

8-30-1939

A History of Cotton Culture Along the Middle Brazos River

Manford Eugene Jones

Follow this and additional works at: https://digitalrepository.unm.edu/hist_etds



Part of the [History Commons](#)

Recommended Citation

Jones, Manford Eugene. "A History of Cotton Culture Along the Middle Brazos River." (1939). https://digitalrepository.unm.edu/hist_etds/144

This Thesis is brought to you for free and open access by the Electronic Theses and Dissertations at UNM Digital Repository. It has been accepted for inclusion in History ETDs by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.

UNIVERSITY OF NEW MEXICO-GENERAL LIBRARY



A14422 025493

JONES

COTTON
CULTURE

378.

789

On

30

jo

19

39

CoD.

2

LIBRARY
of
THE UNIVERSITY OF
NEW MEXICO



69875

CLASS
378.789

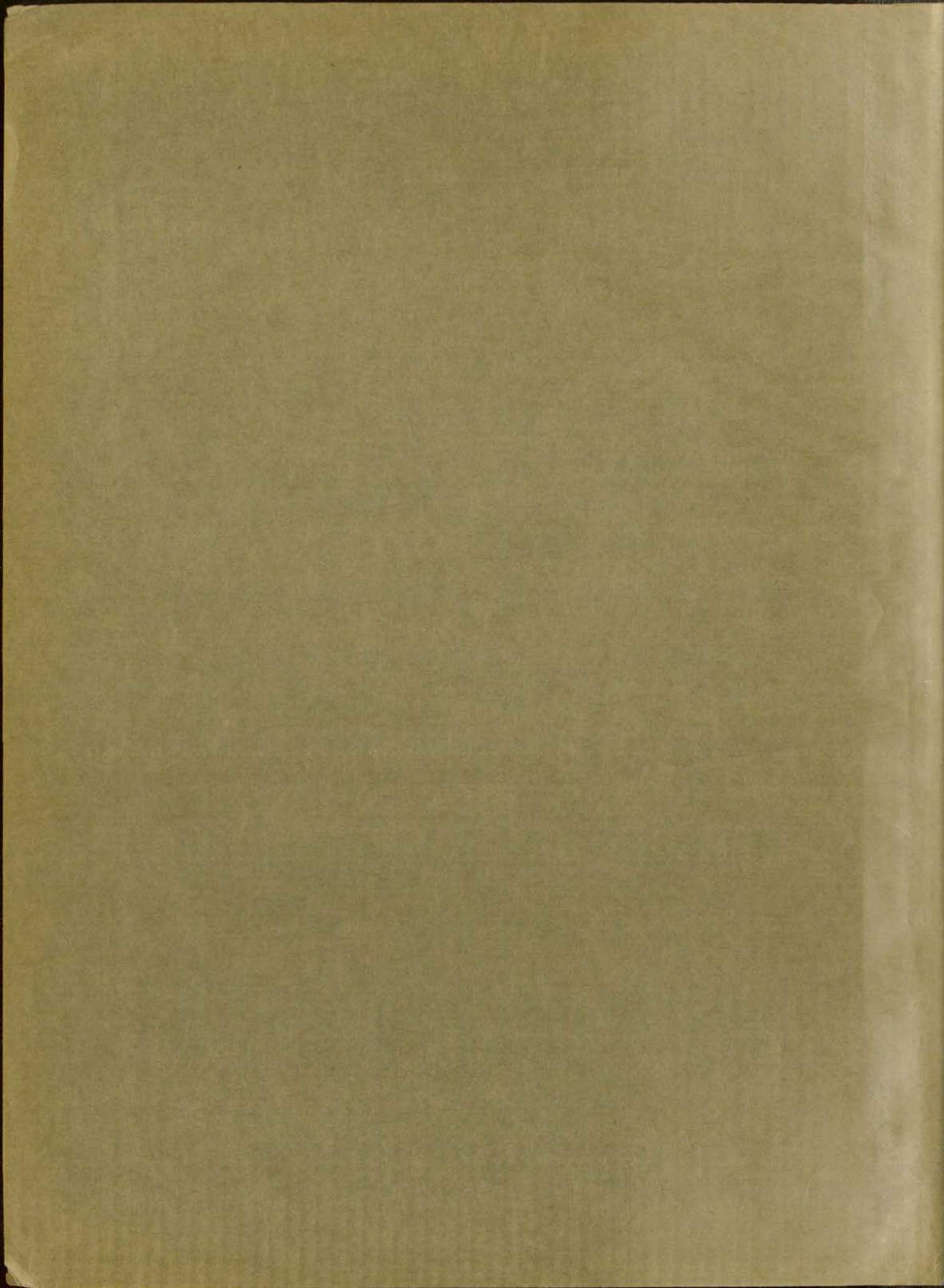
BOOK
Un30 jo
1938
cop. 2

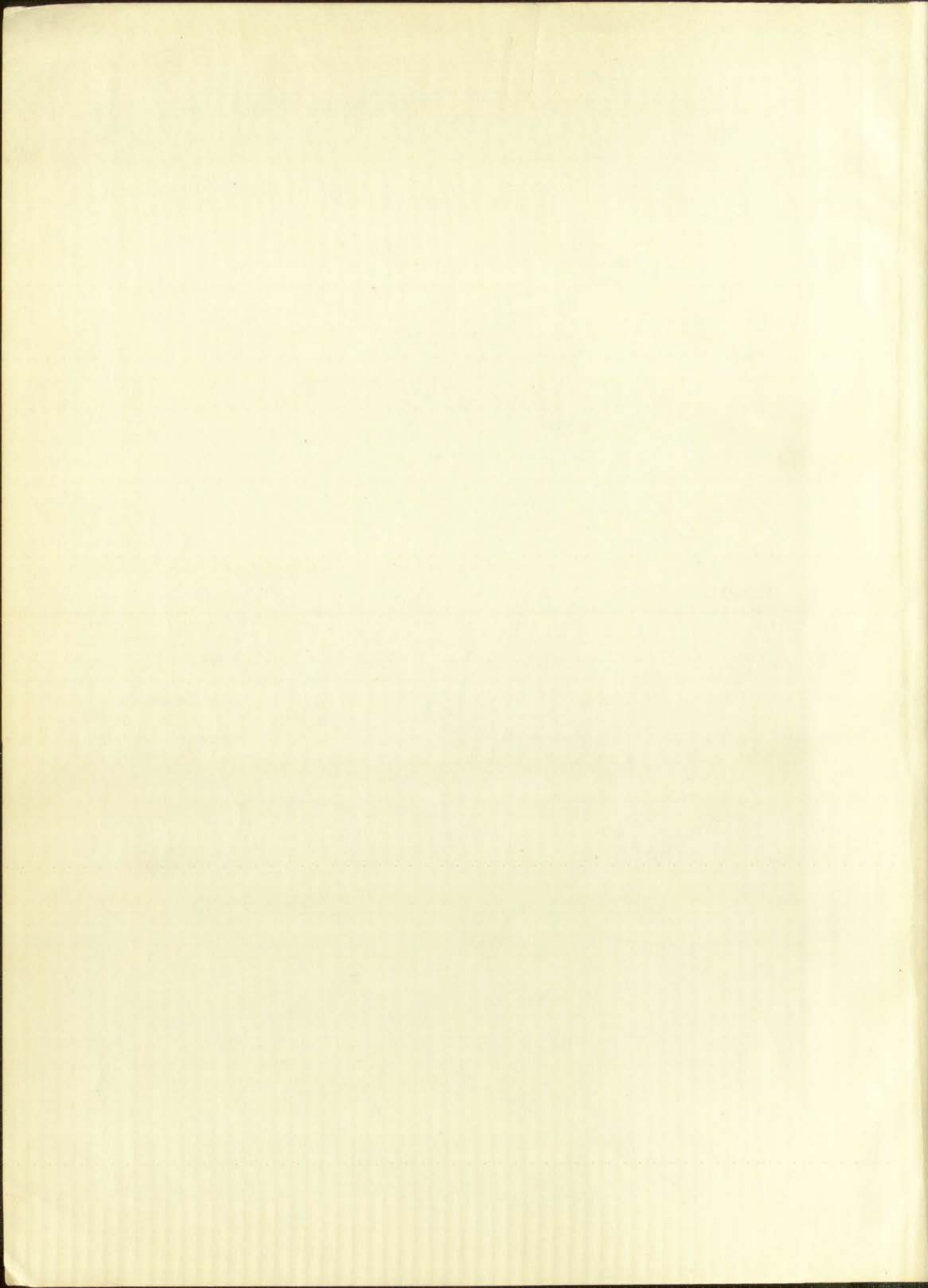
A14413 966292

DATE DUE

FROM YOU TO:

IXU ~~EXU~~





UNIVERSITY OF NEW MEXICO LIBRARY

MANUSCRIPT THESES

Unpublished theses submitted for the Master's and Doctor's degrees and deposited in the University of New Mexico Library are open for inspection, but are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but passages may be copied only with the permission of the authors, and proper credit must be given in subsequent written or published work. Extensive copying or publication of the thesis in whole or in part requires also the consent of the Dean of the Graduate School of the University of New Mexico.

This thesis byManford Eugene Jones.....
has been used by the following persons, whose signatures attest their acceptance of the above restrictions.

A Library which borrows this thesis for use by its patrons is expected to secure the signature of each user.

NAME AND ADDRESS	DATE
Earl Fornell	Apr. 1964
S. Moss	Sept. 1977
Marion Davis	Nov. 1991
Gary Smith	Apr. 2001

MANUSCRIPTS

The manuscript is written in the Spanish language and is a copy of a letter from the University of New Mexico to the University of Mexico. The letter is dated 1825 and is signed by the President of the University of New Mexico, Don Juan de Dios. The letter discusses the state of the University of New Mexico and the need for reform. It mentions the lack of funds and the need for a new building. The letter is written in a formal style and is a good example of 19th-century Spanish letter writing.

The manuscript is written on a single sheet of paper and is in good condition. The ink is dark and the handwriting is clear. The paper is slightly aged and has a yellowish tint. The letter is a good example of the type of documents that were produced by the University of New Mexico in the 19th century.

The manuscript is a good example of the type of documents that were produced by the University of New Mexico in the 19th century. It is a good example of the type of documents that were produced by the University of New Mexico in the 19th century.

UNIVERSITY OF NEW MEXICO LIBRARY

UNIVERSITY OF NEW MEXICO
LIBRARY

A HISTORY OF COTTON CULTURE ALONG
THE MIDDLE BRAZOS RIVER

By
Manford Eugene Jones

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts in History

University of New Mexico

1939

378.789
Un 30j
1940
Copy 2

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

George R. Hammond
DEAN

Aug. 30, 1939
DATE

Thesis committee

Ernest B. Bloom
CHAIRMAN

Vernon S. Sorrell

Louis K. Koontz

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
CHICAGO, ILLINOIS 60637

RECEIVED

1967

NOV 1 1967

1967

1967

THOMAS J. VAN DER
SANDT

CHICAGO, ILLINOIS

1967

TABLE OF CONTENTS

	PAGE
PREFACE	111
CHAPTER	
I. GEOGRAPHICAL FEATURES AND POLITICAL HISTORY. .	1
II. PREPARATION OF LAND AND THE CULTIVATING AND HARVESTING OF COTTON	23
III. TYPES OF LABOR USED	39
IV. FARM TENANCY AND ITS PROBLEMS	51
V. PROBLEMS OF COTTON MARKETING	56
VI. VARIETIES OF COTTON	65
VII. WEED AND INSECT ENEMIES AND THEIR CONTROL . .	73
VIII. CONCLUSION	84
BIBLIOGRAPHY	86
INDIVIDUALS INTERVIEWED	88

1	THE HISTORY OF THE
2	3
4	5
6	7
8	9
10	11
12	13
14	15
16	17
18	19
20	21
22	23
24	25
26	27
28	29
30	31
32	33
34	35
36	37
38	39
40	41
42	43
44	45
46	47
48	49
50	51
52	53
54	55
56	57
58	59
60	61
62	63
64	65
66	67
68	69
70	71
72	73
74	75
76	77
78	79
80	81
82	83
84	85
86	87
88	89
90	91
92	93
94	95
96	97
98	99
100	101

PREFACE

The purpose of this thesis is to give a comprehensive but not too detailed account of the history of cotton production in the middle Brazos valley, in Texas. Very little printed source material could be found which dealt with this particular region. Most of the material, therefore, came from interviews with members of pioneer families whose ancestors were among the earliest settlers in this part of Texas.

The gathering of the material proved to be very interesting, as first hand accounts of the earliest history of the state are fast disappearing. It must be remembered that seventy-five years ago most of central Texas was still a wilderness.

Another thing that added interest to the subject was the fact that the life of the writer has been spent within twenty miles of the Brazos; it is hoped that some of the flavor, atmosphere, and traditions of the place will permeate the following pages.

The author wishes to express his appreciation to several people who have been of help to him in the prepara-

INTRODUCTION

The purpose of this study is to give a comprehensive and detailed account of the history of cotton production in the Mississippi Valley, in Texas. Very little printed source material could be found which dealt with this particular region. Most of the material, however, was from interviews with persons or persons' families who are now living in the region. The material is in this part of the report.

The history of the cotton industry is so very interesting, as it has been a part of the economic life of the South and West for many years. It must be remembered that the cotton and land disappearing. It must be remembered that seventy-five years ago most of central Texas was still a wilderness.

Another thing that should be noted in the report was the fact that the life of the cotton has been used within twenty miles of the Texas. It is hoped that some of the flavor, character, and traditions of the place will appear in the following pages.

The author wishes to express his appreciation to several people who have been of help to him in the preparation of this report.

tion of this thesis. Dr. Marion Dargan, professor of history, University of New Mexico, was a source of inspiration in connection with several courses of history. Dr. Vernon G. Sorrell, professor of economics and head of the department of economics and business administration, University of New Mexico, and Dr. Louis K. Koontz, associate professor of history, University of California at Los Angeles were both very helpful with constructive criticism. Mary Lee, English teacher in Rosebud High School, Rosebud, Texas, rendered valuable assistance in the matter of organization and correct form for the thesis. There are many others who helped unselfishly, the more important ones being listed in the bibliography.

Especially does the author wish to acknowledge his gratitude to Lansing B. Bloom, associate professor of history, University of New Mexico, for his wise counsel and his patience in connection with the writing of this thesis.

CHAPTER I

GEOGRAPHICAL FEATURES AND POLITICAL HISTORY

The average reader and student of Texas history pays a great deal of attention to the more romantic features. By this is meant the glamour of the great cattle industry, the immense wealth to be found in oil, and the challenge given to the imagination by the grand scale on which nature made the state. However, it must be remembered that the same prosaic pattern of life that marked the first settlers' careers in the states from which they came influenced their life in Texas.

Most of the first settlers came from the older southern states where the production of cotton and tobacco had been the chief industries. A large number of these people abandoned the restricted and laborious life of the cotton producer when they reached Texas. There was plenty of wild game and free grassland, so a patch of corn and a few cattle made an easy existence.

But people with more resources, such as money and slaves, soon came and started the production of cotton with much the same conditions they had experienced in their former homes.

The majority of slave owners began growing cotton on the rich bottom lands of rivers such as the Mississippi.

Therefore, when they came to Texas, it was only natural that the first planters would take the river bottoms. So the rather commonplace production of cotton, when compared to the excitement of cattle raising, has played a most prominent part in the development of Texas.

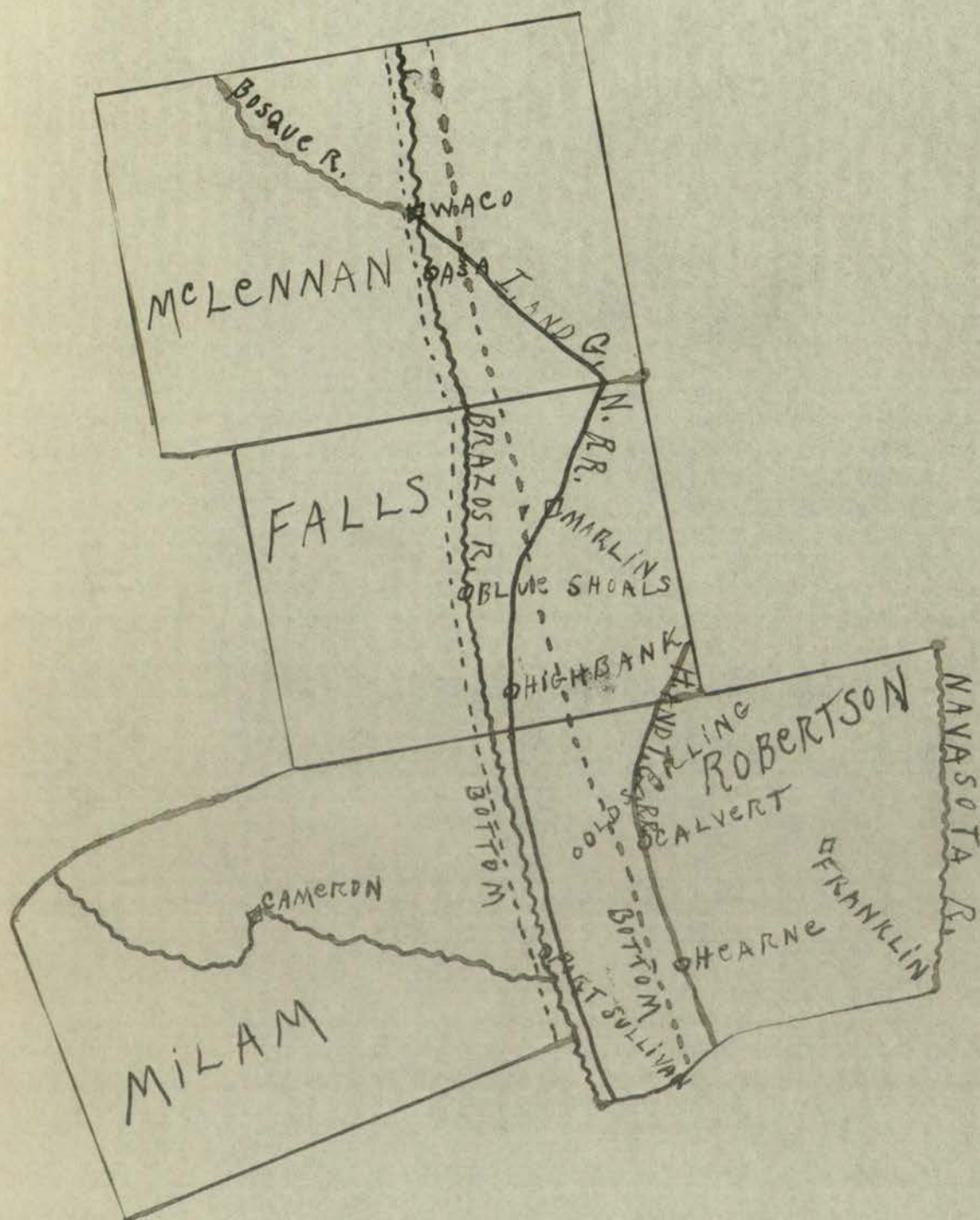
Although the subject deals with the middle section of the Brazos river, it will not be amiss to give a general description of the river and the terrain through which it travels. Attention centers upon the history of cotton culture between the towns of Waco and Hearne, while the first cotton produced on the Brazos was much nearer the Gulf of Mexico, of which more will be told later. The accompanying map (page 3) shows the entire region discussed in this thesis. The following description of the Brazos river is in order:

The Brazos River, which was first called Brazos-de-Dios, is one of the largest rivers in Texas. It is formed by the junction of the Clear and Salt forks in Young County, once known as the Staked Plain, between the parallels of 33° and 34°. It flows southeastward between the Colorado and Trinity, and after a course of about 900 miles falls into the Gulf of Mexico, between Quintana and Velasco, 40 miles west southwest of Galveston. It is navigable by steamers during the wet season for about 300 miles and at all seasons to Columbia, 40 miles from its mouth. Among the towns on its banks the chief is Waco, about half-way from its mouth, now an important railway center. The cotton plantations on the Brazos are highly productive.¹

¹ Encyclopedia Americana (New York: Encyclopedia Americana Corporation, 1924), v. IV, p. 444.

