty clay loam, averaging 10 inches in depth. The subsoil is a mottled drab, yellow and brown silty clay loam to silty clay. Some areas too small to map include some dark gray to black material in the subsoil. When dry the subsoil becomes very hard, but takes up water readily.

The type is not difficult to work, though slightly more so than the very fine sandy loam and silt loam members of the series. There is a tendency in the soil to crust and become cloddy, but this can be easily avoided.

The type is confined to the mainland lying north of the escarpment, the principal areas being just north of New Iberia, an area in the vicinity of Interlachen, and a strip along the Bayou Teche. It lies higher than the lands farther from the bayou and has better natural drainage, though ditching is more necessary on this type than other members of the series as a protection against heavy rainfall, the subsoil preventing rapid percolation.

The location of the Olivier silty clay loam would indicate it to be one of the newer soil types formed after the river made its last invasion of the parish by sediment either from Mississippi overflow or possibly from more local sources through the Bayou Teche. It is probably an older soil than the Miller silt loam, which borders it on the front side.

<sup>1</sup> See Farmers' Bul. No. 356, U. S. Dept. of Agriculture.

Originally the Olivier silty clay loam was in part prairie and in part forest land, but it is now very largely under cultivation. It is devoted to rice, sugar cane, corn, peas, and some truck crops. It is a strong rice soil and yields about 18 sacks per acre, though but little of it is devoted to this crop, because the surface is a little too sloping and proper irrigation difficult. Sugar cane yields are about the same as on the other members of the series—from 12 to 15 tons per acre for plant cane and 10 to 12 tons for stubble cane. The black beetle is somewhat troublesome on this land, but the borers are less so. The red cane does better on this soil than the D-74 variety.

Corn gives 10 to 15 barrels per acre, the common native corn being grown almost exclusively. Cowpeas do fairly well. Both soil and subsoil give strong indications of acidity with the litmus paper test. Applications of lime will correct this acidity and greatly aid the growth of all crops, and cowpeas in particular. It is very essential that a good pea-vine growth be secured in order that the supply of organic matter may be maintained. The content should in general be increased, as the light color of most of the surface soil indicates a deficiency of vegetable matter. Thorough cultivation should always be given to conserve moisture, as it is more difficult to secure it in this type than in the lighter members of the series.

The average results of mechanical analyses of the Olivier silty clay loam follow:

*Mechanical analyses of Olivier silty clay loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431413, 431415.	Soil.....	0.0	0.0	0.5	1.1	3.5	67.0	27.5
431414, 431416.	Subsoil.....	.1	.3	.2	.6	3.2	65.1	30.3

OLIVIER SILT LOAM.

The Olivier silt loam, to a depth of about 10 to 15 inches, consists of a brown, mellow silt loam, occasionally somewhat grayish in the immediate dry surface portion. The subsoil is a characteristically mottled yellow and drab silt loam or silty clay loam, containing in places thin strata of clay or very fine sand to a depth of 30 inches, below which the material changes to a clay loam, with a predominating drab color. In many places the subsoil is yellow brown in color, faintly mottled with bright yellow and occasionally reddish yellow. In the upper strata of the subsoil the yellow mottling is usually most pronounced, while at depths of 24 to 30 inches there is usually considerable rusty-brown mottling, in addition to shades of yellow and drab. Much of the silt material in the surface soil is

coarse and mixed with very fine sand, imparting a sandy feel and texture to the soil, which is known locally as "sandy land." Small round concretions of iron, and occasionally of lime, occur throughout the surface and subsoil. The line of demarcation between surface soil and subsoil is much more pronounced in cultivated areas than in timbered sections, where the gradation is so slight as to be imperceptible. In some areas the upper subsoil, instead of being yellowish, is almost black, but gives way to yellow at a depth of about 24 inches.

This is a very mellow soil, easy to till, and workable at almost any time. In this respect it is in marked contrast to the clay types of the area. It has a tendency to bake and form a slight crust on the surface, though this is not difficult to break up and does not clod badly.

The Olivier silt loam is one of the extensive and important types of the area and is well distributed over the mainland of the parish. The largest areas lie to the west of Burke, along the parish line and immediately south of the main escarpment, having a gently undulating topography. This type occupies the highest land of the bottoms and has more relief than any other bottom-land type. Most of the other areas are low, turtle-back ridges, being highest in the middle and sloping gently to the edges. The area to the south of the escarpment is some 10 or 12 feet higher than the land immediately to the north of it.

Both the texture of the soil and subsoil and its elevation insure for this type thorough natural drainage, but small open ditches are usually utilized to hasten the removal of water after very heavy rains. Capillarity is also very high in this soil, and it will naturally absorb and give off a great deal of water rapidly.

In most cases the type occupies positions which were once front lands, either of the Mississippi River or more recent bayous. When these streams overflowed, the sediment-laden water upon leaving the banks became suddenly checked in its course, depositing the coarser sediment. As most of the coarse sand had been deposited before coming so far south, only coarse silt and very fine sand remained to be deposited near the bank, thus building up a front, while the fine silt and clay were carried farther back. The natural good drainage of the type permitted more rapid decay of vegetation and thus prevented the accumulation of organic matter, which makes soils black; hence the light color of this soil. More or less complete oxidation of iron is accountable for the yellow and drab mottling in the subsoil.

Because of its easy cultivation, this is a popular soil and largely farmed and usually well improved. Originally it was nearly all prairie and consequently easily brought under cultivation. All the general crops of the area are grown upon it and in addition considerable trucking is carried on. Before the coming of the boll

weevil this was one of the best cotton soils of the parish and yielded from one-half to 1 bale to the acre.

Sugar cane yields ordinarily from 12 to 15 tons to the acre, though yields of 20 to 25 tons have been reported. The yield from the stubble crops is, of course, less, from 8 to 12 tons, averaging in the neighborhood of 9 tons. The native red variety does best on this soil, as the D-74 variety is not usually strong enough to withstand the wind. Cane stubble keeps exceptionally well on this soil. Cane for planting also keeps especially well because of the good drainage. More injury is done by the black beetle than on the heavier land, but the borers cause less trouble.

Corn is also an important crop and yields on an average about 12 barrels of ears, or 25 bushels shelled corn. The favorite varieties are the native yellow corn, Golden Beauty, Yellow Dent, and Squaw corn. Two stalks every  $2\frac{1}{2}$  or 3 feet is considered a good stand on this type to secure an ear to each stalk. As a general rule, it appears that corn is planted too thickly on this soil and more grain would be secured from fewer stalks. Many fields were seen with stalks about 10 inches apart—a stand too heavy for this soil except where fertilized.

Cowpeas are universally sown in the corn, and as this soil is deficient in organic matter this is good practice, especially if the vines are plowed under. As heavy a growth of peas as possible should be secured and occasionally the crop should be sown alone. Peanuts could possibly be grown successfully as a field forage crop for hogs. This is also an excellent soil improver. It would seem that with sufficient ditching to insure good surface drainage to a depth of at least 3 feet and with applications of lime, alfalfa could be successfully grown.

In natural adaptation this soil is a trucking type, and it is so used to a considerable extent. Sweet potatoes ordinarily yield but 50 barrels an acre, with a maximum of 100 barrels. Irish potatoes and a considerable number of other truck crops do well, and whenever possible should be planted.

But little fertilizer other than stable manure and cowpeas are used. An application of 300 pounds of cottonseed meal has been found to give an increase of 2 to 5 tons in the yield of sugar cane. The greatest increase is secured where the fertilizer is used on stubble cane.

The soil of this type is somewhat acid and would be benefited, especially where cowpeas or other legumes are to be grown, by applications of lime. Much benefit to crops would also result from more thorough cultivation. With soils of this texture it is possible to store the large quantities of water, so essential for sugar cane, corn, and peas. A dust mulch, which can easily be secured by frequent

shallow cultivation, should at all times be maintained, in order to retain the moisture in the soil during dry spells.

Land values range from \$40 to \$70 an acre, depending upon improvements and market facilities.