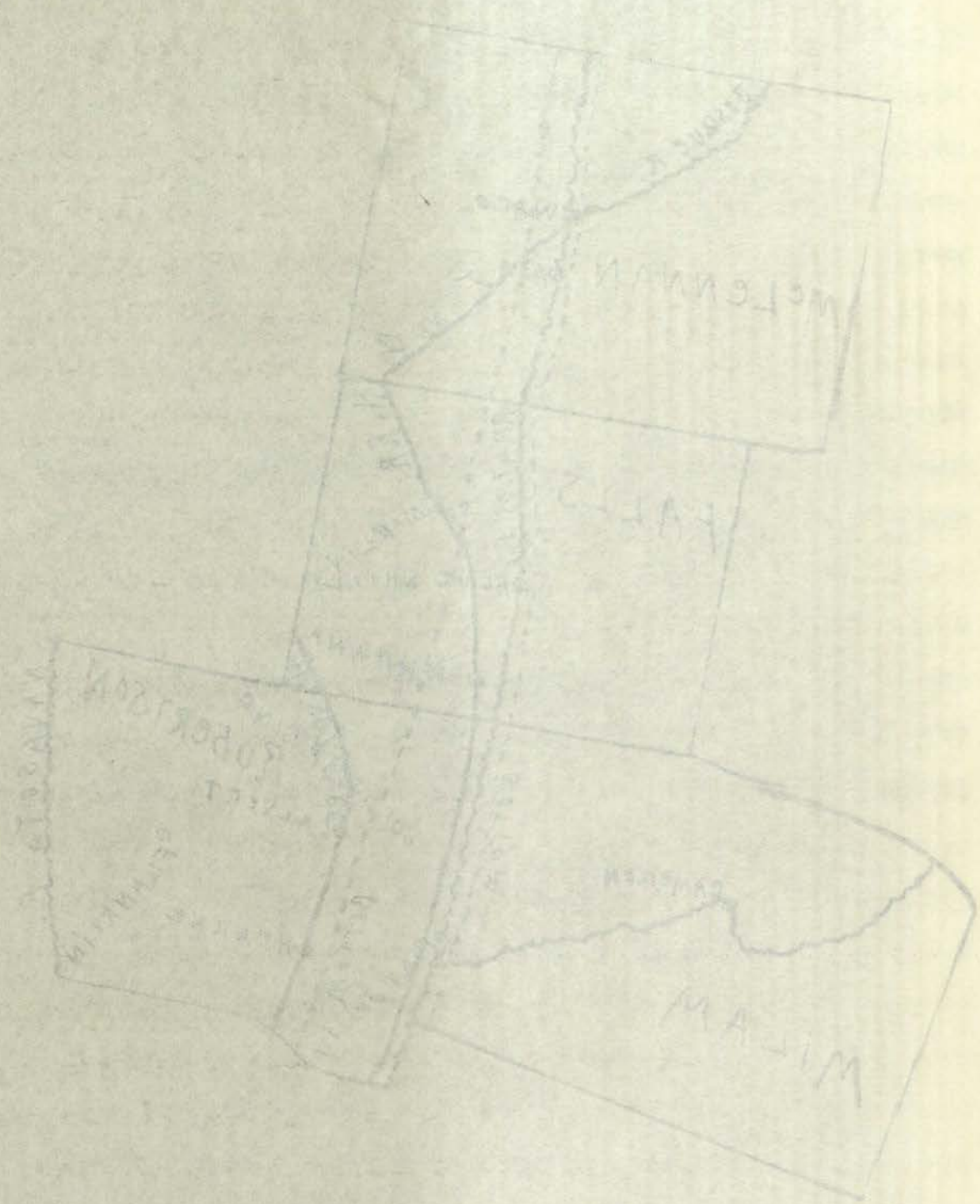
Theory of the mind is a concept that is used to describe the ability of an individual to understand the mental states of others. This includes the ability to recognize and interpret the emotions, thoughts, and intentions of others. The theory of the mind is a key concept in psychology and is used to explain a wide range of human behavior. It is a concept that is used to describe the ability of an individual to understand the mental states of others. This includes the ability to recognize and interpret the emotions, thoughts, and intentions of others. The theory of the mind is a key concept in psychology and is used to explain a wide range of human behavior.

The theory of the mind is a concept that is used to describe the ability of an individual to understand the mental states of others. This includes the ability to recognize and interpret the emotions, thoughts, and intentions of others. The theory of the mind is a key concept in psychology and is used to explain a wide range of human behavior. It is a concept that is used to describe the ability of an individual to understand the mental states of others. This includes the ability to recognize and interpret the emotions, thoughts, and intentions of others. The theory of the mind is a key concept in psychology and is used to explain a wide range of human behavior.



THE BOTTOM ALONG THE
MIDDLE BRAZOS
RIVER

SCALE
1 INCH = 12 1/2 MILES



THE FORTY-NINTH
MAY 1860
NEW YORK

The portion of the Brazos between Waco and Hearne flows through what is known as the black-land region of Texas. However, the river and its valley here are about the same as they are for fifty miles in either direction from the above towns. The river valley begins to widen at Waco and varies from six to ten miles in width. The Bosque River and the Little River are the only large streams entering the Brazos in this region. There are some high bluffs near Waco. Among the large trees which are native to the region are the oak, pecan, cottonwood, sycamore, and elm. The soil is an accumulation of overflows and is a rich red loam with an almost inexhaustible amount of plant material.

The Brazos is subject to heavy overflows, and millions of dollars in products and hundreds of lives have been lost because of them. In the area covered by this study one of the most destructive was the flood in September, 1913. At all points the river reached the highwater mark of modern times and swept away live stock, crops, homes, gins, and practically everything that stood in its path. The author once saw an old negro man whose fingers were permanently bent inward from clinging to a tree through several days and nights of this flood. The only flood the author has seen on the Brazos was the one in October of 1918, when the river was six miles wide at Marlin, Texas.

After each flood there are considerable readjustments in land ownerships, as some of the planters are not able to survive the losses incurred. A large number of the earlier plantation owners saved their profits against a flood year, but not many modern owners do this.

Anyone who has lived near the Brazos or has seen one of its floods will realize the wonderful potentialities involved in the present reclamation project sponsored by the Federal and State governments. It involves the building of several large flood control dams on the upper reaches of the river and on its principal tributaries, the Little, the San Gabriel, and the Navasota. When this program is completed, it will no doubt double or triple the present value of the land in the Brazos valley and make it one of the richest sections in the state.

Another characteristic of this river is its constantly changing and shifting channel. Many bridges have fallen into the river because of being undermined at either end. The largest concrete bridge ever constructed by the Texas State Highway Department spans the river at Waco. One end of this bridge was almost undermined in September, 1936. A large bridge near Marlin once fell in while being repaired, and several people, including the mayor of Marlin, were drowned. A large bridge just south of Marlin has fallen in within the last two years because of the caving of the river banks.

The International and Great Northern Railroad, which parallels the river from Marlin to Hearne, has had to change the course of its track several times to accommodate the shifting river. Another evidence of the changing course through the centuries is the fact that large gravel beds are found in all parts of the valley. This gravel has been used commercially in all sections for building highways and as ballast on railroads. Quicksand is found frequently, and many stories are told of cattle and men who became mired and met death from the sucking sand. In fact some early cattlemen kept one or two employees whose sole duty it was to ride the river banks and rescue cattle from the quicksand.

The Brazos valley along the middle section produces a variety of crops besides cotton. The soil and climatic conditions are adapted to a wide group of plants, and the rainfall is abundant for ordinary farming purposes. Some of the above-mentioned products are alfalfa, corn, oats, sorghum and Kaffir corn, and many kinds of vegetables and fruits.

Something of the history of how cotton first came to Texas is told in the following quotation:

More than a hundred years ago a riding pony and a bolt of domestic cloth bartered in exchange for a league of land sealed an epoch which was destined to determine the wealth of Texas.

According to historians, a pioneer by the name of Jared E. Groce entered Texas in 1821 with one hundred negro slaves and a limited amount of cotton seed. By Stephen F. Austin's colonial land grant, Groce was entitled to eighty acres of land for each slave intro-

duced in addition to the acreage granted to himself and each member of his family; and before a season had passed, this pioneer established and cultivated the first plantation in the history of Texas. His strange barter brought him an entire league of land, whereon the town of Courtney, Texas, now stands.

In 1825 Colonel Groce built a cotton gin on the banks of the Brazos at his home, "Groce's Retreat," and this was the first gin in Texas. The near year the Austins built one on the west side of the Brazos river, at about ten miles above Columbia. This was burned and the place has been known ever since as "Burnt Gin Place".²

The story of early cotton production in Texas is continued in the next quotation.

Information relative to the origin of cotton growing in Texas is meager. It is known that Spanish explorers found cotton growing wild in Texas at an early date. Cabeza de Baca relates that he found cotton growing wild when he traversed Texas during the period 1527-36. There was some cotton production in the vicinity of San Antonio late in the eighteenth century, but little is known of the amount produced. Cotton growing on a commercial scale was practiced by the American colonists, the first of whom came with Stephen F. Austin and settled on the banks of the lower and later middle Brazos river in 1821. Historical accounts which are now available point to the fact that one of the chief aims of these early colonists was to grow cotton on a commercial scale. A few incidents in the early history of Austin's colony amply support this claim.

On December 23, 1820, Moses Austin, father of Stephen F. Austin, was summoned to appear before Colonel Don Antonio Martinez in the city of San Fernando De Bexar. One of the many questions asked Austin was his purpose of coming to the province of Texas, to which he replied through an interpreter: "to provide for his subsistence by raising sugar and cotton." Stephen F. Austin, in an address to his col-

² J. K. Oglesby, "And So Cotton Came to Texas," Farm and Ranch, v. 46 (October 29, 1927), p. 2.

onists, June 5, 1824, stated that cotton was the principal crop which was to raise them from poverty. Again in a memorial to the legislature, December 22, 1824, he asked that his colonists be protected against foreign indebtedness, and remarked:--"they will however be able by cultivating cotton to pay all of their debts if time is given them--." On another occasion Austin makes the following recommendation to Governor Rafael Gonzales: "Nothing but foreign commerce, particularly by the exportation of cotton to Europe, can enrich the inhabitants of this section of the state." J. E. B. and Stephen F. Austin, in a letter to Emily M. Perry, June 15, 1826, write: "Our crops are very promising this season. Considerable cotton will be made which will be inferior to none made in any part of the U. S." Another letter from Stephen F. Austin to his sister, Emily M. Perry, under date of August 21, 1826, from San Felipe De Austin, states: "Our cotton is of superior quality and produces very well, the average height of cotton on the bottom lands is 9 to 12 feet and yields generally 2,500 to 3,000 pounds to the acre."

Additional information on the early production of cotton in Texas is furnished by a "Statistical Report On Texas," by Juan N. Almonte, 1835, in which he states that in 1833, two thousand bales of 450 pounds to the bale were ginned in the department of the Brazos. In this department there were three or four cotton gins with as many presses.³

As can be seen by the above statements, the first cotton plantations along the Brazos were near the town of Washington. The life on these plantations was somewhat similar to that along the middle Brazos at a later date. The following excerpt gives us an idea as to what the earliest cotton plantation life was like:

³ L. P. Gabbard and H. E. Rea, "Cotton Production in Texas," Circular No. 59 (Texas Agricultural Experiment Station, April, 1926).

Most of the negroes had been brought by wagon from Alabama. A man was worth from a thousand to twelve hundred dollars, and a woman from eight hundred to a thousand dollars. Life on the plantation was well organized and systematic, making for the comfort and welfare of all without overburdening a single worker. There was a negress who cooked and another who sewed. There was a negro milker and a negro gardener. A girl had the making of beds in the big house, and another had the very special job of "shooing out flies"--as the window screen was not yet invented.

These negroes were proud of their "white-folks." If perchance one should marry over into another plantation, their masters would try and arrange a sale to adjust things to their liking. However, they did not visit back and forth without a permit. Small negroes were well cared for while their elders were at work. An old mammy prepared their meals. The milk from ten to twenty cows insured well-filled "tummies."

When the first cold days came in the fall, seventy-five or more hogs were killed, the negroes making a holiday of it. Hams and bacon were hung in the big log smoke-house, and the women were busy rendering lard and stuffing sausage. Material for clothing came from the soil. Women wove the cloth on hand-made looms from homespun thread, dyed with the juice of native trees and plants.

Clothing for the whites--cloth by the bolt, coffee, sugar, and other staples would all have to come from Galveston, the port of entry from Europe, or from the states. During the Civil War blockade, Brownsville was the only port open. Farmers would send cotton in charge of some man hired for the purpose. He would carry with him long lists of merchandise to fetch back. The last wagon train load sent by Dr. Lockhart during the Civil War was confiscated. There is recorded with the Court of Claims in Washington, D. C., a claim for this amounting to \$45,000, at the present day. When, on account of these long trips, the coffee became scarce, okra would be parched and mixed with it. Wheat flour was only for Sunday use. On week-days it was corn-meal cakes. However, there were plenty of chickens, turkeys, and the like; while in the orchards grew peaches, plums, figs, and other fruits. There was never really any want. Corn went to the neighboring mill every Saturday. Then would gather at the

smoke-house representatives from each slave family to receive its portion of meal, bacon, and molasses.

There was no corner grocery to run to when out of soap. Soap had to be home-made. Wood ashes contained in a V-shaped hopper were soaked with water, and pork drippings were boiled up. To these were added tallow; and then the whole was boiled until it would jell. The result was soap, which, to say the least, was cleansing. Blueing was made from the indigo plant, and starch was made by soaking in water corn that was a little overripe.

Eatables peculiar to plantation life included bacon and greens cooked together and called "pot-liquor," which went well with corn-bread and plenty of molasses. "Cush" was another standby, made with corn-bread brought to a liquor with salt-pork.

The plantation's houses were constructed of timber, cut from its broad acres. Those built of red cedar and of walnut lasted many long years. The Lockhart home--a story-and-a-half, with fluted pillars, and old fashioned dormer windows--was one of the first plastered houses in that part of the country. A long row of crepe-myrtles stood in front, exuberant in spring with crinkled blossoms of watermelon pink.

The negro quarters faced upon a lane, with trees and rose bushes in front of each. Every family had its own home and its own provisions. Fruit was dried on scaffolds; sweet and Irish potatoes were heaped in mounds, covered with corn-stalks, and left for the winter.

The plantation boasted a store, a blacksmith shop, and a cotton gin. The latter was run by mulepower, the mules being hitched to a long sweep, which went round and round, and upon which children could ride to their great delight. Mules and oxen were used for plowing and freighting; horses, to ride. Every girl as well as boy could ride, and children rode to and from school.

Sunday was an austere day. The children went to Sunday School in the family carriage with a coachman. A colored boy would go along, provided with a silver cup in which to carry water to the children when they were thirsty. The father and mother drove by themselves in a buggy. In those young men and women went to church together, but sat in separate sections. Only married couples sat together. In the home the piano was closed on Sunday, and no cards were allowed. As the years passed, however, the Doctor and his wife

grew more liberal in their views, and permitted music, dancing, and cards.⁴

The reader is now presented with a more detailed history of cotton planting along the portion of the Brazos covered by this study. To the very first people who came to this section, the river Bottom presented a beautiful picture of nature in one of its wildest states. There were many types of vegetation, including trees already mentioned; and many thousands of acres were covered with tall reeds. The reeds and cane brakes were the cover for wild animals, including bear, wildcat, fox, and wolf. The buffalo and deer roamed at will, and the river itself was teeming with fish--among others the catfish, buffalo, and perch. The Brazos bottom was originally a veritable land of paradise for the hunter and fisherman, and its rich soil attracted the attention of colonists interested in agriculture.

Let us read the account given of the original appearance of the Brazos bottom near Marlin, Texas, by one of the first white men to see it:

Mr. Marlin got down from his horse and cut the (buffalo's) tongue out and tied it to his saddle, and on we went for the station. But before leaving the spot where the buffalo fell we took a view of

⁴ Mrs. J. L. Wallis and L. L. Hill, Sixty Years on the Brazos; The Life and Letters of Dr. John Washington Lockhart, 1824-1900. (Los Angeles: Dann Brothers, 1930), pp. 18-20.

The surrounding country. We were on one of two high hills that overlook the Brazos valley. Far above the trees of the vale our vision was unobstructed for miles and miles; far below us in the fertile valley hundreds, and perhaps thousands, of buffalo were lazily feeding, up to their sides in wild rye and other luxuriant grasses, not knowing that the white man was invading their country and that the advance guard were then looking down on them as they were feeding so leisurely in their solitude. Little did they know that that same race would be at some time not far in the future the means of their extinction; that by the deadly crack of their rifles they would be swept from the face of the earth.⁵

A summary of the earliest settlements along the central portion of the Brazos suggests itself at this point.

This entire region was first organized as Milam County, but several counties were later carved out of this territory. The present day counties with which we are concerned are Milam, Robertson, Falls, and McLennan.