The texture of the Olivier silt loam is shown by the average results of mechanical analyses given in the following table:

*Mechanical analyses of Olivier silt loam.*

Number.	Description.	Fine gravel.	Coarse sand.	Medium sand.	Fine sand.	Very fine sand.	Silt.	Clay.
		<i>Per cent.</i>						
431405, 431407.	Soil.....	0.2	1.9	0.6	0.5	1.4	83.1	12.1
431406, 431408.	Subsoil.....	.1	1.1	.9	1.2	1.0	74.4	21.2

MEMPHIS SILT LOAM.

The Memphis silt loam is the predominating soil type of the uplands. It is distinctly a silt loam and the texture throughout the profile is practically the same, with no distinct demarcation between soil and subsoil. The dry surface of a cultivated field has a somewhat grayish cast, but the true color of the moist material is brown or yellowish brown throughout the profile.

The Memphis silt loam is a friable, easily worked soil, with little tendency to clod. The subsoil has a somewhat mealy structure, allows the free movement of water, and has high capillarity.

This is an upland type and occurs only on Weeks, Avery, and Jefferson Islands. Though shown as occupying nearly all of these islands, there are some spots, too small to be indicated on the map, which are not of this type. The extreme altitude of the type is about 170 feet above the gulf. Considering the small area and the range of altitude, the topography is rather rolling, being characterized by knolls and hogback ridges. This makes drainage rapid and sometimes excessive, and washing and erosion are serious problems during the heavy downpours of rain to which the region is subject. Terracing is resorted to in some instances, and as far as possible cultivation follows the contours, in order to minimize surface washing.

There has been much speculation regarding the origin and formation of the so-called islands occupied by the Memphis silt loam.<sup>1</sup> They have been regarded as having been pushed up from below either by volcanic action or by the force of forming salt crystals. From surface observations such a theory is entirely unnecessary. The material is so similar to that occurring on the bluffs of the Missouri and

<sup>1</sup> See part 5, 1899 Report Louisiana Geological Survey.

Mississippi Rivers along most of their courses as to banish all doubt that it is anything but loess. Over these islands the depth of this material ranges from 2 to 10 feet and underlying it is a variable material, usually a sandy clay, containing quantities of quartz gravel of all colors. This bears a decidedly close resemblance to the Lafayette formation of the upland region of the States. A section shows the loess over gravelly material very much like that of Crowleys Ridge in Missouri and Arkansas.

Underlying this formation is a deep bed of nearly pure salt. As to its formation there has been considerable speculation, but as to the islands themselves there is every indication that they are the remnants of old uplands, most of which have been eroded away by the Mississippi and other rivers. Near each there is or has been a large stream. The Mississippi River at one time undoubtedly washed against the side of Jefferson Island, a change in its course leaving the bend of the old channel as a large lake.

In places the loess has been largely washed away and the underlying sandy material forms the subsoil and has been incorporated with the soil, giving rise to the sandy phase indicated on the map by cross lines.

Occasionally the sandy material is reached within 3 feet of the surface of areas otherwise typical. In a few patches on Avery Island a peculiar clay soil was encountered. This consists of a brownish silty clay, underlain by sticky drab clay mottled with yellowish and rusty brown colors and containing iron concretions.

There are no lime concretions in this type and no indications of its presence as calcium carbonate. On the contrary, there is a strong indication of acidity, and while this does not prevent the growth of cowpeas, yet an application of lime, which could possibly best be made from shells in this locality, would, no doubt, increase crop yields. The clay spots of Avery Island would certainly be improved by additions of lime for its physical action alone. All the general crops of the parish are grown on this soil. Sugar cane, of which the D-74 and D-95 varieties do best, yields from 10 to 25 tons to the acre. Corn and peas do fairly well. A complete fertilizer gives good increases in crops, but if a sufficient growth of cowpeas is plowed under, an application of phosphorus alone would probably be as beneficial. Tabasco peppers do exceptionally well on this type. Figs, pears, and oranges thrive, and more fruit should be grown. Oranges are rather uncertain as a commercial crop. Peach trees are said to be short lived, causing this crop to be unprofitable. The air drainage resulting from the relatively elevated position of this type makes it the best soil for fruit in southern Louisiana and fruit culture should be encouraged.

## LINTONIA SILT LOAM.

The Lintonia silt loam consists of 6 to 12 inches of yellow to yellowish-brown silt loam, underlain by gray to light-brown, somewhat floury silt loam which extends to a depth of about 24 inches, where a slight mottling of yellow is noticeable. The subsoil becomes heavier in texture with increase in depth, grading into a silty clay loam or clay. Many black iron concretions and a few lime concretions occur throughout the soil and subsoil.

This is not an extensive type. It occupies a narrow strip at the foot of Weeks, Avery, and Jefferson Islands. It has been formed largely by colluvial wash from these islands, mixed, possibly, with some alluvial material. Natural drainage is insufficient and open ditches leading to the surrounding swamps into which the type grades are resorted to.

While originally timbered, some of the type has been cleared and used for the production of sugar cane, corn, and peppers. The soil is easily worked and withstands drought well. It is not acid and should be a productive soil. It is well adapted to corn, sugar cane, heavier truck crops, such as tomatoes, okra, cabbage, and to strawberries.

## MILLER SILT LOAM.

The Miller silt loam ranges from a brownish-red very fine sandy loam to a heavy silt loam, usually about 9 inches in depth, underlain by a heavy red silt loam, extending to a depth of 36 inches, and frequently carrying thin strata of very fine sandy material. At a distance the soil appears quite red, but near at hand it assumes a brownish tinge, except where the red subsoil is exposed.

It is an easy soil to cultivate, and if it occurred in large areas would be a most valuable type. It occurs only as a narrow strip on each side of Bayou Teche, being widest in the bend near Interlachen. Its limited development prevents the separation into types of the surface soil, as the exceedingly small areas of textures other than silt loam could not be shown on the map.

As it occupies the front land, it is high and has thorough drainage, though in sections it is quite badly cut up by stream channels and bayous. It owes its formation to the Red River, which at some time occupied the channel of the Teche and deposited material brought down from the Permian Red Beds of Texas.

The timber growth originally occupying this type has been largely cleared off and much of the type is under cultivation. It is conceded to be a very strong soil, giving crops of sugar cane and corn somewhat above the average. It shows no acidity and does not contain much lime. Where the areas are large enough, it is ordinarily adapted to alfalfa, and could well be utilized for this crop. Truck crops

would also do well on the lighter textured phases of the type, which are sufficiently extensive for this purpose. Quantities of Carolina vetch grow wild on it, indicating its adaptability to the legumes.

#### TIDAL MARSH.

Tidal marsh consists of coarse brown fibrous organic matter which has accumulated and still exists under salt water conditions. The depth of this material varies considerably and may be only a few inches or several feet. The quantity of inorganic matter increases with depth, and there is ordinarily a higher percentage than is readily apparent under wet conditions. When dry the fibrous and spongy character of the material disappears somewhat and it becomes quite hard and compact, though very light. Where much earth is mixed with the organic matter the material is black and mucky. Ordinarily the auger can easily be pushed with one hand full length into this type. The soil material underlying the peaty surface is usually a bluish clay or silty clay.

This type is confined to the vicinity of the sea coast, where it occurs in broad extensive areas. It is intersected by many bayous, and while there is some slight relief, possibly a range of 2 or 3 feet, to the eye it appears perfectly flat. Most of it is covered daily by tides, ordinarily to depths ranging from a few inches to a foot, but if unusually strong south or southeast winds occur the sea water may cover all of it, in places to a depth of several feet.

Tidal marsh supports a heavy growth of various salt water grasses, some of which may be used for feed. In a few cases the ground becomes sufficiently solid for hay to be cut and cured, but it is ordinarily pastured only. Great numbers of cattle are turned on these vast ranges, and while they sink to their knees at nearly every step they apparently get around without any great inconvenience, and thrive fairly well.

A very small part of this type has been successfully reclaimed, and there is undoubtedly much of the type that could be drained and cultivated. It will probably take some time for this material to reach its full productive capacity. At present it is quite salty and acid. Under the system of reclamation discussed in the chapter on drainage, the salt and acid are soon leached out of both the soil and subsoil. The peaty surface upon drying, of course, shrinks considerably, and where it is more than 3 feet deep the surface may be lowered to such an extent that complete reclamation will be difficult. After two or three years' time land which originally had a coating of 18 to 24 inches of peat retains none of its original peaty character. Much of the organic matter is destroyed and the rest completely incorporated with earthy material. This is valuable

land when reclaimed. Types of Iberia and also possibly of the Olivier series, either silt loams or clays will probably be developed through the subsequent processes of weathering. Much of the type along the borders of the mainland and in the vicinity of Weeks and Avery Islands should be reclaimed. Sugar cane and corn will probably be the principal crops.