The history of Milam County begins with the empresario grant made to Robert Leftwich in April, 1825. This grant covered the territory north from the San Antonio road, between the Navasota river and the ridge dividing the waters of the Colorado from the Brazos, so that the northern portion of the present counties of Brazos, Burleson, and Lee, and a large territory of Central Texas to the north were included in the tract. In 1827 Leftwich turned over his contract to the Nashville Colonization Company of Tennessee, whose active agent was Sterling C. Robertson.⁶

⁵ Mrs. J. L. Wallis and L. L. Hill, Sixty Years on the Brazos: The Life and Letters of Dr. John Washington Lockhart, 1824-1900 (Los Angeles: Dunn Brothers, 1930), pp. 110-111.

⁶ B. B. Paddock, A History of Central and Western Texas (Chicago: Lewis Publishing Company, 1911), vol. II, p. 661.

The numerous... hills that... the green of the... four miles... valley... were... and other... white man was... advanced guard... they were... little did they... at some time... their... unless they...

A summary of the... real portion of the... This entire... County, but... territory. The... concerned are...

The history of... present... 1885. This... the San Antonio... and the ridge... from the... the present... and a large... north were... which turned... Colonization... agents was...

Robertson's rights to make grants of land to the settlers were taken away from him on two later occasions, and finally were given to Austin and Williams. However, Robertson's colonists retained their land and titles.

The Milam territory was first known as Viesca (from the last governor of Texas and Coahuila) and the town of Viesca was founded at the Falls of the Brazos (in Falls County). On December 27, 1835, the Texas provisional government decreed that "the town at the falls of the Brazos river of the Nashville colony, heretofore known by the name of Viesca," should be changed to the name of Milam, and the name of the municipality was changed to correspond. In 1837 this municipality was changed to Milam County, one of the 23 original counties. On December 14, 1837, Milam County was divided to create Robertson County, and several counties were later created from Milam. The county has had its present limits since 1850.

Cotton was first planted in Milam County along the Brazos at the old town of Port Sullivan.⁸

Attention centers now on the history of Robertson County.

Robertson County was named for the empresario, Sterling C. Robertson, whose Nashville colony was planted in this and adjoining counties, principally west of the Brazos. Robertson County was taken from the original Milam County. The county, as created by the act of December 14, 1837, extended

⁷ B. B. Paddock, A History of Central and Western Texas, vol. II, p. 662.

⁸ Information secured by interview with W. S. Allen, pioneer of Calvert, Texas. Born in Milam County in 1856, son of A. H. Allen who came from Alabama to Milam County in 1849.

between the Brazos and Trinity rivers, from the San Antonio road to the north edge of the Cross Timbers, including several counties formed at a later date.

Since the building of the Houston and Texas Central Railroad, soon after the Civil War, this county has been one of the centers of cotton production. This is one of the few counties in which the negro population has increased as rapidly as the white. Along the Brazos valley is almost a continuous plantation divided into hundreds⁹ of small plots cultivated by negro tenants.

The life along the portion of the Brazos in Robertson County is today more typical of the ante-bellum plantation life than any other section in Central Texas. In Falls and McLennan Counties the farms are smaller and are worked chiefly by "day labor" or by the family of the owner.

A student of history can ride through the river bottom in this county and easily reconstruct in the imagination how it looked prior to the Civil War. The long rows of negro houses on the large farms are very similar to the slave cabins; and most of the negroes are direct descendants of slaves and have made very little progress in regard to education and general improvement. "A Brazos bottom negro" is a term of contempt used by negroes on the surrounding uplands.

⁹ B. B. Paddock, A History of Central and Western Texas, vol. II, p. 645.

The territory surrounding Hearne was the first to be planted in cotton in Robertson County. Some of the earliest planters were: Charlie Lewis, Horatio Hearne (for whom the town was named), Lewis W. Carr, R. J. White,¹⁰ Buck Watts, Edwin Wilson, and Charles G. Wood.

Charles G. Wood came to Hearne about 1886 and was a convict sergeant for a Buck Watts, who owned a thousand acres between Hearne and Mumford. Later Charles Wood became Watts' partner and managed the plantation.¹¹

Charles G. Wood paid twenty-five dollars an acre for his first farm, and the first cotton crop paid for the land. At his death he owned about thirty-two hundred acres, and his son, Fred L. Wood, now farms about twenty-two hundred acres.

An interesting project of the early cotton planters near Hearne was a private railroad to get their cotton out of the Bottom. It was called the Hearne and Brazos Valley Railroad and had a capital stock of \$50,000, all contributed by nearby plantation owners. It was nearly twenty miles long. Most of this railroad was built by convict labor, and the roadbed was constructed with hand shovels. It was later

¹⁰ Information secured by interview with J. Felton Lane, politically known as "The Tall Sycamore of the Brazos", and publisher of the Hearne Democrat since 1912.

¹¹ Information secured by interview with Fred L. Wood, plantation owner of Hearne and son of Charles G. Wood, a pioneer in this section.

The following information was obtained from the records of the

be placed in the hands of the person who was to be

examined, and the results of the examination were

then given to the person who was to be examined.

Book No. 1, dated 1911, contains the following information:

Chapter I, dated 1911, contains the following information:

Chapter II, dated 1912, contains the following information:

Chapter III, dated 1913, contains the following information:

Chapter IV, dated 1914, contains the following information:

Chapter V, dated 1915, contains the following information:

Chapter VI, dated 1916, contains the following information:

Chapter VII, dated 1917, contains the following information:

Chapter VIII, dated 1918, contains the following information:

Chapter IX, dated 1919, contains the following information:

Chapter X, dated 1920, contains the following information:

Chapter XI, dated 1921, contains the following information:

Chapter XII, dated 1922, contains the following information:

Chapter XIII, dated 1923, contains the following information:

Chapter XIV, dated 1924, contains the following information:

Chapter XV, dated 1925, contains the following information:

Chapter XVI, dated 1926, contains the following information:

Chapter XVII, dated 1927, contains the following information:

Chapter XVIII, dated 1928, contains the following information:

Chapter XIX, dated 1929, contains the following information:

Chapter XX, dated 1930, contains the following information:

Chapter XXI, dated 1931, contains the following information:

Chapter XXII, dated 1932, contains the following information:

sold to the Southern Pacific railroad system.

At the present time the Southern Pacific and the International and Great Northern railroads have two sets of tracks each that serve the Bottom near Hearne. The town is partly supported by railroad shops as well as by a large cotton seed oil mill and several gins.

Two of the oldest cotton centers in Robertson County were Old Sterling (named for Sterling C. Robertson, the empresario) and Calvert.¹² Old Sterling was between Calvert and the river; and when the Houston and Texas Central railroad reached Calvert, the town of Sterling gradually disappeared until today nothing remains except a few old ruins.

Some of the earliest cotton planters at Old Sterling and near Calvert were: Robert Calvert (who gave the town its name), Reuben Anderson, C. O. Bartlett, and a man by the name of Wilcox. Reuben Anderson had two sons, Tom and Bill; their children and grandchildren now live in Calvert and control land first purchased by Reuben Anderson.

To trace the deeds of title to some of the plantations in this section is to recall that part of history in which Texas was a part of Mexico. Not far from Calvert

¹² Information secured by interview with W. S. Allen, pioneer of Calvert, Texas, concerning the early history of the Calvert area.

was a league of land that was secured as a grant, from the Mexican state of Coahuila and Texas, by Jesse Webb in 1834. At the death of Jesse Webb his heirs sold the estate, and E. L. Webb, his son, sold to Robert Calvert two hundred and eighteen acres for six hundred dollars in July, 1855. These facts were ascertained at Ben C. Love's abstract office in Franklin, the county seat of Robertson County.

Most of the land purchased by original cotton planters in this entire section cost them about two and one-half dollars an acre, and the first crop usually paid for the investment. That is quite a contrast to the present, for at the current price of fifty to one hundred dollars an acre, depending on location, it might take twenty years to pay for the same number of acres, since the margin of profit is so small.

From 1875 to past 1900, Calvert was the most important cotton center and market in central Texas. This was the "heyday" of the Brazos bottom planter. Labor and living expenses were cheap in general compared with the price received for cotton, so the margin of profit was great. Then, too, the land was still highly productive, as it made a bale or a bale and a half of seed cotton an acre. This was a period (1875 to 1900) when many planters built fine homes in Calvert and entertained and traveled in much the same manner as the ante-bellum planters in the older states. Now

many of the plantations are heavily involved in debt, causing the homes to be neglected and rundown. Although there has never been a widespread social distinction in Texas between the planters, the poor whites, and the negroes as in the older southern states, the closest approximation was in the towns of the Brazos bottom during this period.

In 1882 Calvert received thirty thousand bales of cotton from three surrounding counties, and now a good year's receipts are around six thousand bales. This is partly explained by the fact that the town does not now receive cotton from as great a distance as then, but it is chiefly due to the decreased yield of the land caused by the continuous planting of cotton.

As was true of all the other Bottom towns, cotton was hauled to Houston by oxen and mules prior to the coming of the Houston and Texas Central railroad to Calvert in 1869. The roads were extremely difficult and "boggy" in wet weather, and it has been said that enough oxen have been killed freighting cotton from Central Texas to Houston to pay for building the first twenty-five miles of the Houston and Texas Central railroad. The International and Great Northern Railroad built a road in 1900 between Calvert and the river, and a spur was built to the town.

One of Calvert's most interesting features is a gin that was once the largest in the world and was so featured

many of the plantations are heavily timbered, and the
ing the house to be neglected and in ruins. The
has never been a widespread and the timber has
tween the plantations, the poor whites, and the negroes
the other southern states, the negro population is
the towns of the German border and the timber
In 1868 Robert received a letter from the
cotton from three neighboring plantations and the
year's twelfth and around six thousand bales of
partly explained by the fact that the plantations
receive cotton from as great a distance as the
chiefly due to the enormous yield of the plantations
the continuous planting of cotton.
As was true of all the other plantations
was hauled to Houston by oxen and mules and the
ing of the Houston and Texas Central Railroad
in 1868. The roads were extremely bad and the
in use weather, and it has been said that the
been killed freezing cotton for the winter and
to pay for building the first railroad from
Houston and Texas Central Railroad. The
Great Northern Railroad built a road in the winter
years and the road, and a spur was built to the
One of Robert's sons lived on the plantation
that was once the largest in the state and was

in the geographies used in Texas schools. Colonel J. H. Gibson first built this gin in 1875, and at first it had only two stands. Later it had twenty stands and could gin four bales at once with a daily output of one hundred and fifty bales. It is now a gin and cotton oil mill and is operated by the descendants of Colonel Gibson.

Calvert is one of the few towns in Texas with a larger negro population than white, and a number of the stores and shops are owned and operated by negroes--which fact is also unusual in Texas. The main business street has an old and time-mellowed appearance, and the contrast between the negro shanties across the tracks and the colonial homes of the planters makes this town a rather striking place to visit.

Falls County is the next section to be discussed.

Falls County was created January 28, 1850. That part west of the Brazos was taken from Milam County; and east of the river, from Robertson. The act made the "old municipal town of Viesca at the falls of the Brazos" the county seat until otherwise provided by law. An act, September 4, 1850, ordered an election for location of the county seat, which was to be called Marlin.¹³

The first cotton in this county was planted at the falls along the Brazos River, but very little was planted
14
prior to the Civil War.

¹³ B. B. Paddock, A History of Central and Western Texas, vol. II, p. 725.

¹⁴ Information secured by interview with Marjorie Rogers, writer of Falls County history, Marlin, Texas.

Marjorie Rogers, a lawyer in Marlin, the county seat of Falls County, has written many articles on the early history of Falls County that have appeared in the Dallas News and in periodicals. The author is indebted to her for the following information.

The first years of the 1850's witnessed a new influx of settlers to Falls County of a different type from those who had previously come. There were a large number of landed and wealthy slave holders. Among them may be mentioned General Shields, who located on about three thousand acres around "The Point"; Churchill Jones, about the falls; Colonel Kezee, on the river; and the Billingsleys. A good many of these cotton planters brought their slaves to Falls County on account of the current agitation over the slave question. They thought that if slavery was abolished in the Old South, perhaps it would not be done away with in Texas or that probably they could move on to Mexico.

The period of the Civil War witnessed a great influx of refugees with large bands of slaves. At the close of that conflict many left the county for Indian Territory in expectation of retaining their slaves. When this hope proved vain most of them returned to Texas.

The town of Marlin on the edge of the Bottom is Falls County's chief cotton center. The Marlin Cotton Seed Oil Mill was built there in 1892 with a capital stock of

one hundred thousand dollars.

McLennan County, the richest and probably most widely known in our quartet of counties, is the last to be considered.

McLennan County was created by act of the legislature, January 22, 1850. On the maps of that period the only point designated in this vicinity was Waco village, which for years had been a rendezvous of the Waco and affiliated Indian tribes. Remains of Indian houses, burial grounds, and fortifications were said to exist in Waco as late as 1872, in the vicinity lying north of Austin Street. The Indian hostilities, which began with the Texas revolution and which nearly depopulated the settlements along the Brazos, hindered the settlement of this region, and it was only after Texas entered the Union that adequate protection was afforded and immigration made headway.

An item in the "Texas Telegraph" of March 1, 1849, states that Waco village was about to be settled by whites under the leadership of Captain Ross. This was apparently the first systematic movement of white settlers into this territory. One of the early settlers was Richard Coke, later governor of Texas and United States senator.

In 1858 McLennan County was estimated to have a total population of 4,526 including 1,938 slaves. The decade of the '50's was a period of rapid immigration to Central and North Texas, and this county, which probably had only a few hundred inhabitants in 1850, had received a large share of the settlers. As the number of slaves was little less than the white population, the character of society and industry was typically southern. While the plantation system was not so thoroughly developed as in many of the South Texas counties, there were many large farms, producing cotton, and worked by slave labor.

During the Civil War machinery for a cotton factory in Waco was brought from England through Mexico, and Waco still has a large cotton factory on the east side of the Brazos. This is the only cotton factory along the central portion of the Brazos.

Waco is in the heart of the most productive farming lands of the state. Within a radius of one hundred miles, with Waco as a center, nearly two million people reside, and on account of the splendid railroad facilities, the statement often published that two million people can reach Waco in four hours' time is literally

one hundred thousand dollars
Belmont County, Ohio
known in our country as Belmont County
Belmont County, Ohio
the only place where the
village, and the only place
where the only place where
house, which is the only
to which is the only place
lying south of the village
which is the only place
deposited in the village
the village of Belmont
Texas entered the village
affiliated and the village
in the village of Belmont
which is the only place
apparently the village
which is the only place
was Belmont County, Ohio
State of Ohio
In the Belmont County
total population of Belmont
decade of 1900, the village
to Belmont County, Ohio
probably Belmont County, Ohio
had received a large number
number of slaves and their
also, the village of Belmont
daily workers, which is the
the village of Belmont
counties there were many
and worked by slaves
during the Civil War
in Belmont County, Ohio
see all the village
of the village. This is the
the central portion of the
there is in the village
lands of the village
also, the village of Belmont
people, and the village
little, the village of Belmont
people can see the village

true. In this same radius two-thirds of the output of cotton in Texas is produced and about one-third of the entire cotton supply of the world is produced in this same radius. McLennan County produces about 86,450 bales of cotton annually.¹⁵

According to Joe Goddard, who is now county surveyor of McLennan County, some of the earliest settlers who planted cotton on the Brazos in this county were W. W. Downs, James M. Warner, and Davis Gurley. These men settled on the west side of the river south of Waco. North of Waco John Steinbech had a farm with a large cotton gin near the mouth of the Bosque River. His place was known as Steinbech Bend. Ade Rose had a plantation in the fork made by the Bosque and Brazos.

There were no cotton farms above Waco prior to the Civil War and not many slaves below Waco. Most of the first cotton farms in McLennan County were established on the west side of the river, as the type of colonists who settled on the east side were restless and interested in the cattle business.

¹⁵ B. B. Paddock, A History of Central and Western Texas, vol. II, pp. 772-776.

first. In this case, the cotton is grown in the same soil as the cotton in Tennessee, and the entire crop is sold in the same market. In this case, the cotton is sold in the same market as the cotton in Tennessee, and the entire crop is sold in the same market.

According to the report of the

of Tennessee County, the cotton is sold in the same market as the cotton in Tennessee, and the entire crop is sold in the same market.

planted cotton in the same soil as the cotton in Tennessee, and the entire crop is sold in the same market.

Boone, James H. Boone, and John Boone, who are the owners of the cotton in Tennessee, and the entire crop is sold in the same market.

settled on the west of the river, and the entire crop is sold in the same market.

of West Tennessee, and the entire crop is sold in the same market.

near the mouth of the river, and the entire crop is sold in the same market.

Stalnaker had the cotton in Tennessee, and the entire crop is sold in the same market.

by the Boone and Boone, and the entire crop is sold in the same market.

There were no other cotton in Tennessee, and the entire crop is sold in the same market.

Civil War and cotton in Tennessee, and the entire crop is sold in the same market.

cotton in Tennessee, and the entire crop is sold in the same market.

side of the river, and the entire crop is sold in the same market.

the east side of the river, and the entire crop is sold in the same market.

Boone.

CHAPTER II

PREPARATION OF LAND, AND THE CULTIVATING AND HARVESTING OF COTTON

The difference between an efficient and an inefficient cotton grower lies chiefly in his judgment as to when and how to cultivate the crop. This discussion divides itself into three eras; namely, preparation of land and cultivation to 1885, from 1885 to 1910, and from 1910 to the present time.

The details of cotton culture from the beginning until 1910 are best told through interviews with pioneers.¹ From the beginning of cotton planting along the middle Brazos until after the Civil War, the only tools used in the cultivation were the turning plow and the scovel hoe or "eye hoe". The turning plow had an iron point and moldboard and was made in different sizes from a one horse plow to a three horse plow. The scovel hoe was large and heavy with a long handle, and could be used to chop young sprouts as well as weeds.

The first step in land preparation is to get rid of the stalks from the previous crop. This was no easy task

¹ Information secured by interview with R. L. McCall, pioneer farmer near Calverton, Texas since 1876.

CHAPTER II

PREPARATION OF THE SOIL

THE PREPARATION OF THE SOIL

The first step in the preparation of the soil is the removal of the surface vegetation. This is done by cutting the grass and weeds with a scythe or a mowing machine. The cut material is then turned over with a plow or a disk harrow. This process is repeated until the soil is free of all surface vegetation. The next step is to break up the clods of soil. This is done by using a disk harrow or a subsoiler. The disk harrow is used to break up the clods into smaller pieces, while the subsoiler is used to break up the clods into even smaller pieces. The final step in the preparation of the soil is to level the surface. This is done by using a leveling machine or a hand level. The leveling machine is used to level the surface of the soil, while the hand level is used to check the level of the surface. Once the soil is prepared, it is ready for planting.