#### PEAT.

Areas similar to Tidal marsh have been developed under fresh-water conditions and have been mapped as peat. The soil profile is practically the same as that of marsh, consisting of brown, loose-structured, and light organic matter to depths varying from 10 inches to 3 feet. More or less earthy material is mixed with this peaty material and the percentage normally increases with depth until at from 10 to 36 inches a mucky clay is developed, black in the upper part and bluish or mottled blue and drab at lower depths.

This type occurs in the Grand Marais and along the shores of Lake Tasse. It is not subject to daily inundations, as is the Tidal marsh, but is nevertheless wet the entire year, except during prolonged dry spells when the surface 5 or 6 inches may be dry. The auger, however, can easily be pushed full length through the material.

The type owes its origin to the accumulation of organic matter derived principally from water hyacinths, fresh-water mosses, and grasses over lacustrine or alluvial clay.

Some areas have been drained by ditches and are now in cultivation. The organic section has here been largely incorporated with the underlying earthy material and the resulting type is the Iberia clay. This type of strong soil will probably be the result of the reclamation of most of the Peat. Pumping plants are not likely to be necessary in its reclamation as ditches will probably suffice at least for the Grand Marais area. It will perhaps be necessary to construct a dike along the shore of Lake Tasse. At present areas of this type are used only for stock range, but the Iberia clay is an excellent corn and sugar cane soil when well drained.

#### SWAMP.

The Swamp of this area comprises the timbered areas adjacent to the coast, which are almost always in a wet condition, owing to tidal action. The soil consists largely of finely divided, brownish, partially decomposed organic matter. The material is fibrous but not coarse, as in case of the Tidal marsh. It is made up principally of accumulations of the leaves of cypress, oaks, gums, and other trees with more or less grass. The depth of the peaty covering varies from a few inches to at least 10 feet, and possibly more. It is usually underlain by a heavy blue or mottled drab and yellow silty clay loam

or clay. Where the depth of the peaty stratum is less than 3 feet it may be drained, cleared, and cultivated. Where the stratum is deeper the reclamation would entail greater difficulties. Tide water covers most of this type and dikes would be absolutely necessary. The inundation is usually caused by high-wind tides.

The wealth of timber in these areas is but little worked. Bear, deer, and other game are abundant and cause considerable damage to crops where the Swamp joins cultivated land.

#### MEADOW.

Meadow comprises the bottom lands of Weeks and Avery Islands. These bottoms are very narrow, poorly drained, and not ordinarily utilized, except for pasture. In soils they vary greatly in texture, profile, arrangement, and color. The material ranges from silty to sandy and gravelly and from a dark color to lighter mottled brownish and grayish colors.

#### DRAINAGE.

In alluvial soils the problem of securing good drainage is always paramount. It is no less so in Iberia Parish, and yet not more so than in many localities. The Bayou Teche, while it has been known to overflow its banks in a few places within the parish, ordinarily fluctuates but little, and its usual rises are occasioned by strong winds from the south or southeast and are of no consequence. As its immediate banks are higher than the back-lying land, there is almost no natural drainage into it. So that this bayou is almost neutral as a drainage factor either as a source of overflow or a natural outlet. It is, however, a big factor as an outlet for artificial drainage. The greatest source of overflow is Grand River, which, through bayous, raises Grand Lake and the connecting Lake Fausse Pointe and Lake Dauterive. From this source water has been known to back up to within a mile of Olivier and into Coulée Portage (Little Bayou), flooding an immense area. This was in 1882, the year of universal high water in the Mississippi flood plain. But practically every year the area east of Grand Lake is flooded and the water backs up nearly to the edge of the timber on the mainland, though there are narrow ridges and knolls within the flooded district which are not ordinarily submerged. The water gets deep enough to float out logs and is really the lumberman's only way to market his product. The cause of these floods is high water in the Mississippi River. Its connection with the channels of this region lies at the foot of Concordia Parish, through what was once the main channel of an oxbow bend in the Mississippi River, which after the bend was cut off was appropriated by the Red River. Now, when water rises high in the Mississippi River it backs up the Red River

and forces it, together with the overflow water, through the Atchafalaya, from which it floods an immense area in this part of the State, making it unprofitable for agriculture. In the region east of Grand Lake there were two sugar houses and some 30,000 acres of land in cultivation in 1865 at the time of the first flood from this source. These have all been abandoned and great changes have taken place in the lay of this large tract of land. The bayous are rapidly filling up. In one place a 90-foot channel has become impassable for even small boats, small lakes have become willow swamps, and later dry land, permeated only by coulées or bayous. Even Grand Lake, Lake Fausse Pointe, and Lake Dauterive are filling rapidly and becoming very shallow.

At the foot of Concordia Parish there are several miles of unclaimed land, and there is considerable public sentiment directed toward continuing the levee, closing completely the above-mentioned old channel and connecting with the levee below, thus making a continuous levee through the State. This would throw the Red River through the Atchafalaya, and while the Red River is sometimes the source of floods, these are not usually serious. Probably millions of acres could be put into cultivation if this project were carried through, as there are many thousands in this parish alone. The main objection to this project seems to come from New Orleans, as it is feared that unless this outlet for overflow water is maintained the levees might break with the increased water against them and work disaster in the city. On the other hand, there is a possibility that the river in its search for a shorter route to the Gulf will reappropriate its old channel and the entire stream be diverted through the Atchafalaya, thus divorcing itself from New Orleans altogether. The flooded region contains some of the country's most valuable forests and is exceedingly valuable as a prolific and rapid timber producer. The land is yearly receiving deposits of rich soil, the general level thus being raised, which will only increase its value when it is cleared. In addition, there are large lake and bayou areas being filled up to the general level, which will sometime be valuable land and which could otherwise be reclaimed only at enormous expense. The State or parishes could afford to hold these lands for several hundred years, if necessary, until soil deposition ceases.

Another region of overflow is the low belt adjacent to Vermilion Bay, including Marsh Island. The source of this overflow, however, is tidal water, and consequently varies in depth each day, but is present most of the year. In times of storms from the Gulf the inundation may be a few feet deep, but ordinarily it is but a few inches, though the variation is greater on Marsh Island than on

the mainland. The land thus inundated is practically all Swamp and Tidal marsh and not used except as range for cattle. Some good cypress and oak timber exists in the swamps, but the utilization of most of these lands for agriculture involves simple drainage, and a number of such tracts have been drained and put under the plow. In fact the edge of overflowed land is everywhere gradually being pushed toward the source of overflow. This work has largely been done during the last decade. In that time there have been several canals cut from the cultivated portion of the mainland to Vermilion Bay. The last of these is the canal just completed to New Iberia. Since their construction the drainage conditions have been very greatly improved, and in many places rain water, which formerly stood several days, is now gone in 24 hours. The good effect of these canals will no doubt lead to the construction of several others, which are badly needed. One is especially needed to drain the section contiguous to Coulée Portage (Little Bayou). On the highest land adjacent to these canals it is possible to use tile drains or to run open ditches into them, but in the lower lands recently brought or yet to be brought into cultivation open ditches 5 or 6 feet in width and depth are constructed around the outside of the tract to be drained, with laterals permeating it, and all leading to a central point near a canal. The dirt from the ditches is thrown on the outside of the land to be drained, thus making a levee from 2 to 4 feet in height. At the junction point of the ditches a pumping plant is built, which lifts the water over the levees and either into the canals, in which the salt or brackish water stands at tide level and usually within a foot or two of the surface of the ground, or into the open swamp. Several thousand acres of former marsh and swamp land have in this manner been effectively drained and put under successful cultivation.