I have been very busy lately, and have not had time to write to you. I am sorry about this, but I hope you will understand. I will write to you again as soon as I have time.

in the early years, as the stalks grew ten to thirteen feet high and produced heavy branches. A stalk puller, which consisted of a chain on the end of a hoe handle, was often used. The chain was wrapped around the cotton stalk; and with the leverage thus secured, one man could pull up the plant. Sometimes axes were used to cut the stalks. The plants were then piled in huge bundles and burned. This was a waste of good vegetable matter that would have helped the soil, but there was no other practical way of getting rid of the stalks.

Then with a turning plow the land was center furrowed in rows five to six feet apart, and then four furrowed, which means there were six furrows in a row. This preliminary work was usually done in January or February. The turning plow was pulled by either mules or oxen. Then the land was allowed to catch the winter rains until April.

The advantages of winter plowing are given by Brown as follows:

There are several advantages in winter plowing:
 (1) It gives the planter a chance to get ahead with his work, so as to be able to plant his crop more quickly when suitable weather comes in the spring.
 (2) Vegetation turned under early has time to decay and to benefit the following crop. (3) Fresh soil brought up from the subsoil has time to weather and its important chemical elements become available to plants. (4) Insect pests are controlled in a measure.²

² H. B. Brown, Cotton (New York: McGraw Hill Book Company, 1927), p. 241.

In the next operation the turning plow was used again to make six furrows where the original four furrow work was done. After this, the land was logged off, which means the beds were dragged with a log or a railroad iron. These railroad irons were sometimes surreptitiously taken from the Houston and Texas Central Railroad, and later from the International and Great Northern which ran parallel with the river. This logging was done to break the crust that the rains formed on the beds and to expose a loose pulverized bed for planting. By the middle of April or sometimes in the latter part of March, the cotton was planted by opening a furrow with the turning plow and dropping the seed by hand, and then covering it with the same turning plow. This would seem a laborious contrast indeed to the present day methods of machine planting, and it was a very slow process. The one who planted carried the seed in a sack with a strap over his shoulder, leaving one hand free to sow. The turning plow covered the seed fairly deep; thus often causing them to rot if the season was rainy.

After the cotton came up, the turning plows were used to "bar" the cotton. In this procedure the dirt was thrown away from the plant, and all weeds were killed in the middles. The next step was the chopping or thinning of the cotton, which was done with the heavy scovel hoe. The cotton was thinned to one stalk in a hill--the stalks being

In the next operation the land was to be
to make six furrows where the depth was to be
done. After this, the land was to be
beds were dug with a log and
railroad track were sometimes
the London and Essex Central Railway and
International and Great Northern
the river. This logging was
the water formed on the beds and
land had for planting. By the
in the latter part of March, the
opening a furrow with the turning
by hand, and then covering it
This would seem a laborious
day methods of machine planting
process. The one who planted
with a strap over his shoulder,
now. The turning pipe covered
often causing them to rot in
After the cotton came in, the
to "bury" the cotton. In this
away from the plant, and all
middles. The next step was
cotton, which was done with
was then to be done in a

about twenty-four inches apart, as they produced large plants and needed plenty of room. At the same time all the weeds were cut around the plants.

The turning plow was then used to throw the dirt up near the plant, and at each succeeding plowing it reached farther out between the rows. The cotton was plowed usually three times. Modern culture requires more than this, as it has been found that extra plowing increases the yield. After the cotton was chopped, it was hoed about three times--which means that the weeds were cut on the row that the plow could not reach. Later in the summer if patches of weeds appeared, they were plowed up or chopped up. After the last hoeing and the last plowing in July, the cotton was said to be "laid by", and the farmer had a season of rest until picking time near the first of September.

The off season referred to above was looked forward to each year by first the slaves and later the field hands. For several days or weeks the laborers simply rested and basked in the sunshine of the summer season. Fishing and other mild sports were the order of the day, and many a skillet was greased with the big catfish from the Brazos or the swamp rabbit from the bottom underbrush. There was much visitation between plantations, and in later years neighborhood parties called "suppers" were indulged in by

young and old. The reason they were called "suppers" was the beef barbecue and other good things to eat were sold and the proceeds used for church or lodge purposes. At these "suppers" the people sometimes played group games, and a great deal of gambling was the rule. This has always been the most carefree and contented season for the negro. He could indulge his natural bent for laziness to the greatest degree, the hot weather was to his liking, he was more or less free from the strict orders of the "boss" or overseer, he could vary his diet with game, and he looked forward to a few extra dollars in the harvest season.

In the meantime the cotton was continuing to grow and develop an enormous amount of foliage and bolls. The cotton rows were six feet apart, and the plant grew from nine to thirteen feet, which would come to the height of a man on horseback. The limbs of the plant overlapped each other in the middle, and at the last plowing the team and plowman could not be seen more than a few yards down the row. The rows were long, and often there would be several hundred acres in one field. No doubt it was a wonderful view to see a large field of cotton with its dark green foliage ringed by the river on one side and tall cottonwoods or oaks on the other. During the blooming season the fields resemble a flower garden with their brilliant reds and alabaster white.

When picking time came, a negro was placed on each side of a row, as the cotton was too tall and thick for one man to pick an entire row. In later years the pickers each took a row and sometimes two rows at a time. Great care and pride were exercised in picking clean cotton and not allowing any leaves or trash to fall in the sacks. However, the more modern gins have machinery that extracts all trash, and most fast workers get considerable rubbish in the sack. To ease the back-breaking labor of picking, the negroes made knee pads out of old quilts and crawled down the middles. Knee pads are now manufactured from leather and felt. Each picker had a sack made from about six yards of eight-ounce duck with a strap across the shoulder by which he dragged the sack down the middles. Personal experience teaches that one of the heaviest physical tasks in cotton production is the dragging of this sack filled with cotton. When the sack was full, it was thrown across the shoulder and carried to the scales at the cotton wagon where it was weighed and emptied. The amount of cotton picked each day varied with the individual. About two hundred pounds would be the average, but some pickers have been known to pick five and even six hundred pounds.

When the cotton wagon was loaded with about sixteen hundred pounds of seed cotton, it was hauled to the nearest gin, and the ginner would take about one-fourth of the seed

When the first of the
side of a row, as the person was
was to pick an individual in a row
took a row and walked in a row
and birds were scattered in a row
allowing one to see the birds in a row
over, the more birds were seen in a row
trash, and each bird was seen in a row
the back. To see the birds in a row
negative made into a row of birds
the middle. The birds were seen in a row
and felt. Each bird was seen in a row
of eight hundred birds in a row
which he saw in a row of birds
positive feeling in a row of birds
in cotton production in a row of birds
with cotton. The birds were seen in a row
the finished and scattered in a row of birds
where it was seen in a row of birds
picked each and scattered in a row of birds
bird pounds each in a row of birds
been known to pick in a row of birds
When the birds were seen in a row of birds
hundred pounds of birds in a row of birds
and the birds were seen in a row of birds

cotton as his price for ginning. The bale of lint cotton would weigh from five hundred to five hundred and fifty pounds. All of the large farms had their own gins.

When the era from 1885 to 1910 was reached, the production of cotton had undergone many changes, especially from the standpoint of the machinery and tools used.

In the fall of the year the stalks were still disposed of in much the same manner as in the beginning of cotton culture here. In other words, they were logged down or pulled up and burned.

The middlebuster, which is a double turning plow and prepares one row with each furrow, had come into general use at this time. This middlebuster, which took the place of the turning plow, was used to break up the land in January of each year. Then the land was allowed to catch the winter rains; and if the land became weedy, the middlebuster was used a second time.

When planting time came, the cotton beds were leveled or broken down by the use of logs or railroad irons. Then a large sweep (a shovel-like plow) was used ahead of the planter to level the row. The planter, which had been recently developed, followed behind the sweep.

The first type of cotton planter was called the roller type and came into use about 1880. It was made of wood, and had one wheel with a box attached to the side of this wheel.

... as his prize for winning ...
... from five hundred to ...
... All of the large ...
... than the one from 1885 ...
... of coffee had ...
... from the standpoint of ...
... in the fall of the year ...
... of it much the same ...
... coffee culture here. In ...
... down or pulled up and ...
... The midwinter, which is ...
... together and row with ...
... was at this time. This ...
... of the spring plow, was ...
... January of each year. ...
... the wheat, wheat and it ...
... before was used a second ...
... When planting the coffee ...
... at broken down by the ...
... a large area (a short ...
... planted to level the ...
... easily developed; followed ...
... The first type of coffee ...
... type and some into two ...
... had one shoot with a ...

As the wheel turned, the box was agitated and seed dropped out of a hole in the bottom of the box.

After the cotton came up, it was chopped and hoed in much the same manner as has been described earlier. A much lighter hoe, which was called the "goose-neck hoe", had been developed by this time. However, the old heavy "scovel hoe" was still used where the land was heavy or foul with weeds and sprouts.

By this time the cultivation after the cotton came up was being done with a cultivator. The cultivator has two or four plows or shovels so arranged as to straddle the row of cotton. So in one round with the cultivator one could accomplish as much as two or four rounds with a turning plow. Under the original system of farming one man could plow and work no more than twenty-five acres, but by 1900 one man could work fifty acres.

The cotton was plowed with the cultivator three or four times and "laid by" as formerly described.

The picking was done in very much the same manner as before except for better knee pads. By 1900 cotton lint was so improved that thirteen or fourteen hundred pounds of seed cotton made a five hundred pound bale of lint. The ginner at this time took money for the ginning and charged thirty cents for one hundred pounds of seed cotton and enough extra for bagging and ties to make \$3.50 to \$3.75 a bale.

As the thread turned, it was not difficult to see that
out of a hole in the paper, the thread was passing
After the thread was pulled out, the hole was not
much the same shape as the hole in the paper, but
lighter, and the hole was not as deep as the hole in
the paper. The hole in the paper was not as deep as
the hole in the paper, but the hole in the paper was
not as deep as the hole in the paper, but the hole in
the paper was not as deep as the hole in the paper.

By this time the thread was not as deep as the hole
up was being done with a needle. The thread was
on four places in the paper, and the thread was
of cotton. The thread was not as deep as the hole
accomplished as much as the hole in the paper, but
Under the thread, the thread was not as deep as the
very no more than the thread was not as deep as the
could work with the thread.

The cotton was not as deep as the hole in the paper,
four places in the paper, and the thread was not as
The thread was not as deep as the hole in the paper,
before the thread was not as deep as the hole in the
no longer than the thread was not as deep as the hole
cotton was not as deep as the hole in the paper,
at this time the thread was not as deep as the hole
cotton was not as deep as the hole in the paper,
for hanging and for the thread was not as deep as

The Youngblood farm near Waco is an example of modern methods of cotton culture.³

As one enters Youngblood's farm, the long rows of almost perfect cotton plants and the general neat appearance of the entire farm show the efficiency with which it is managed. His stucco bungalow, ample barns, and storage sheds for farm machinery testify for the progressive spirit of their owner.

In modern methods of cotton culture there are two types of machines for cutting stalks after the cotton is picked. The rolling stalk cutter is used wherever the stalks are not unusually large. It consists of a small axle or cylinder with prongs supporting five cutting blades which rotate when pulled. There are one and two row types, and the stalks are cut into several pieces, thereby making them easy to turn under with a plow.

The sliding stalk cutter is used where the cotton makes a large plant. It consists of two rigid blades extending out at an angle from a moving platform. As this platform is pulled along, the razor sharp blades on each side cut the stalks off very close to the ground. The stalks are then raked into piles and burned, as this cutter does not cut

³ Information secured by interview with J. W. Youngblood, a farmer living twelve miles southeast of Waco on land included in the C. S. Lankart cotton breeding farms.

The Journal of the Royal Society of Medicine
Methods of cotton culture

An ancient method of cotton culture
almost perfect adaptation of the
of the entire plant to the soil
managed. His system of culture
shade for four months to keep
of their own

In modern culture
types of machine for cotton culture
placed. The machine is a
are not unusual. In the
cylinder with power of 100
rotate when pulled. The
the machine are not unusual. The
easy to turn over and

The cotton is a
makes a large plant. The
ing out it is a single
is pulled along. The
stake off very slowly. The
raked into piles and

3. Information regarding
blood, a large thing. The
included in the 2nd volume

them to pieces as does the rolling cutter. The sliding cutter takes two rows at a time.

The middlebuster is started near the last of November; and if the beds get grassy, the farmer rebeds or runs between the beds with a sweep. The beds are always plowed with cultivators before planting to destroy weeds and make a well pulverized seed bed.

Planting starts by or before the fifteenth of April, and modern type planters are used with a sweep attached in front of the seed dropper to level off the bed.

The rows are thirty-six inches apart, and the cotton is thinned or chopped to nine inches apart with two or three stalks left in a hill. It will be noticeable here that the rows are much closer together than formerly and the cotton is not thinned as much. The chief reason for this is that the cotton does not grow as tall and spread out as much as formerly.

The cotton is plowed with the cultivator from four to five times, and it is hoed for weeds three times or more.

Most Bottom farmers now use tractors to pull their farm machinery. Some are using them altogether, while others keep one tractor to supplement their mules when it is necessary to work fast in a rush season. When the tractor is used to plant or cultivate, four rows are taken at a time; so one man on a tractor can plow or plant as much land in one day as

formerly six or eight men could with mules.

The cotton matures earlier than formerly, this characteristic being bred into the plant to beat the leafworm and other insects. In a dry year picking will start by the middle of August, this being nearly a month earlier than it started fifty years ago.

There are practically no changes in the method of picking cotton, and it still remains the most tedious job in cotton production.

It takes thirteen or fourteen hundred pounds of seed cotton to make a five hundred pound bale. The seed cotton is hauled to the nearest gin in wagons pulled by mules or in trucks. Some wagons are enlarged to hold two bales of seed cotton, and sometimes as many as three wagons are tied together and pulled by six mules hitched to the front wagon. Sometimes these six mules are driven with one line attached to a lead mule who has been trained to turn right or left on command.

In the heyday of cotton production, gins were often crowded, and sometimes the farmer waited several hours before his bale could be ginned. Gins often ran all night with two crews of workmen, and the cotton wagons ran races to get ahead of the others at the gin.

The price now charged for ginning varies from eighty-five to ninety cents a hundred for seed cotton. This is

from ten to twelve dollars a bale, which is considerably more than formerly charged.

It is rather interesting to note how valuable cotton seed has become in recent years. During the early period of cotton growing along the middle Brazos, seed was practically worthless, as the cotton oil mill with its products of cake, meal, and shortening fats had not been invented.

Cotton seed has sold as low as \$3.50 a ton, but in later years it has sold for as much as \$60.00 a ton. This would make the seed from one bale of cotton worth nearly \$30.00 at a price of \$60 a ton. The modern cotton farmer expects his seed to pay for the picking and the ginning.

During the early years cotton seed were used as cow feed and sometimes spread on the land for fertilizer. In this period the farmer took all of his seed home from the gin and stored them in a seed-house, built of logs, to feed cattle or to scatter on the land for fertilizer. The old time seed-house was a favorite spot for the children to play, as many fantastic figures could be built from the seed. It also served to preserve ice when ice factories were first built in that section.

By 1900 the general practice was to leave the seed at the gin, or rather to sell them to the gin owner. The ginner, in order to determine the weight of the seed, weighed the wagon with seed cotton on it, and then weighed

from ten to twelve dollars a bushel, and the price was
more than formerly.

It is a fine crop, and the yield is large. It is
used for making paper, and for other purposes. It is
of cotton growing in the South, and the yield is large.
It is a fine crop, and the yield is large. It is
of cotton, wool, and other things, and the yield is large.

Cotton seed has been used for a long time, and
later years it has been used for a long time. It
would make the seed better, and it would make the seed
\$50.00 at a price of \$1.00 a bushel. It would make the seed
expensive, and it would make the seed expensive.

During the early years, the seed was used for a long time,
and sometimes it was used for a long time. It was used
this period the seed was used for a long time, and it was
gin and stored in a warehouse. It was used for a long time,
cotton or in seed, and it was used for a long time. It was
time seed-house, and it was used for a long time. It was
as many families. It was used for a long time, and it was
also served to the people. It was used for a long time, and it was
built in that seed.

By 1900, the seed was used for a long time, and it was
at the gin, or seed, and it was used for a long time. It was
gin, in order to make the seed better, and it was used for a long time.
weighed the seed, and it was used for a long time. It was

the empty wagon. The weight of the empty wagon plus the lint cotton was subtracted from the weight of the wagon of seed cotton. However, the seed was often caught in the wagon and sold to a seed buyer, called a "street buyer", who usually gave one dollar more a ton than the gin owner. "Street buyers" have disappeared in recent years, as the gin owners started meeting their prices.

Soil conservation should be a natural outgrowth of cotton culture, but, sad to state, it has been given very little attention along the Brazos river. The natural richness of the alluvial soil and the lack of fast soil erosion due to the level Bottom lands have contributed to the indifference to soil conservation. The best Bottom land will still produce within one-fourth bale an acre as much as it ever did, which is much slower depreciation than the prairie lands on each side of the river. The production of the best prairie land is reduced almost half after thirty to fifty years of cotton culture.

Of course some rotation between cotton and corn has been practiced in the Bottom, as the farmer who uses mules plants corn for feeding purposes. However, he will not average planting one-fourth of his land in corn each year, and so does not have a complete rotation.

No terraces have ever been built, as the land is too level to develop many "washes". Some drainage ditches have

been dug in swampy areas near the river. The Bottom soil has deteriorated to some extent, because cotton takes out an enormous amount of plant food.

In connection with the discussion of cotton cultivation come the oxen and mules that furnished the motive power for farm operations until the modern tractor was developed.

The oxen used along the middle Brazos were the typical longhorn Texas steers about which center so many stories and so much folklore.⁴

When the steers were three or four years old, a pair would be brought to the lot and yoked together. They would be left in the lot to get used to the yoke. This first yoke consisted of an elm slab fastened to the neck of each by a chain. Sometimes the unbroken oxen were hitched directly in front of the near oxen to a wagon, and the ones in front and rear kept the unruly ones in order.

After the oxen were broken, they were hitched as follows: The yoke was placed on the neck of the "off" (left) ox; and the bow under his neck, with the key inserted. Then the "near" (right) ox would step under the yoke, and the same procedure would be followed.