On the convict farm there are two tracts, one of 400 and one of 700 acres, each drained with pumps. Near Lydia a plant costing about \$4,500, excluding ditches, drains nearly 500 acres. There are about 15 of these plants in the parish. From 24 to 48 hours of pumping is required after rains, but there is no question as to the ability of these machines to take off the water. One of the most interesting projects of this kind is that of Mr. McIlheny, who has undertaken the reclamation of about 400 acres of typical marsh land bordering the edge of the cultivated land to the north of Avery Island. A 35-horsepower gasoline engine, which runs a Menge pump of 28,000 gallons per minute capacity over a 6-foot lift, is draining this tract effectively. The cost of this plant, outside of ditches, was about \$1,100. In places this land consists of peat to a depth of 24 inches and has settled a few inches since draining, but it will evidently work up nicely and soon become good soil. If this project proves to be as successful as present indications lead one to expect, the

drainage of about 4,000 acres in a similar manner is contemplated. The results secured by Mr. McIlheny should be carefully watched, as there is a vast area of similar land which can thus be reclaimed. In the reclamation of this land the question of the depth of peat should be carefully considered. In case the stratum of pure peat should be very deep, which, however, is rare, the land upon becoming dry might settle too low for successful drainage.

In the main cultivated sections of the parish drainage is secured by means of small open ditches, which have their outlet either into canals, the Teche, or marshes and swamps. It is necessary to have these ditches so close together that all fields are badly cut up with them, and much land is thrown out of culture. This open-ditch method handles principally the run-off water, and it is the aim to get the water off the land as speedily as possible. As a consequence not as much water permeates the soil as should, and in times of drought the supply is insufficient for the crops. The lighter types are the ones most severely handicapped in this way. Tile drainage would do much to remedy this defect, for more rain would sink into the ground and the moisture could be held by surface mulching for the use of crops in a dry spell.

So far as known no tile drainage has been used in the parish. With some means of accommodating run-off water at times of heavy downpours it is thought that tile drains would be very beneficial to crops on the Olivier silt loam, very fine sandy loam, silty clay loam, and Iberia silt loam. The heavy types have such an impervious sub-soil that tile would be slow to work, but once working underdrains would be very beneficial.

While the effective drainage of some of these lands is difficult and expensive, the value of the land warrants the outlay, and the conditions are no more severe, the fall no less, and the soil to be moved in ditching no harder than in many places in Illinois, Indiana, and Iowa, where the completion of good drainage systems has enabled the culture of land worth hundreds of dollars an acre.

#### SUMMARY.

Iberia Parish occupies the middle of the tier of parishes bordering on the Gulf. It is divided into three parts, the mainland around New Iberia, the swamp section to the east of Grand Lake, and the marsh section of Marsh Island. It comprises about 574 square miles, or 367,360 acres.

There are two physiographic divisions, the uplands, comprising the so-called islands of Weeks, Avery, and Jefferson, and the lowlands or bottoms, which include the remainder of the parish. The

range of altitude in the bottoms is about 30 feet, while the uplands rise to about 175 feet above sea level. Natural drainage channels lead not to Bayou Teche, but away from it and into Bayou Portage, Lake Dauterive, Lake Fausse Pointe, Grand Lake, Grand River, and to Vermilion Bay.

Settlement began in the parish about 1750, and many French and Spanish grants were taken up prior to 1800. French inhabitants, including many descendants of the Arcadians, form the bulk of the present population, which is steadily increasing. In 1910 it was 31,262, nearly all on the mainland, which in some sections is thickly settled. New Iberia, with a population of 7,499, is the county seat.

Transportation facilities throughout the parish are good, there being no cultivated land over 4 miles from a shipping point either on Bayou Teche or a railroad.

The climate is subtropical, the mean annual temperature being 68° F. The highest temperature recorded in 20 years is 101° F. and the lowest 6° F. There is an average growing season of about 280 days. During 24 years the precipitation has varied from 35 to 81 inches, with a mean of 55½ inches, which is usually well distributed, though early spring is usually regarded as the rainy season. Damaging storms are very rare.

Agriculture has always been the main source of revenue in the parish, sugar cane being the leading crop. Most of it is manufactured into sugar within the parish, there being a large amount of capital invested in sugar refineries. Corn is the second crop in importance. Rice, mostly of the Honduras varieties, is an important crop. Cotton prior to 1908 was an important crop, but since that time the boll weevil has practically prevented profitable culture of this crop. The growing of tabasco peppers and their manufacture into various condiments is an important, though not extensive, industry in the parish. Truck is grown for home consumption, but not on a commercial scale. A canning factory near Avery Island can utilize much more okra, figs, tomatoes, and other crops than it now receives.