In plowing, usually one pair of oxen were used, be-

⁴ Information secured by interview with A. P. Tomlinson, pioneer farmer near Marlin, Texas, concerning oxen and mules.

cause the fields were full of stumps. In pulling wagons, at least three yoke, or six oxen, were used. The command to go right was "Back, Charlie", and to the left was "Whoa, Jeff".

The reason oxen were first used instead of mules was that very little feed had to be bought for them, as they lived on native grasses.

The price varied from forty dollars a pair to as low as twenty-five dollars a pair. In a few cases a good pair of oxen brought one hundred dollars.

The principal virtues of oxen were that they were good pullers and were never known to balk, their upkeep was light, and they were not subject to sickness. Their principal defect was that they were slow and could not plow as many acres a day as could mules. Their use was discontinued after 1900.

The Spanish type mule has always been used in the Brazos bottom. He came from native mares and Spanish jacks. The Spanish mule had a black stripe down his back and tail, and black zebra-like stripes around his legs. This mule averaged seven or eight hundred pounds. His light weight was his chief defect, as otherwise he was hardy, a good worker, and easy to keep in excellent physical condition.

As farm machines became heavier, the Spanish mule disappeared; and the modern mule weighs eleven hundred

...the ...
at least ...
to ...
tell ...

...
that very ...
lived on ...
The ...
as twenty ...
of ...

...
good ...
light, and ...
signal ...
many ...
after 1900.

...
...
The ...
and black ...
averaged ...
was his ...
worker, and ...
as ...
disappeared ...

pounds or more. Brood mares were improved, and jacks were brought from Tennessee and Kentucky. There is a great deal of debate among Bottom farmers at the present time concerning the advisability of using mules or tractors. Where negro labor is used, the tractor is not practical, as the usual field hand is too unskilled to handle a tractor.

The modern mule has sold for as high as three hundred dollars each, while the Spanish mule never brought more than fifty dollars each.

grounds on which the Government has
brought from the United States and
of debate upon the subject of the
the advisability of such a measure.
negro labor is a subject of great
usual that the Government has
The Government has only one
dollar each, with the Government
fifty-dollar each.

CHAPTER III

TYPES OF LABOR USED

No description of the cotton industry along the Brazos would be complete without a discussion of the different types of labor used in producing and gathering the fleecy staple. In order for one to produce cotton at a profit, a large amount of cheap labor is necessary, especially during the chopping and hoeing season and later during the picking season. This is not true in connection with every region--as in West Texas most of the labor is done with machines--but it is true of the Brazos valley.

The first labor used in this section was that of slaves brought from the older southern states. Slave life typical of the Brazos valley has been described in the first part of this thesis; however, there are some points that were not discussed.

The slaves were valuable property; so in most cases the owners gave them good medical attention and good food. Practically all food and clothing were produced on the plantation. The price of slaves varied from five hundred dollars to one thousand dollars. A good house servant was worth one thousand dollars, while a field hand sold for five hundred dollars.

Practically all of the slaves brought to Texas came from the older southern states and had been somewhat civilized. Most of the slaves had no education, and some were little removed from the savagery of their original homes. Very little attempt was made by the masters to give them any further learning, although in more modern times some of the larger farms maintain a school for the children of their negro tenants. The slaves lived in long rows of cabins near the home of the overseer. Usually the plantation owners lived in the nearest town, and the overseer was in active charge. The negroes who were capable as domestic servants were used in the homes of the overseer and the owner. There was also a "lot boy", or sometimes more than one "lot boy", who did nothing except attend to the mules and horses and help with whatever cattle the plantation owned. The house servants always looked with disdain on the field hands as the ordinary slaves were called.

During the working season the negroes were in the fields by sunrise and worked until sundown with about an hour off at noon. Although in most cases the overseers were not brutal, in some instances they whipped recalcitrant slaves, usually with a heavy strap; and it took a stern man who could give positive commands and enforce them to handle the slaves. Physical violence was rarely resorted to, and usually a few licks with a heavy strap would bring a stubborn

slave to his senses.

The following quotation will show something of the conditions under which the slaves lived.

PLANTATION RULES

General Rules

1st. Never punish a negro when in a passion. No one is capable of properly regulating the punishment for an offense when angry.

2nd. Never require of a negro what is unreasonable. But when you give an order be sure to enforce it with firmness, yet mildly.

3rd. Always attempt to govern by reason in the first instance, and resort to force only when reason fails, and then use no more force than is absolutely necessary to procure obedience.

4th. In giving orders always do it in a mild tone, and try to leave the impression on the mind of the negro that what you say is the result of reflection.

5th. In giving orders be sure that you are understood, and let the negro know that he can always ask for an explanation if he does not understand you.

6th. When you are under the necessity of punishing a negro, be sure to let him know for what offense he is punished.

7th. Never act in such a way as to leave the impression on the mind of the negro that you take pleasure in his punishment; your manner should indicate that his punishment is painful.

8th. A regular and systematic plan of operation is greatly promotive of easy government. Have all matters therefore, as far as possible reduced to a system.

9th. Negroes lack the motive of self-interest to make them careful and diligent, hence the necessity of great patience in the management of them. Do not therefore notice too many small omissions of duty.

10th. The maxim of making haste slow in plantation operations, is equally applicable as in ordinary vocations of life. The meaning of which is not by attempting to do too much, to overwork and consequently injure your hands. Recollect that the journey of life is a long and at best, a tedious one. The traveller who wishes to make a long and safe trip, always travels in regular and moderate stages. Do not kill the goose to obtain the golden egg.

Particular Rules

1st. Always require the negroes to eat their breakfasts before they go to work.

2nd. From the 1st of October to the 1st of April they must be ready to go to work at daylight, stopping at 12. m. long enough to eat their dinners, or as long as one hour according to circumstances.

3rd. From the 1st of April to the 1st of October they must be ready to go to work by sunrise, stopping at 12. m. and resting from one to two hours and a half according to circumstances.

4th. Never require field-work of a woman, until the expiration of four weeks after confinement, and then permit her to come home to her child, between breakfast and dinner, at dinner, and between dinner and night, until the child is seven months old. After that once a day, until the child is a year old or weaned.

5th. Serve out to every working hand once a week from two and a half to three and a half pounds of bacon according to circumstances. If milk and butter is plenty then less meat; if molasses is served out then one quart in place of one pound of meat. Of dried-beef five or six pounds is the weekly allowance; also one peck of meal. When potatoes are served then less meal. Lying-in women to be allowed one quart of coffee and two quarts of sugar, and fed from the overseer's kitchen two weeks.

6th. The negroes are to be allowed to commence using the potatoes and sugar-cane on the 1st of October.

7th. In clearing land, always cut and belt the timber, within one foot of the ground; and cut down as much timber as can be got rid of.

8th. In making rails get them ten feet long, and never heart a tree that is less than a foot in diameter, always pile the rails on the stump of the tree before leaving.

9th. In making fences, lay the work four feet and a half wide, make it five feet high, and then stake with Post-Oak or Mulberry rails well set in with a heavy rider.

10th. Pork-hogs to be penned in September, and fed on corn previously shelled, and soaked in water two or three days--pumpkins--sugar--cane etc.

11th. In planting corn, mix pumpkin seeds with the corn for every fourth row.

12th. Potatoes when dug to be housed or banked the same day.

13th. The women to commence in November spinning thread at night to make plow-lines.

14th. The corn to be gathered as soon as it is dry enough.

15th. No profane or obscene language to be allowed among the negroes.

16th. Every negro-cabin to be inspected every Sunday morning to see that it is kept clean. Every negro to appear in the field on Monday morning in clean clothes.

17th. The negroes are never to be allowed to leave the premises, unless by special permission, and a written pass stating where they are permitted to go.

18th. No strange negro to be allowed to visit the plantation, unless by permission of the overseer, and a written pass from his master.

19th. Every overseer on taking charge of the plantation to take an inventory of the effects etc. on the place and to do the same before leaving.¹

The larger plantations usually had one negro who could preach, although most of the exhortation was done in a crude manner and directed at arousing the emotions. At their religious services, a great deal of shouting and swaying of bodies was always in evidence. This continues among the negroes of this section until the present time. They have always been noted for the fervor with which they sing religious songs; and to hear a group of negroes sing is an experience not soon forgotten.

Christmas was the only season when the slaves were allowed any sort of celebration. The house servants were always given presents, and the field hands had an extra ration of hog meat or other food for their Christmas dinner.

¹ C. W. Tait, Family Archives of the University of Texas Library (The University of Texas Free News Service, March 31, 1935), series II, no. 12.

The chief condemnation of slavery was the almost complete lack of education or social uplift of any kind, and also the very fact that the slaves were bound to one place.

After the Civil War the reconstruction period was a trying time for the former slaves. They knew not what to do with themselves, and a very painful period of readjustments followed. Some of the slaves remained peacefully on the same farms and became day laborers, but others roamed through the countryside, stole food, and insulted and abused their former masters if the opportunity presented itself.²

The United States Government sent a detachment of soldiers to Millican, which is below Bryan, and was the terminus of the Houston and Texas Central Railroad at that time. These soldiers were to protect the freed slaves and to help administer the Freedman's Bureau that had been established to help the negroes.

This Bureau helped the negroes by giving out food and clothing, but its agents knew nothing about handling the situation otherwise and expected the negro to be able to manage his own affairs and become independent. This was impossible because of the inability of the negro to take care of himself.

² Information secured by interview with J. E. Price concerning incidents connected with reconstruction. Price lived on Dick Beal's farm twelve miles below Marlin, at a place on the river called Blue Shoals, in 1865. He died in 1937.

The "carpetbaggers", as agents of the Bureau were known, organized the Brazos bottom negroes into a "Loyal League", and at their meetings would encourage the negroes to assert their rights to vote and to own land.

Naturally these actions caused friction between the negroes and whites and led to the formation of the Ku Klux Klan. J. E. Price served in a company of the Klan, and Granville Rose was his captain. The Klan attempted to scare the negroes into obedience by whipping them and by preying on their superstitious natures. Only the captain was allowed to whip, and he gave thirty-five licks with a strap on the bare back. Sometimes members of the Ku Klux scared the negroes by asking for a drink of water, then drinking the entire bucket, and letting it fall into a receptacle under their hood. They also made noises near the negroes' cabins. The negroes soon learned that the carpetbaggers were cheating them out of their money and not giving them clear titles to land as they had promised; and a number of them realized it was better to stay on with their old masters. In many instances the farmers, in order to keep the former slaves from becoming unruly, bribed the carpetbaggers not to molest the negroes.

In some ways the negroes in the Brazos bottom have been worse off since they were freed. The former masters were no longer so interested in giving them good food and

The "colored people" of the South
known, organized the "League of the South", and in 1908
to assert their right to vote and to hold office.
Historically, the League of the South has been
negroes and white people, and it is the purpose of the
Klan. It is a white organization, and it is the
Granville Wood and the "League of the South" is
seems the negroes are not allowed to vote and to
protest on their own behalf. The League of the South
was allowed to vote and to hold office. The League of the South
step on the League of the South. The League of the South
seems the negroes are not allowed to vote and to
defining the white people. The League of the South
separate white people. The League of the South
negroes. The League of the South is a white organization.
began were there. The League of the South is a white organization.
ing them along. The League of the South is a white organization.
number of white people. The League of the South is a white organization.
old nation. The League of the South is a white organization.
keep the League of the South. The League of the South is a white organization.
people. The League of the South is a white organization.
In 1908, the League of the South was organized.
been worse off than the white people. The League of the South
were no longer in the South. The League of the South

medical attention. As a result their diet is restricted even to the present time, and pellagra and other diseases have taken a frightful toll. The freed negro could not make enough wages as a day laborer to live; so the sharecropper system--which will be described more in detail later--sprang up. He was always in debt to the landlord, and the landlord forced him to stay on year after year. This was practically a system of peonage, and it was not broken up until about twenty years ago when the negroes began instituting suits in the Federal Court at Waco when a landlord would forcibly make them return for a debt. Up until that time it was a general custom when a negro ran off owing a debt to go get him and bring him back, with a good beating besides.

At the present time most of the negroes in the rural sections have a chance to finish a state-supported seven or nine grade school, and all of the towns have negro high schools. However, in many ways the educational opportunities for negroes and whites are unequal, with the balance in favor of the whites.

In some instances the large Bottom farms after the war cheated the negro by underpaying him for his work, by charging him excessive interest rates, and by simply not giving him what he was due. However, these cases are the exception and not the rule.

In the years since the slaves were freed, wages for

their labor have varied according to the price of cotton. Wages for day labor--plowing, hoeing, and chopping--have varied from fifty cents to one dollar and fifty cents a day. Wages for picking have varied from fifty cents each hundred pounds of seed cotton to one dollar and over for the same amount.

Some of the negroes have been good enough managers to buy farm equipment and become third and fourth renters (meaning a third of the corn and a fourth of the cotton produced goes to the landowner), instead of poor sharecroppers who own no farm equipment. There are others who have bought cotton farms and farm their own land successfully. However, in general, the Brazos bottom negro still has a very low standard of living and not a very good opportunity for social, cultural, and educational advancement. The following quotation is a fair indication of the Bottom negro's outlook:

To sum up the general attitude of the negroes towards the plantations and life in general, the following negro sayings are quoted: "Just as long as we works the white man's goin' to feed us, so all we got to do is to keep up our work." "The trouble with the nigger is that he's taken care of too well. He doesn't have to look out for himself enough." "This here thing of a man not bein' able to sell his own cotton is all bunk." "I lives on de farm 'cause I knows my chillun will be fed and I likes farmin'." "We niggers aint de same as de white man, we likes a woman for a while and den we hates her an' so we gets us another." "De captain's got to pay our fines when we gets in trouble 'cause he needs us to work." "I goes to church 'cause I meets other

their labor have been...
wages for day labor...
varied from fifty cents...
wages for picking...
pounds of seed cotton...
amount

Rate of the negro...
to pay less...
(meaning a third of the...)
faced goes to the...
who can no longer...
cotton farms and...
in general, the...
standard of living...
that, cultural...
position in a...
look:

To sum up the...
towards the...
following...
as we...
all we...
trouble with...
of too...
sell enough...
while to...
lives on...
be left...
same as...
while and...
another...
when we...
work "

niggers there an' learns about things." "I goes to town Sat'days and stands 'round and talks an' meets de other folks."³

Although a description of the Brazos bottom labor situation would not be complete without a discussion of convict labor, this type was not used in cotton culture so much as in clearing land. According to Fred L. Wood of Hearne, Texas, the convicts were leased from state authorities at thirty dollars a month each. The state guarded, fed, and clothed them. This was a vicious system, as they usually lived in cramped quarters and the work was hard. No attempt was made to rehabilitate the convicts in any way, and the only thought was to get as much work out of them as possible. The leasing of convict labor was finally prohibited by law, and the convicts were sent to a prison or to state owned farms.

The Mexican has been a factor in the labor situation here since about the beginning of the twentieth century. Prior to that time most of the Mexicans and Spaniards living in Texas were south and southwest of Austin. However, in central Texas there were a few Spanish and Mexican families, descendants of the early colonists from Mexico who had settled as far east as Nacogdoches.

³ J. W. Elliott, "Land Tenancy Under the Plantation System; a Study of Some Brazos River Bottom Plantations," (unpublished Master's thesis, Agricultural and Mechanical College of Texas, 1921), p. 56.

The main reason for the Mexican migration was the coming of negroes to the prairie regions north of the Brazos. Prairie farmers from the black land belt began going to the towns on the Brazos for negro labor, especially during cotton picking season. Some of these negroes stayed on as house servants, and some became day laborers and tenant farmers on the prairie farms.

The Brazos planters then turned to the Mexicans from San Antonio, Austin, and other places as a cheap labor supply. These laborers had a low standard of living and would work for low wages. So at the present time some of the farms on the Brazos have as many Mexican as negro tenants, and during the picking season hundreds of Mexicans come in from South Texas in old trucks and cars of every make and state of dilapidation. Most of these transients go back to South Texas and even to Mexico after the picking season is over.

It is surprising to learn that Chinese were once used as laborers and tenants near Calvert and Hearne. They were used immediately after the Civil War when some of the negroes had run off upon securing their freedom. These Chinese came in through Galveston, and some had worked on the construction gangs that built the Houston and Texas Central Railroad. They all disappeared within a few years, and it is doubtful if one could be found in this section today.⁴

⁴ Information secured by interview with J. E. Price.

Another group of laborers here were the Italians who came to the section as immigrants about thirty years ago. A large number settled in Robertson and Falls Counties, but only a few in McLennan County. They were thrifty and hard working; so today most of them own small farms. None have become cotton farmers on a large scale, but they buy and pay for their farms by having a low standard of living and by saving the profits. When a large plantation is sold out in parcels, which is often done in recent years to satisfy creditors, the Italians usually buy the land. Highbank, a small town near Marlin, is composed almost entirely of Italians; and there are many communities of them in other parts of the Bottom. They are clannish and resentful; and serious trouble has developed in some sections between them and the negro and Anglo-American racial groups.

Another group of people...

came to the meeting...

A large number of people...

only a few in the...

working as...

become...

for their...

having the...

persons, who...

conditions, the...

small town...

Italian...

part of the...

persons...

and the...

...

...

...

...

...

...

...

...

...

...

...

CHAPTER IV

FARM TENANCY AND ITS PROBLEMS

One of the most interesting, and at the same time most sordid, conditions of life on the Bottom cotton farms results from the system of farm tenancy. Volumes have been written on this problem, which is considered the dragon that keeps the southern farmer in bondage. The system was started in the Brazos bottom immediately after the Civil War; and although it eased the period of readjustment for the slaves, its many evils have been very much in evidence.

The type of tenancy in most common use is known as the "sharecropper" or "halves" system. In this form of tenancy, the landowner furnishes the tenant with as much land as he can cultivate, along with mules, farm tools, stock feed, groceries and clothes for the tenant's family, and all other necessary items for making a crop. When the cotton is marketed, the landowner takes half of the proceeds and the tenant the other half.

The chief drawback to this system is that unless the tenant has a large family for labor and lives very economically he can never make more than his living expenses. Sickness, low price of cotton, or insect damage will cause the tenant to be so in debt to the landowner that it is difficult to pay out.

The average family will cultivate fifty acres of cotton. This will produce about twenty bales, which will bring something like one thousand dollars. Therefore the tenant will draw five hundred dollars, which is a very low living wage and is possible only under very favorable conditions.

Under the "sharecropper" system, there is usually one central barn on a plantation where all of the mules and farm equipment are stored. The tenant houses are built near this barn, and the overseer or owner lives near it. The overseer or owner directs all of the farm operations, and the tenant usually does nothing on his own initiative; the overseer even tells him when to plant and how.

In the years immediately following the Civil War, the landowners sometimes kept a store or commissary on the farm to furnish the tenants with food, clothing, and other supplies. Under this plan the owner made a large profit on the goods sold, and charged from ten to twenty per cent interest on what the tenant owed. Lucky was the tenant who had a few dollars left over after his living expenses were paid in the fall.

At the present time the plantation stores have been discontinued, and the landlord writes "orders" to the nearest merchant for his tenants. In practice these orders have been limited to groceries alone, and the tenant must depend on his extra fall money for clothes or luxuries. The amount

of these "orders" varies with the price of cotton and the size of the family involved. They permit only a very meager fare, thus creating bad health problems among the tenants.

There have been instances in which landlords have robbed the ignorant tenants with high interest and unfair settlements, but it can be readily seen that even when the landlord is honest the tenant never has a chance to get much money ahead.

Under the recent government crop control program, the "sharecropper" tenant has not been allowed to share in any of the cash benefits.

The overseer system is one defect in this method of farming. Often the overseer does not take the interest in looking after the tenants and property that he should, and thus the farm begins to run down. The equipment is not repaired and is allowed to rust out, and improper cultivation lets grass ruin some of the land. These evils are more apt to appear when negroes are used as overseers.

The "sharecropper" system made money for the owners, even under bad management, until the World War came along and reduced the margin of profit by making cotton cheap and supplies high. Since that time many of the large farms have had to borrow almost as much money as the land is worth, and some have been broken up and sold in small lots.

The attitude of the landlords toward the negro "share-

cropper" is shown in the following quotation:

The negroes, according to the landlords, are ignorant, shiftless, irresponsible, dishonest, and thriftless. They state that it is necessary to oversee the negro closely in order to have the crops properly cared for. The attitudes of the landowners are that the negroes have child like minds and must be taken care of. The landlords say that "during prosperous times the negro spends freely, and never looks to the future. Then when the first of January comes the plantation has to furnish food and clothing for his family and feed for his workstock. There are extremely few exceptions to this. If the negro does not make sufficient out of his crops to pay in full for his advances, he thinks that he does not owe anything. The negro makes a good worker if properly superintended, for he is strong." Generally the negro has low morals and does not consider the marriage ties strongly. There are exceptions to this, however.¹

Although the "sharecropper" system is the most widely used, there are others that require explanation. The third and fourth type of tenancy is used to some extent in the Brazos bottom. Here the landlord is paid one-third of the corn or grain produced and one-fourth of the value of the cotton produced. In this case the landlord furnishes the land and a home and barn for the tenant. The tenant has his own farm stock and implements, and buys his own groceries and household goods.

The tenant under this plan usually borrows money from

¹ J. W. Elliott, "Land Tenancy Under the Plantation System; a Study of Some Brazos River Bottom Plantations," (unpublished Master's thesis, Agricultural and Mechanical College of Texas, 1921), p. 8.

erogues, is shown in the following table:

The following table shows the results of the investigation, which was conducted by the author, and is based on the data obtained from the examination of the specimens of the various species of the genus *erogues*, which are now deposited in the collection of the University of California, at Berkeley. The specimens were examined by the author, and the results of the examination are given in the following table:

Altogether, the following results were obtained from the examination of the specimens of the various species of the genus *erogues*, which are now deposited in the collection of the University of California, at Berkeley. The specimens were examined by the author, and the results of the examination are given in the following table:

The following table shows the results of the investigation, which was conducted by the author, and is based on the data obtained from the examination of the specimens of the various species of the genus *erogues*, which are now deposited in the collection of the University of California, at Berkeley. The specimens were examined by the author, and the results of the examination are given in the following table:

a bank or merchant to make his crop with. Living expenses and labor must be paid out of this loan. He pays ten per cent interest. A prime essential for this type of farmer is to make a good feed crop, as he cannot make much profit with which to buy feed for his stock. The average farmer of this type works at least one hundred acres or more and hires day labor or sub-rents his land on the "sharecropper" basis. If he subrents, his margin of profit is reduced, but his problem of labor is solved, as each "sharecropper" can take care of his own land.

All things being equal, the third and fourth renter has a much better chance to make money than the "sharecropper". He frequently buys a farm and counts among his luxuries automobiles and better food and furniture. Then, too, he is more independent and uses his own initiative in the cultivation of the crop, as the landlord seldom visits the property if the renter is keeping it in good shape.

A third type of tenancy is that in which the land is leased or money rent is paid. This is seldom used, as the land must be highly productive and a crop failure would leave the tenant hopelessly in debt. The price paid an acre is from five dollars up, but this is governed by fertility of soil and convenience of location to market. Under this plan the tenant operates under the same conditions as the third and fourth renter with the exception of the method of paying the rent.

CHAPTER V

PROBLEMS OF COTTON MARKETING

There is plenty of romance connected with the marketing of cotton along the Brazos. It is a story of a continual struggle between the seller and buyer, with the seller fighting for his rights to get a fair price for, and good grading of, his cotton.¹

The first planters freighted their cotton to Houston and Galveston and sold it to cotton factors. These factors extended credit to the planters through local stores, and the cotton producer did not know what price he would get until the cotton was delivered at the seaport. Under this system the farmer paid heavily for transportation and interest, and the factor took a fat profit on the actual price paid.

The Grange or Granger movement came to the Bottom in the 1870's. In each town, cooperatively owned stores were set up to furnish the farmer groceries and to pay him a fair price for his cotton. A few of these stores were in business until 1900, but disappeared soon thereafter.

In the meantime, or rather after the railroads came to

¹ Information secured by interview with H. E. Wren, cotton buyer at Marlin, Texas, and J. M. Kennedy, publisher of the Marlin Democrat, Marlin, Texas.

the Bottom towns, local merchants also furnished farmers with credit to make their crop, and then bought their cotton in the fall. These merchants took a heavy profit. At the same time local independent buyers began operating during the selling season. This latter group included several Jews who came to Galvert and Hearne.

The second attempt at cooperation was the Farmers Alliance.

It was only a few years after the decline of the Grange that the Farmers Alliance movement became widespread. Membership in this order was strong in the Southern states, and the organization definitely committed itself to the cooperative marketing of farm products, with particular attention being paid to cotton. A number of local organizations were set up, and plans were made to sell direct to mills. The plans were finally unsuccessful, however, principally because the wide-spread crop mortgage system prohibited the marketing of cotton through these organizations. The Alliance made attempts to finance the growers, but lacked the necessary resources.

The Farmers Alliance from the beginning engaged in politics, and, as it became larger, its political activities increased. In the election of 1892 its fortunes became involved with those of the Populist party, and, with its defeat, the Alliance became less and less an influence.²

The Farmers Alliance came to the towns of the Central Brazos region in the 1890's. A large warehouse was built in each town, in which to store cotton belonging to members of the Alliance. The cotton was sold in large groups and some-

² W. R. McCullough and George Wolf, "Development and Organization of Cooperative Cotton Marketing Associations," American Cotton Cooperative Association Bulletin, No. E-1 (New Orleans: American Cotton Cooperative Association, April, 1937), p. 21.

times held for an advance in price.

The third attempt at cooperation is explained in the following quotation:

The next significant contribution to the foundation of cooperative marketing in the South was perhaps made by the Farmers' Union, or to give it its full title, the Farmers' Educational and Cooperative Union of America. This movement originated in Texas, in 1902, and grew rapidly. Of all the organizations which attained prominence up to 1920, this was the most distinctly Southern, and its efforts were devoted principally to the problems of the cotton farmer.

During the first years of the Farmers' Union, attention was focused mainly upon the marketing of cotton. The activities of the Union along these lines were closely allied with the program of the Southern Cotton Association, which had been organized in New Orleans in 1905 under the leadership of Colonel Harvie Jordan, a Georgia planter. The conviction had become widely prevalent that the cotton futures markets, instead of functioning as exchange agencies, were being manipulated to the advantage of the gambler, and at a severe loss to the farmer. The Union advocated a minimum price, and advised the farmer to hold his cotton until he could sell at that level. In 1906, the farmers were told to hold their cotton for at least eleven cents, basis middling. As the Union predicted, the price reached and passed that level, rising from nine and a quarter cents at New Orleans in September to eleven cents in October.

While the efforts of none of the earlier organizations of farmers in the South could be called successful, and while none fulfilled the sometimes extravagant promises made for them, in the light of present day evaluation, each contributed something to the eventual success of cooperative marketing.

Perhaps the most valuable result of these early experiences was the demonstration to Southern farmers of the ideals and the practicability of cooperative endeavor. This did much to pave the way for the successful cooperative organizations of today.³

³ W. R. McCullough and George Wolf, "Development and Organization of Cooperative Cotton Marketing Associations," American Cotton Cooperative Association Bulletin, No. E-1 (New Orleans: American Cotton Cooperative Association, April, 1937), pp. 21-23.

times into the laboratory in 1955.

The first attempt at organization of the laboratory was in 1955.

Following this time

The work of the laboratory was organized into three main divisions of activity: a research division, a teaching division, and a service division. The research division was headed by the director of the laboratory, and the teaching division was headed by the associate director. The service division was headed by the administrative assistant. The research division was responsible for the conduct of research in the field of the laboratory, and the teaching division was responsible for the instruction of students in the laboratory. The service division was responsible for the maintenance of the laboratory and the provision of services to the research and teaching divisions. The laboratory was organized into three main divisions of activity: a research division, a teaching division, and a service division. The research division was headed by the director of the laboratory, and the teaching division was headed by the associate director. The service division was headed by the administrative assistant. The research division was responsible for the conduct of research in the field of the laboratory, and the teaching division was responsible for the instruction of students in the laboratory. The service division was responsible for the maintenance of the laboratory and the provision of services to the research and teaching divisions.

The laboratory was organized into three main divisions of activity: a research division, a teaching division, and a service division. The research division was headed by the director of the laboratory, and the teaching division was headed by the associate director. The service division was headed by the administrative assistant. The research division was responsible for the conduct of research in the field of the laboratory, and the teaching division was responsible for the instruction of students in the laboratory. The service division was responsible for the maintenance of the laboratory and the provision of services to the research and teaching divisions.

When the Farmers' Union was organized in Hearne, Calvert, Marlin, and Waco, the name Farmers Alliance on the warehouses was changed to Farmers Union. The Farmers Union lost out for the same reason that the Alliance did, because it engaged too much in politics.

At the present time in Waco and Marlin, the Bottom farmers are served by the Texas Cotton Cooperative Association, a branch of the American Cotton Cooperative Association, New Orleans, Louisiana. The "Texas Co-op", as this organization is called, attempts to give its members the benefit of buyers skilled in the art of grading cotton and also the benefit of a slightly higher price through mass sales of cotton.

The various cotton cooperative associations perform many services for the farmer that private buyers do not or cannot do. These services are expert classing of cotton, cheaper freight rates, and a better price. In some instances the independent buyer has been able to beat the price paid by the cooperative because of the cost of these services. In general, however, the cooperatives are reducing the cost of their services each year through more efficient management, and the farmer thus benefits in the long run by joining the cooperative society.

The latest cooperative cotton association in the central Brazos region is the Brazos Valley Cooperative Associa-

...the ...
...and ...
...and ...
...and ...

...it engaged ...
...the ...

...largely ...
...from a ...

...from ...
...organization ...

...the ...
...the ...

...cotton ...
...The ...

...many ...
...cannot ...

...cheaper ...
...the ...

...by the ...
...general ...

...which ...
...and the ...

...cooperatives ...
...The ...

...great ...
...the ...

tion. It was organized in September, 1933, at Bryan, Texas; and the territory served consists of the following counties: Robertson, Brazos, Grimes, Washington, and Burleson.

J. R. McCrary of Calvert, Texas, was the first president; the board of directors is made up of seven men including the president. This is the only cotton cooperative association formed whose directors serve without pay.

The reasons for this organization being formed were that the Bottom farmers believed they should be getting a higher price than the Texas Cotton Cooperative Association could give, since their staple is longer than the average for other sections of the state, and that some thought a smaller organization could serve its members better.

This organization has established a fair minimum price based on world markets. Therefore, since the staple of Bottom cotton is better than the prairie cotton, the Bottom farmer secures a better price. The following is a copy of the marketing agreement entered into between the cotton grower and the Brazos Valley Cotton Cooperative Association:

MARKETING AGREEMENT of the

Brazos Valley Cotton Cooperative Association

The Brazos Valley Cotton Cooperative Association, a non-profit co-operative marketing association with its principal office at Bryan, Brazos County, Texas, hereinafter called "Association", and the undersigned, hereinafter called "Grower",

AGREE:--

tion. It was explained that the... and the... Robert...

1. The... of... the... the... ing the... association... The... that the... higher... could give... for other... smaller... This... price... of... bottom... copy of the... sector... investigation...

The... of the... between... investigation... the...

1. If not a member, the Grower hereby applies for and is admitted to membership in said Association, and will carry out the express aims of the Association.

2. The Association buys and the Grower sells and agrees to deliver to it, one (1) bale of cotton from and after the date of this contract; subject only to the right of either party to terminate this contract as hereinafter provided.

The Grower at his discretion may deliver more than one (1) bale of his cotton in any one year.

Either party hereto may terminate this contract by notifying the other party in writing between March 1st and 15th of any year; provided, however, such termination privileges shall not be effective until the Grower has delivered the cotton covered hereby for one crop year, nor so long as the Grower is indebted to the Association, or its subsidiary corporations.

3. The Association agrees to resell such cotton of the Grower together with the cotton delivered to it by other Growers under similar contracts, at the best price obtainable by it under marketing conditions; and to pay over the net amount received therefrom (less freight, insurance, storage and interest) as payment in full to the Grower; after also deducting therefrom, within the discretion of the Association, the cost of maintaining and operating such Association and the cost of handling, grading, and marketing such cotton, together with the cotton of other members, and a Reserve for credit and other general purposes, said Reserve not to exceed one (1%) per cent of the gross resale price of such cotton; said 1% Reserves shall be the property of the Grower to be refunded to him at the discretion of the Board of Directors of the Association, according to the book value thereof as conclusively appraised by the Board of Directors of the Association.

I also hereby assign and transfer to the Association, with power at its discretion, to collect any and all Reserves and property interests due and owing me by the Texas Cotton Cooperative Association, of Dallas, Texas, arising out of deductions from cotton delivered to it by me as a member; and when collected that the same shall be set up on the books of said Association to my credit and to become a part of my Reserves in said Association and to be refunded to me as provided in my marketing agreement of Texas Cotton Cooperative Association.

4. The Board of Directors of the Association may, in its conclusive discretion, create and establish

pools through which the cotton of the Grower and that of other members may be handled and sold; and may promulgate and establish from time to time rules and regulations pertaining to the operation of such pool or pools, and the Grower agrees to be bound thereby and to accept the proceeds realized from the sale of his cotton through such pools, or otherwise, in accordance therewith.

5. The Grower agrees that the Association may handle and/or sell, in its discretion, some of the cotton in one way and some in another, as to it might seem most beneficial to the Grower and the other members of the Association, collectively, and the Grower agrees to cooperate with it in such transactions.

6. The parties hereto agree that this is a contract of purchase and sale of personal property and shall be binding upon them as long as the Grower produces cotton, either directly or indirectly in accordance with this contract; and that the Association may, in its conclusive discretion, promulgate and establish from time to time, rules and regulations governing the grading and classing, sale, delivery, handling, storing, transporting, borrowing money on such cotton to make advances, or otherwise, and for the full and complete operation of said Association as provided in its charter and By-Laws and all amendments thereto, and the Grower agrees to abide by and perform the same, and to be bound thereby; provided, however, such rules and regulations shall be evidenced by a resolution passed, by the Board of Directors of such Association and entered on the Minutes of its meeting.

7. In the event the Grower shall place a crop mortgage upon his cotton during the term hereof, (of which he shall notify said Association), and any money is advanced or paid to the Grower at the time of the sale and delivery of his cotton to said Association, that the same shall first be applied to the payment of said indebtedness, and the Grower hereby agrees to indemnify said Association, against any damage or loss by reason thereof, which shall be due and payable at Bryan, Texas; failure of the Grower to comply with this mortgage requirement shall constitute a breach of this contract.

8. LOCAL ASSOCIATIONS. It is understood and agreed by and between the Association and the Grower that the Association, in co-operation with the Central Sales Agency, with which the Association is affiliated, shall have the power and it shall be their duty, as soon as is practicable, to set up and establish in the territory comprising the Association's operations and members,

local associations, with appropriate Articles of Incorporation and By-Laws, and other necessary and proper applications and contracts in connection therewith, for the benefit of the Grower and other members of the Association; and when such Local Association has been so organized and incorporated, the Grower hereby applies for membership therein and, if accepted, agrees:

- (a) To execute, when requested by said Local Association, a Marketing Contract, in terms substantially the same as those set forth in this Marketing Contract; or
- (b) At the option of the Board of Directors of such Local Association, by a resolution duly entered on the Minutes of the meeting, to be bound by the terms of this Marketing Agreement; and the acceptance of said Board of Directors of this contract shall become effective immediately upon notice thereof mailed to the Grower hereof at his address as noted below, and such notice shall be conclusively presumed to have been accepted upon mailing thereof, which shall be evidenced by an affidavit of the Secretary of such Local Association.

9. The Board of Directors of the Association and/or the said Central Sales Agency shall have power to organize and/or recognize Local Associations and it shall be their duty to equitably apportion the duties and activities of the Association and the respective Local Associations; and, where such Local Associations have been so recognized, the per bale charge shall be limited to the charge made by the Local Association for handling such cotton, plus the overhead per bale cost of the Central Office of this Association.

10. It is agreed by and between the parties hereto that this contract may be modified, and amended, by the Board of Directors of the Association from time to time; provided, however, such amendment and modification shall only affect the members consenting thereto, but shall not affect the contract of members who do not consent thereto or operate to release them therefrom.

It is agreed that other Marketing Contracts may be entered into from time to time between the parties hereto and other members of said Association; conditioned, upon the Grower being given the opportunity to adopt the same in lieu of this contract.

local residents have been advised to remain in their homes and avoid travel. The health department is monitoring the situation closely and will provide further information as it becomes available. The current status of the outbreak is being reviewed by the local health authority.

The following information is being provided for your information. The health department is working to identify and isolate cases as quickly as possible. It is important that anyone who has been in contact with a confirmed case should report this to the health department. The health department is also providing information on how to prevent the spread of the disease.

The health department is currently conducting a contact tracing exercise. This involves identifying people who have been in contact with a confirmed case and assessing their risk of infection. The health department is also providing information on how to prevent the spread of the disease. It is important that anyone who has been in contact with a confirmed case should report this to the health department.