Stock raising is on the increase. The marshes furnish extensive range. White clover pasturage is used to finish the market animals. Hogs are commonly turned into the swamps. Dairying is carried on to supply milk for the local towns.

The most common rotation is sugar cane, two years, corn and cow-peas, and back to sugar cane.

Labor, either white or colored, can be secured at from 75 cents to \$1.25 per day, without board.

Land rents run about \$2.50 an acre for corn land and \$5 an acre for sugar cane and rice lands.

Including Tidal marsh, Peat, Swamp, and Meadow, 14 soil types were mapped in the parish. All the bottomland types are alluvium or colluvium, while the upland is loess.

The Sharkey clay is the typical swamp soil of the parish. It is practically all timbered and subject to annual inundation, but much of it can be drained and placed in cultivation. It is an excellent corn and rice soil and would give good yields of cane also.

The Iberia clay is a strong soil, but needs drainage, after which excellent crops, corn in particular, can be produced.

The Iberia silty clay loam is one of the best corn and sugar cane soils in the area.

The Iberia silt loam is a valuable type, well adapted to general crops and to some truck crops.

The Olivier very fine sandy loam has good drainage and is excellently adapted to truck crops and also to the general crops of the area.

The Olivier silty clay loam needs liming and additional organic matter. It is adapted to the general crops of the parish.

The Olivier silt loam does only fairly well for general crops, but should be an excellent truck soil. It has good drainage, but needs lime and organic matter.

The Memphis silt loam is the upland loess type. It needs liming, but is fairly well adapted to the general crops and to tabasco peppers and fruit. Erosion in this type must be guarded against.

The Lintonia silt loam is a general crop soil and is also well adapted to heavy truck crops.

The Miller silt loam is well adapted to general crops and alfalfa.

Peat, which consists of organic matter accumulated in fresh water, is not an extensive type. Most of it can be drained, after which it will in time be converted to the Olivier clay.

Tidal marsh includes the salt-water marshes. Some of it has been, and much more can be, drained and converted into a good silt loam or clay soil.

Swamp includes the timbered wet sections adjacent to Tidal marsh.

Meadow includes the bottom land on the elevated islands and is little used except as pasture land.

Drainage is an important problem all over the parish. During the last 10 years many canals have been cut, and by means of open ditches and pumping plants many acres have been reclaimed. Much larger areas await reclamation.

[PUBLIC RESOLUTION—No. 9.]

JOINT RESOLUTION Amending public resolution numbered eight, Fifty-sixth Congress, second session, approved February twenty-third, nineteen hundred and one, "providing for the printing annually of the report on field operations of the Division of Soils, Department of Agriculture."

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,* That public resolution numbered eight, Fifty-sixth Congress, second session, approved February twenty-third, nineteen hundred and one, be amended by striking out all after the resolving clause and inserting in lieu thereof the following:

That there shall be printed ten thousand five hundred copies of the report on field operations of the Division of Soils, Department of Agriculture, of which one thousand five hundred copies shall be for the use of the Senate, three thousand copies for the use of the House of Representatives, and six thousand copies for the use of the Department of Agriculture: *Provided*, That in addition to the number of copies above provided for there shall be printed, as soon as the manuscript can be prepared, with the necessary maps and illustrations to accompany it, a report on each area surveyed, in the form of advance sheets, bound in paper covers, of which five hundred copies shall be for the use of each Senator from the State, two thousand copies for the use of each Representative for the congressional district or districts in which the survey is made, and one thousand copies for the use of the Department of Agriculture.

Approved, March 14, 1904.

[On July 1, 1901, the Division of Soils was reorganized as the Bureau of Soils.]

# **NRCS Accessibility Statement**

---

This document is not accessible by screen-reader software. The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at [ServiceDesk-FTC@ftc.usda.gov](mailto:ServiceDesk-FTC@ftc.usda.gov). For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at <http://offices.sc.egov.usda.gov/locator/app>.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.