The health department is currently conducting a contact tracing exercise. This involves identifying people who have been in contact with a confirmed case and assessing their risk of infection. The health department is also providing information on how to prevent the spread of the disease. It is important that anyone who has been in contact with a confirmed case should report this to the health department.

11. The parties agree that there are no oral or other conditions, promises, covenants, representations or inducements, in addition to or at variance with any of the terms hereof; and that this Agreement represents the voluntary and clear understanding of the parties fully and completely.⁴

We must keep in mind that there are several independent buyers of cotton yet operating in the towns along the central Brazos. However, these men must make a higher margin of profit than the cooperative associations in order to make any money; so the trend of the times seems to indicate a steady drift of the farmers to membership in the Texas Cotton Cooperative Association of the Brazos Valley Cotton Cooperative Association.

⁴ Pamphlet issued by Brazos Valley Cotton Cooperative Association.

11. The parties to this contract are the
other conditions, and the parties to this contract
of information in relation to the contract, and
of the terms of the contract, and the parties
the validity of the contract, and the parties
fully and completely.

It must be in this form, and the parties

and the parties to this contract, and the parties

central, and the parties to this contract, and the parties

of the parties to this contract, and the parties

my name, to the parties to this contract, and the parties

about the parties to this contract, and the parties

and the parties to this contract, and the parties

Government, and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

and the parties to this contract, and the parties

CHAPTER VI

VARIETIES OF COTTON

The study of cotton breeding and the origin of various varieties of cotton would apparently seem a tedious and very dry subject or undertaking. On the contrary it has proved to be one of the most interesting studies in connection with this thesis.

Before we pursue the topic of types of cotton further, it might be well to state that the first cotton planted in the region under discussion was of no particular type or variety. It was simply known as Native cotton, and the seed came from various Southern states. Very few known varieties were planted prior to 1900. The farmer selected his planting seed from the best looking and highest yielding portions of his crop. However, it must be noted that some cotton seed from Mexico found its way to Texas at various times, especially during the war with Mexico in 1846. This Mexican cotton has intermingled with the strains brought in from the southeastern portions of the United States.

One of the earliest varieties grown on the Brazos, according to Joe Goddard of Waco, was known as Cheatem cotton. It had a tall stalk and short limbs, with bolls near the stalk; it was hard to pick and it gradually disappeared.

CHAPTER VI

VARIETIES OF COTTON

The study of cotton breeding and the origin of various varieties of cotton would apparently cover a volume and any subject of undulating. Of the country it has proved to be one of the most interesting studies in connection with this thesis.

Before we pursue the topic of types of cotton, it might be well to state that the first cotton planted in the region under discussion was of no particular type or variety. It was simply known as Native cotton, and the seed came from various Southern states. Very few known varieties were planted prior to 1800. The farmer selected his planting seed from the best looking and highest yielding portions of his crop. However, it soon became known that some cotton seed from Mexico found its way to Texas at various times, especially during the war with Mexico in 1846. This Mexican cotton was intermingled with the native brought in from the southern portions of the United States.

One of the earliest varieties grown on the Texas coast according to Joe Boland of Waco, was known as Mexican No. 1. It had a tall stalk and short bolls, with white seed. The stalks it was hard to pick and it gradually disappeared.

Another early variety was known as Prolific. The limbs were long and they created such a mass of vegetation that insects were bad.

Attention now centers on the first varieties bred in Texas.

The variety known as Bohemian was developed about 1865 by a Bohemian settler named Supak, who lived near Austin, Texas. This cotton was known also by the name Supak and was apparently developed by some method of plant selection. It was a rather stable type and was prominent and popular in Texas for 40 or 50 years. The bolls were large and turned down on opening, thus protecting the lint in bad weather. The broad segments of the bur and the large involucre bracts also had a roofing effect over the closely clinging locks. In spite of the storm-resistant features the cotton was easily picked. The staple length was about fifteen-sixteenths of an inch. Bohemian is of historic importance now in that it is the progenitor of Rowden and of Express.¹

Some of the Bohemian cotton was very likely planted along the Central Brazos prior to 1900, but the Mebane and Rowden varieties discussed below were the first that were well known in this section.

A new variety of cotton was bred and introduced by A. D. Mebane of Lockhart, Texas, in 1900 and named Mebane Triumph by Seaman A. Knapp. Development and maintenance of this variety represents the longest continued work in the history of upland cotton in this country. A splendid combination of high productivity, stormproofness, big bolls, medium staple length, high quality of fiber,

¹ J. O. Ware, "Plant Breeding and the Cotton Industry," U. S. Department of Agriculture Yearbook (Washington: Government Printing Office, 1936), p. 666.

Another early railway was built in 1825 between
Long and New Orleans, and a line was built in 1830
from New Orleans to New York.

Attention was given to the building of
the New York and Erie Railroad in 1825.
Texas.

The first railway in Texas was built in 1852
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was
the first of its kind in the state.
The line was built by a group of men
who had been in the state for some time.
The line was built from Houston to
Galveston, and was the first of its
kind in the state. The line was built
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was the
first of its kind in the state.

The first railway in Texas was built in 1852
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was
the first of its kind in the state.
The line was built by a group of men
who had been in the state for some time.
The line was built from Houston to
Galveston, and was the first of its
kind in the state. The line was built
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was the
first of its kind in the state.

The first railway in Texas was built in 1852
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was
the first of its kind in the state.
The line was built by a group of men
who had been in the state for some time.
The line was built from Houston to
Galveston, and was the first of its
kind in the state. The line was built
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was the
first of its kind in the state.

The first railway in Texas was built in 1852
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was
the first of its kind in the state.
The line was built by a group of men
who had been in the state for some time.
The line was built from Houston to
Galveston, and was the first of its
kind in the state. The line was built
by a group of men who had been in the
state for some time. The line was built
from Houston to Galveston, and was the
first of its kind in the state.

high lint percentage, and sufficient earliness to meet boll weevil conditions in the Western area, the variety has served as foundation stock for newer strains and as parental material in some important hybrids. A. D. Mebane began his work in 1882 but did not market seed to any extent until about 1900.

During the first few years after 1882, Mebane studied existing types and varieties of cotton of his section of the country and concluded that although some of the smaller boll varieties ginned out a higher lint percentage, the bigboll storm resistant type, such as Texas Stormproof, Bohemian, Myers, and a few others, represented more nearly the type required for that part of the Cotton Belt. Presumably he finally chose stocks of Texas Stormproof or Boykin Stormproof for his material. After the stocks were chosen in the early 1880's, they were never changed and are still maintained by his family on the original estate. However Mebane did shift the ideal toward which he was working. About 1910 he began to select for longer staple, and in due time the length was increased to $1\frac{1}{16}$ to $1\frac{3}{16}$ inches. Along with this development was associated less stability, lower yield, and less gin outrun. At the time of his death in 1923, Mebane had begun to work back to a type with higher yields, better lint percentage, and a full inch staple. Since that date Mrs. Mebane, Paul M. Mebane, and W. P. Patton, Jr., have continued the work.

Rowden cotton was developed by Will Rowden, Wills Point, Texas, about 1905. Stock originated from two bolls brought from the Sulphur Fork river bottoms about 50 miles northward and was thought to be of the Bohemian variety. The Rowden variety was bred by mass selection and kept reasonably true to varietal type by this method for many years. A large-boll variety.²

Rowden and Mebane cotton were popular along the Central Brazos about twenty years ago, but most bottom farmers have turned to later and better varieties. One of these is known as Kasch cotton.

² Ibid., p. 668.

Kasch cotton was introduced about 1912 by Ed Kasch, San Marcos, Texas. It is a strain of Mebane Triumph. Widely sold for a number of years and its qualities were very similar to Qualla cotton.

Qualla was introduced about 1922. It is a strain of Mebane Triumph, developed by H. Conrads, San Marcos, Texas. Staple 15/16 to 1 inch, gin outrun 38 to 41 per cent, bolls 70 to the pound. Widely distributed in Texas and adjoining states. Most ³ popular recent variety in Texas outside of Kasch.

Qualla is extensively planted along the Brazos at the present time and in general has taken the place of Kasch cotton.

One of the most interesting men interviewed in connection with cotton breeding was C. S. Lankart of Waco, Texas, who is the only large scale cotton breeder in the central Brazos region. He is full of patience--a prime requisite for success in breeding--willing to answer any question, and intensely interested in the work he is doing.

Lankart started in the cotton breeding business as a result of his farming interests in the Brazos bottom and a desire to improve the quality and price received for cotton. His first experiments were conducted in 1908, and he did not secure good results until four seasons later in 1911.

Lankart's method of cotton breeding is a radical departure from that employed on government experiment stations and by other private breeders. Most breeders use the single plant selection, which means they choose a certain plant that

³ Ibid., pp. 739, 740.

has the characteristics desired and plant all the seed together from that plant. Mr. Lankart uses the single boll selection method, which means he plants the seed from each boll of the parent plant separately. In doing this he has noticed that each boll develops certain characteristics, thus giving him more chances to find the desired qualities than if he used the plant selection method. Under the single boll selection method, the bolls that developed best were used for further planting.

The first superior type cotton developed by this method was called Lankart cotton in honor of the breeder. The chief advantages of this type are as follows: (1) Drought resistance. (2) Heavy production of large bolls. Bolls are fifteen per cent larger than those of any other cotton variety. (3) Storm and rain resistance. The cotton clings to the ear. (4) Good spinning quality. It is one inch to one and one-sixteenth inch staple. (5) Forty per cent lint, meaning that in one thousand pounds of seed cotton there will be four hundred pounds of lint cotton. The Lankart cotton was bred from Lone Star cotton that was crossed with other strains. It is thought to be a hybrid.

The next variety produced by the Lankart system was Wacona cotton, so called for the city of Waco. It is an off type selection out of Lankart cotton. The first plant was selected in 1921, and the seed were placed on the market in

has the same character as the other two.

Another fact that should be noted is that the

reflected light is not as bright as the direct

light of the parent star, and is also not as

noticed first with the telescope.

Thus, if the light is not as bright as the

light of the parent star, it is not as noticed

first with the telescope.

There are two main reasons for this.

The first is that the light is not as bright

as the light of the parent star, and is also

not as noticed first with the telescope.

The second is that the light is not as bright

as the light of the parent star, and is also

not as noticed first with the telescope.

Thus, if the light is not as bright as the

light of the parent star, it is not as noticed

first with the telescope.

There are two main reasons for this.

The first is that the light is not as bright

as the light of the parent star, and is also

not as noticed first with the telescope.

The second is that the light is not as bright

as the light of the parent star, and is also

not as noticed first with the telescope.

1928. Thirteen bolls were selected from the original plant, and nine of these failed to show Wacona characteristics. Of the remaining four, two showed a mixture of Wacona and Lankart, and the other two showed Wacona cotton. One of the last two bolls was dropped after three years of increase, and the remaining boll continued to breed true to type.

Wacona cotton is: (1) a close fruiting type, meaning there are many bolls on a single stalk; (2) a round nose boll; (3) smaller and shorter in the joints than is Lankart; (4) on heavy Bottom land, a prolific producer without so much stalk; (5) probably the most storm resistant of all varieties because of its cup-shaped bur; (6) from one and one-sixteenth to one and three-sixteenths inch in staple; and (7) thirty-four per cent lint as an average.

The Northern Star variety was the next product. The original plant was selected from Lankart cotton in 1926, and seed were placed on the market in 1935. The name was selected because it was bred primarily for growers in North and West Texas. The Northern Star: (1) is about two weeks earlier than other types, thus beating insects; (2) will grow better in cold land, and, therefore, can be planted earlier; (3) has produced the first bale in the United States for the years 1935, 1936, and 1937--these bales being grown in the Rio Grande Valley of Texas--(4) has medium sized bolls

1980. The first of these is the fact that the
and other of these will be found in the
the following. The first of these is the
January, and the second of these is the
the last of these is the fact that the
system, and the third of these is the fact that the
type.

There are two main types of soil, (1) the
these are the main types of soil, (1) the
soil: (2) the first of these is the fact that the
(3) the second of these is the fact that the
much of the soil is made up of the same material as the
various types of soil, (1) the first of these is the fact that the
one of the main types of soil, (1) the first of these is the fact that the
and (2) the second of these is the fact that the
The following are the main types of soil, (1) the
outings that are made up of the same material as the
and some of the main types of soil, (1) the first of these is the fact that the
located here as it has been found in the same place as the
and (2) the second of these is the fact that the
and (3) the third of these is the fact that the
and (4) the fourth of these is the fact that the
and (5) the fifth of these is the fact that the
and (6) the sixth of these is the fact that the
and (7) the seventh of these is the fact that the
and (8) the eighth of these is the fact that the
and (9) the ninth of these is the fact that the
and (10) the tenth of these is the fact that the
and (11) the eleventh of these is the fact that the
and (12) the twelfth of these is the fact that the
and (13) the thirteenth of these is the fact that the
and (14) the fourteenth of these is the fact that the
and (15) the fifteenth of these is the fact that the
and (16) the sixteenth of these is the fact that the
and (17) the seventeenth of these is the fact that the
and (18) the eighteenth of these is the fact that the
and (19) the nineteenth of these is the fact that the
and (20) the twentieth of these is the fact that the
and (21) the twenty-first of these is the fact that the
and (22) the twenty-second of these is the fact that the
and (23) the twenty-third of these is the fact that the
and (24) the twenty-fourth of these is the fact that the
and (25) the twenty-fifth of these is the fact that the
and (26) the twenty-sixth of these is the fact that the
and (27) the twenty-seventh of these is the fact that the
and (28) the twenty-eighth of these is the fact that the
and (29) the twenty-ninth of these is the fact that the
and (30) the thirtieth of these is the fact that the
and (31) the thirty-first of these is the fact that the
and (32) the thirty-second of these is the fact that the
and (33) the thirty-third of these is the fact that the
and (34) the thirty-fourth of these is the fact that the
and (35) the thirty-fifth of these is the fact that the
and (36) the thirty-sixth of these is the fact that the
and (37) the thirty-seventh of these is the fact that the
and (38) the thirty-eighth of these is the fact that the
and (39) the thirty-ninth of these is the fact that the
and (40) the fortieth of these is the fact that the
and (41) the forty-first of these is the fact that the
and (42) the forty-second of these is the fact that the
and (43) the forty-third of these is the fact that the
and (44) the forty-fourth of these is the fact that the
and (45) the forty-fifth of these is the fact that the
and (46) the forty-sixth of these is the fact that the
and (47) the forty-seventh of these is the fact that the
and (48) the forty-eighth of these is the fact that the
and (49) the forty-ninth of these is the fact that the
and (50) the fiftieth of these is the fact that the
and (51) the fifty-first of these is the fact that the
and (52) the fifty-second of these is the fact that the
and (53) the fifty-third of these is the fact that the
and (54) the fifty-fourth of these is the fact that the
and (55) the fifty-fifth of these is the fact that the
and (56) the fifty-sixth of these is the fact that the
and (57) the fifty-seventh of these is the fact that the
and (58) the fifty-eighth of these is the fact that the
and (59) the fifty-ninth of these is the fact that the
and (60) the sixtieth of these is the fact that the
and (61) the sixty-first of these is the fact that the
and (62) the sixty-second of these is the fact that the
and (63) the sixty-third of these is the fact that the
and (64) the sixty-fourth of these is the fact that the
and (65) the sixty-fifth of these is the fact that the
and (66) the sixty-sixth of these is the fact that the
and (67) the sixty-seventh of these is the fact that the
and (68) the sixty-eighth of these is the fact that the
and (69) the sixty-ninth of these is the fact that the
and (70) the seventieth of these is the fact that the
and (71) the seventy-first of these is the fact that the
and (72) the seventy-second of these is the fact that the
and (73) the seventy-third of these is the fact that the
and (74) the seventy-fourth of these is the fact that the
and (75) the seventy-fifth of these is the fact that the
and (76) the seventy-sixth of these is the fact that the
and (77) the seventy-seventh of these is the fact that the
and (78) the seventy-eighth of these is the fact that the
and (79) the seventy-ninth of these is the fact that the
and (80) the eightieth of these is the fact that the
and (81) the eighty-first of these is the fact that the
and (82) the eighty-second of these is the fact that the
and (83) the eighty-third of these is the fact that the
and (84) the eighty-fourth of these is the fact that the
and (85) the eighty-fifth of these is the fact that the
and (86) the eighty-sixth of these is the fact that the
and (87) the eighty-seventh of these is the fact that the
and (88) the eighty-eighth of these is the fact that the
and (89) the eighty-ninth of these is the fact that the
and (90) the ninetieth of these is the fact that the
and (91) the ninety-first of these is the fact that the
and (92) the ninety-second of these is the fact that the
and (93) the ninety-third of these is the fact that the
and (94) the ninety-fourth of these is the fact that the
and (95) the ninety-fifth of these is the fact that the
and (96) the ninety-sixth of these is the fact that the
and (97) the ninety-seventh of these is the fact that the
and (98) the ninety-eighth of these is the fact that the
and (99) the ninety-ninth of these is the fact that the
and (100) the hundredth of these is the fact that the

and very thin bur; (5) produces fifteen-sixteenths to one inch staple; and (6) is thirty-eight to forty per cent lint.

Next was the Caddo variety of cotton. The original plant was a cross between the Northern Star and Wacona cotton in 1928. These types had been crossed to breed early maturity into Wacona cotton. The name came from Lankart breeding farms in Caddo, Louisiana. It is a close fruiting type, similar to Wacona, and makes one and one-sixteenth to one and one-eighth inch staple, with a thirty-eight per cent average of lint.

Lankart's latest development is the Greenfield Staple. The original plant was selected in 1930, but the seed have not been placed on the market. One reason is that gins are not properly equipped to handle long staple cotton. It was so named because of the dark green color of its foliage. It has the following features: (1) One and one-fourth to one and five-sixteenths inch staple. (2) Long jointed open type plant. (3) Bolls medium long and sharp-pointed, but large in size. (4) About eighty-five per cent of the bolls being five lock bolls, which is high for long staple cotton.

The above varieties have all been used in the central Brazos region. Probably more Lankart has been planted than any other variety.

When Lankart started breeding cotton, he owned four hundred acres of land, twelve miles southeast of Waco, on

the west side of the Brazos river. He now owns six hundred and eighty acres, and his experiments have all been started on this land.

Near his land Lankart has fifty-eight hundred acres under contract with a gin located at Asa which gins only cotton produced on the Lankart seed farm. Nearer Waco he has thirty-six hundred acres under contract with another gin.

The man who owns the land and his tenants both sign a written contract with Lankart. Lankart agrees to furnish planting seed at cost and pay producer five dollars a ton bonus for all seed produced and used for planting purposes. The remainder of the seed is sent to oilmills, and the farmer must not take any home. The producer promises to plant no other seed and agrees to carry his cotton to the specified gin. In this manner the purity of the various strains is assured.

Lankart's growers have always sold their cotton as a group at times when they thought the market was best, and have secured a good premium because of the large amount of one type of cotton. They have averaged seven dollars a bale more than the other Bottom farmers. A certain cotton mill in England uses all cotton produced on the Lankart seed farms.

The west side of the river is a low, rolling plain, and the east side is a high, rugged mountain range. The river flows from the west to the east, and the mountains are on the east side.

The mountains are covered with dense forests, and the river is filled with many small islands and rapids. The water is very clear, and the scenery is very beautiful. The mountains are very high, and the forests are very thick.

The river is very long, and it flows through many different regions. The water is very clean, and the scenery is very nice. The mountains are very beautiful, and the forests are very green.

The river is very important, and it is used for many different things. The water is very good, and the scenery is very nice. The mountains are very high, and the forests are very thick.

The river is very beautiful, and it is a very nice place to visit. The water is very clear, and the scenery is very nice. The mountains are very high, and the forests are very thick.

The river is very nice, and it is a very good place to live. The water is very good, and the scenery is very nice. The mountains are very high, and the forests are very thick.

The river is very good, and it is a very nice place to visit. The water is very good, and the scenery is very nice. The mountains are very high, and the forests are very thick.

CHAPTER VII

WEED AND INSECT ENEMIES AND THEIR CONTROL

Anyone who is familiar with farm problems knows that weeds constitute one of the greatest troubles of all the array of troubles that beset farmers.¹

According to Tomlinson, the worst weed pest on the Brazos is nut grass. This grass made its appearance along the middle Brazos immediately after the June flood of 1899. Exactly where it came from no one knows, but Tomlinson's theory is that it was washed down from the city of Waco where some citizens had used it as a lawn covering.

It is almost impossible to kill nut grass because of the fact that the seed is so well protected by the nut or shell. The salamander or gopher that lives in sandy soil along the edge of the Bottom stores the seed of the nut grass and thus helps to spread it. This grass absorbs moisture from the cotton plant. About the only good point for nut grass is that hogs will sometimes fatten on the seed.

Next in importance as a plant pest is Johnson grass.

¹ Much information concerning weed pests in the Brazos bottom was secured from A. P. Tomlinson, who lives at Tomlinson Hill on the west side of the river near Marlin, Texas. Mr. Tomlinson's grandfather, James K. Tomlinson, came to this hill from Evergreen, Alabama, in 1858. His father, James E. Tomlinson, also lived at Tomlinson Hill; so his information on conditions along the river since early times may be accepted as fairly accurate.

CHAPTER I

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

THEORY OF THE EARTH

This grass was brought to Marlin by Judge Kimes in 1884. It was planted in the Bottom for several years before farmers realized it was a menace unless properly controlled. Johnson grass makes excellent grazing for cattle and good feed when cut and dried. Therefore it does serve some useful purposes, but if it gets started on cotton land Herculean efforts are needed to dislodge it. This grass spreads by its root system as well as by the seed. Within the last twenty-five years thousands of acres of the best cotton land along the Brazos have been abandoned to Johnson grass. Most of this land was worked by tenants who made no particular effort to check its growth, and the landowner in most cases had no extra money to hire laborers to keep it down.

Johnson grass can be controlled by repeated plowing, done now by tractors, by repeated hoeing in hot weather, and by digging up the plant and exposing the roots. Plowing the land while it is wet is also supposed to rot the roots of this plant.

Other weeds and grasses that give more or less trouble in wet years are the cocklebur, Colorado grass, "careless weed," and Bermuda grass.

The only disease to affect the bottom cotton to any large extent has been Texas root rot, which is discussed in the following quotation.

The disease has not been found east of Texas. In Texas alone the loss in 1906 was estimated at three

This great work... was planned by the... resulted in... non... when... proposed... after... the... twenty-five... along... of this... effort... had no... through... and... to... from... this... and... in... work... The... large... the... The...

million dollars.

The general characteristics of the disease are as follows: the first indication is the sudden wilting of a single plant, or a number of them; this is apt to occur in May or June. During the last of June or the first of July a large number of wilted plants may be seen, later forming irregular dead patches. The plants wilt most frequently on hot days following rain. Continuous dry weather tends to hold the disease in check.

If the roots of dead cotton stalks or of those wilting are examined, brown threads of fungus will be found closely surrounding the tap root and some of the lateral roots. Small wartlike bodies, or sclerotia, are found in numerous places on the tap root and lateral roots. The roots shrink and decay. The fungus Mycelium in younger stages is white, and may be found on roots of plants that appear healthy.

Since this is a soil-borne disease, great precaution must be used to prevent the transference of inoculated soil to disease-free areas. Soil is often transferred to carry legume inoculation, and this practice may serve to spread the disease.

Deep fall plowing and the use of immune crops, such as grains, two years in succession in a 3-year rotation is the only control measure advised.²

Cotton farmers in the Bottom are often bothered by the cotton plant shedding its bolls and squares because of weather conditions. If there is a rainy season, the plant grows rapidly and puts on much "fruit". If the weather then turns hot and dry, the plant cannot mature the "fruit" it has started, and thus the shedding process takes much from the yield.

The next quotation describes the Bottom farmers' worst insect enemy.

Enemy No. 1 among cotton insects is the notorious boll weevil. Making his first appearance on

² H. B. Brown, Cotton, pp. 285-286.

the pages of American cotton history in 1862 near Monclova, Mexico, he forded the Rio Grande river in the vicinity of Brownsville, Texas, in 1892. Thirty years later he had swept the Cotton Belt except West Texas and brought about a revolution in the cotton industry of the South.

New varieties, changed cultural methods, and poison applications have been used to combat the weevil. It was in 1918 that Coad showed beyond doubt that the weevil could be effectively controlled in the field by dusting with calcium arsenate and within five years from that date ³ effective dusting machinery had been developed.

The boll weevil made his appearance on the Central Brazos in 1899. In the first few years following 1900 the weevil damage was so great that many cotton farms in the Bottom were abandoned, since there seemed no way of combating the insect. One farm of twenty-five hundred acres near Calvert, Texas, was abandoned for five years during this period. Of course the methods mentioned in the preceding paragraph soon brought relief, but there was almost a total loss of the crop in 1919, and there is some infestation each year. Brown has the following information on the boll weevil.

The adult boll weevil is a small grayish or brownish weevil, about $\frac{3}{4}$ inch in length varying from $\frac{1}{8}$ to $\frac{1}{3}$ inch with a breadth $\frac{1}{3}$ of the length. The size varies considerably, being determined by the amount of food supplied the developing larva. Weevils that develop in bolls where food is abundant, are considerably larger than ones that grow in squares. The color is

³ Eugene Butler. "Fifty Years of Cotton Growing," Progressive Farmer (February, 1936), pp. 8, 57.

largely dependent on the age of the weevil: newly hatched ones are yellowish brown, while older ones become grayish and dark. Anyone who has seen boll weevils will have but little trouble in identifying them. In a cotton field the presence of weevils is indicated by the flaring of the bracts of cotton squares and by an excessive amount of square shedding. If the squares when cut open are found to contain a white, curved grub that has eaten out the inside of the flower bud, there is not much doubt that boll weevils are present.

The boll weevil passes through the winter, or hibernates, in the adult or winged stage. Egg laying does not begin until cotton squares have formed. Eggs are deposited in small pits or openings which the female makes with her snout. They are usually placed near the base of the flower bud and inside the corolla.

The egg under normal conditions hatches in about 3 days, and the larva, or young grub, begins to feed on the plant substance about it. It reaches maturity in about 7 to 12 days. Its development is dependent on weather conditions; cool weather retards growth, while hot, dry weather may kill it. The mature larva is white with brownish markings, curved, and about $\frac{1}{2}$ inch in length. The mature larva changes into a pupa, a form corresponding to the chrysalis of the butterfly or the cocoon of the moth. The pupa is inactive, eats nothing, and remains within the square or boll. After 3 to 5 days an adult weevil hatches from the pupa. The young adult begins to produce a new generation in from 5 to 7 days after emergence. The condition of the weather has an important bearing on the length of time required for a boll weevil to pass through its life cycle. The time required varies from 2 to 4 weeks or longer, being longer during cool weather or towards the end of the season. Warm weather favors rapid development, but hot, dry weather increases mortality greatly.

The length of time that the mature weevils live varies with the season of the year. In the summer most weevils do not live longer than 50 days. During the cooler part of the year, many live as long as 6 months, and one is known to have lived from December to the following October--11 months.

The favorite food of the boll weevil is pollen in the unopened flower bud of the cotton plant. This it obtains by making a number of punctures through the

corolla of the unopened flower. The upper part of the bud may show a dozen or more punctures with loose pollen scattered around them. Weevils that appear in fields before squares have formed attack the young leaf buds to some extent, and, in the latter part of the season, after unpunctured squares have become scarce, they attack young bolls. Even bolls of full size, but with tender walls, may be punctured.

Both the adult weevil and the larva damage cotton plants. The adult feeds on young leaf buds, and punctures both squares and young bolls for feeding and egg laying. The larvae feed on the inside of squares and bolls. The squares are shed or fail to develop flowers. Young bolls are commonly shed, while older ones have one or more locks ruined. Some locks that open have the lint so stained or damaged that the grade of the whole lot of lint cotton is lowered.

The damage done by boll weevils varies greatly due to weather conditions and other unexplainable reasons.

The boll weevil after landing in a cotton field shows but little disposition to leave if squares are plentiful. It flies for short distances, but is not apt to fly to another field until the seasonal migration period in August, unless food becomes scarce. When the migration period comes on, it instinctively takes to wing and by a series of short flights may travel a hundred miles or more. The movement is generally in the direction of the prevailing wind, but it may be in any direction. In the fall, beginning about the time of the first frost, there is also a movement to hibernating quarters. In the spring there is a movement from the hibernating quarters back to the cotton fields.

By "hibernation" is meant the act of passing through the winter period in a dormant, or quiescent, state. With the coming of cool weather in the fall of the year, boll weevils begin to seek shelter. Many enter cracks in the ground or hide under grass, weeds, or other trash in the cotton fields. Others fly to fence rows, grassy ditch banks, or the woods, for shelter. The bunches of Spanish moss hanging from limbs of trees so abundantly in sections of the cotton states afford splendid winter quarters. Most weevils that attempt to pass the winter in the cotton fields fail to survive. Apparently, woods, negro cabins, or hay stacks afford the safest places, for infestation in cotton fields early in the season is usually heaviest near such places.⁴

⁴ H.B. Brown, Cotton, pp. 294-298.

Farmers of the central Brazos have spent many thousands of dollars in the fight against the boll weevil, and the methods used are discussed in the following paragraphs:

The farmer is aided in his fight against the weevil by a number of important natural factors which tend to reduce the possible weevil damage. (1) The weevil is practically dependent on cotton for reproduction. (2) The mortality of the weevil during the winter is very high. (3) Hot, dry weather during the summer exercises a tremendous control upon the weevil stages, while moist, cloudy weather removes the control and greatly accelerates multiplication. (4) The weevil is attacked by many different species of insect enemies. (5) The emergence from hibernation quarters during the spring is slow and prolonged until well into the summer. (6) Early in the season on account of comparatively lower temperature, the development of the weevil is much slower than during the midsummer months. (7) The cotton plant produces many more squares than it can carry to maturity as bolls. This surplus is shed by the plant throughout the season, under normal conditions about 60 per cent of the fruit being shed. (8) Up to a certain point, weevil puncturing of fruit does not reduce the cotton crop, because large numbers of forms would be shed normally. (9) The weevil has a decided tendency to seek moisture wherever it may be found on the surface of the plant.⁵

Calcium arsenate is the poison employed for weevils. It is dusted on in a dry form when the dew is on the cotton so that the poison will stick to the plant. Most planters use a cart machine, a two-wheel two-mile machine which straddles a row of cotton. It has three nozzles and will cover twenty-five to thirty acres of cotton a night. About

⁵ Ibid., p. 300.

five to seven pounds of poison are used an acre for each application. It takes three or four applications at frequent intervals to kill most of the weevils.

Brown names other methods of control.

Some other methods of weevil control are: (1) Fall destruction of infested plants. (2) Grazing. (3) Destruction of weevils in hibernation. (4) Locating fields to avoid weevil damage. (5) Procuring an early crop of cotton. (6) Early removal of plants and preparation of land. (7) Use of the early varieties of cotton. (8) Early planting.⁶

Next to the boll weevil in importance as a cotton destroyer is the cotton worm or cotton caterpillar. These worms were numerous on the Brazos many years before the weevil came, but only in recent years have they caused extensive damage. The following statement gives information on the caterpillar.

The egg of the caterpillar is bluish green in color and of a different shade from that of the leaf, so that it can be rather readily distinguished. It is found usually on the underside of the leaves and as a general thing toward the top of the plant. In the neighborhood of 500 eggs are laid by each female, sometimes several upon each leaf, but never in clusters.

After hatching from the egg the young larvae feeds at first upon the underside of the leaf, devouring simply the lower parenchyma and not piercing through to the upper side until after the first molt. Although the normal food of the caterpillar is the leaves, it will frequently gnaw the tender twigs and will even damage the bolls by eating into them in spots. In spite of its comparatively small size and slender form, this larva is, in fact, very

⁶ Ibid., pp. 302-305..

five or seven years ago, and it is now a well-known fact that the
plasticity of the brain is not a static condition, but a dynamic one,
capable of being modified by the environment.

It is not only the brain, but the entire nervous system, which is
capable of being modified by the environment. The nervous system is
not a static structure, but a dynamic one, capable of being modified
by the environment. The nervous system is not a static structure,
but a dynamic one, capable of being modified by the environment.

It is not only the brain, but the entire nervous system, which is
capable of being modified by the environment. The nervous system is
not a static structure, but a dynamic one, capable of being modified
by the environment. The nervous system is not a static structure,
but a dynamic one, capable of being modified by the environment.

It is not only the brain, but the entire nervous system, which is
capable of being modified by the environment. The nervous system is
not a static structure, but a dynamic one, capable of being modified
by the environment. The nervous system is not a static structure,
but a dynamic one, capable of being modified by the environment.

It is not only the brain, but the entire nervous system, which is
capable of being modified by the environment. The nervous system is
not a static structure, but a dynamic one, capable of being modified
by the environment. The nervous system is not a static structure,
but a dynamic one, capable of being modified by the environment.

It is not only the brain, but the entire nervous system, which is
capable of being modified by the environment. The nervous system is
not a static structure, but a dynamic one, capable of being modified
by the environment. The nervous system is not a static structure,
but a dynamic one, capable of being modified by the environment.

voracious, and when occurring in numbers the ruin which it accomplishes is complete.

To go into the pupa state the caterpillar spins a light silken web, usually within a folded leaf. Its color is at first green, but in the course of an hour or so it changes to brown. The insect remains in this condition for a period varying from one week to thirty days.

The perfect insect of the cotton caterpillar is a rather small moth of an olive-gray color, sometimes with a somewhat purplish luster.

The first defense used against the caterpillar was the placing of lights in pans of water on top of posts to attract the moths. This did not catch enough of the moths and was discontinued. At the present time Paris Green is used in a spray form and is put on the plant by a machine similar to the one used in dusting for boll weevils. The spray can be used during the day. Before these machines were devised, poison was dusted from sacks on the end of a pole carried across a mule's back.

The cotton boll worm helped the weevil to destroy the Bottom cotton crop in 1919, but its damage has been less than that of the first two enemies named. The boll worm works as follows:

The cotton boll worm destroys cotton squares and bolls by eating their interior. In some localities, especially in Texas, the damage done is considerable.

Eggs are laid on leaves. After hatching the young larvae feeds on the surface of the leaves

⁷ L. O. Howard, The Cotton Plant (Washington: Government Printing Office, 1896), pp. 320-322.

The first of these is the fact that the
the second is the fact that the
the third is the fact that the
the fourth is the fact that the
the fifth is the fact that the
the sixth is the fact that the
the seventh is the fact that the
the eighth is the fact that the
the ninth is the fact that the
the tenth is the fact that the

the eleventh is the fact that the
the twelfth is the fact that the
the thirteenth is the fact that the
the fourteenth is the fact that the
the fifteenth is the fact that the
the sixteenth is the fact that the
the seventeenth is the fact that the
the eighteenth is the fact that the
the nineteenth is the fact that the
the twentieth is the fact that the
the twenty-first is the fact that the
the twenty-second is the fact that the
the twenty-third is the fact that the
the twenty-fourth is the fact that the
the twenty-fifth is the fact that the
the twenty-sixth is the fact that the
the twenty-seventh is the fact that the
the twenty-eighth is the fact that the
the twenty-ninth is the fact that the
the thirtieth is the fact that the

the thirty-first is the fact that the
the thirty-second is the fact that the
the thirty-third is the fact that the
the thirty-fourth is the fact that the
the thirty-fifth is the fact that the
the thirty-sixth is the fact that the
the thirty-seventh is the fact that the
the thirty-eighth is the fact that the
the thirty-ninth is the fact that the
the fortieth is the fact that the
the forty-first is the fact that the
the forty-second is the fact that the
the forty-third is the fact that the
the forty-fourth is the fact that the
the forty-fifth is the fact that the
the forty-sixth is the fact that the
the forty-seventh is the fact that the
the forty-eighth is the fact that the
the forty-ninth is the fact that the
the fiftieth is the fact that the

the fifty-first is the fact that the
the fifty-second is the fact that the
the fifty-third is the fact that the
the fifty-fourth is the fact that the
the fifty-fifth is the fact that the
the fifty-sixth is the fact that the
the fifty-seventh is the fact that the
the fifty-eighth is the fact that the
the fifty-ninth is the fact that the
the sixtieth is the fact that the

for a short time and then enters a square or boll. After destroying the contents, it seeks another, so continuing until several have been ruined. When full grown it enters the ground to pupate. A moth hatches from the pupa in about 2 weeks. This insect passes the winter as a pupa in the soil. It is poisoned in the same manner as was given for the cotton leaf worm.⁸

The latest insect to damage cotton in this region has been the cotton hopper or cotton flea. It is a small green bug whose life history and habits have not been worked out completely. This insect causes the plant to be poorly developed and to shed most of its squares and bolls. It also attacks very young cotton and stops its growth.

The only effective remedy found for the flea is finely ground sulphur that is blown on the cotton with a dusting machine. Most farmers use fifteen pounds an acre and go over the cotton three or four times.

The most recent method used in dusting poison on cotton plants for controlling various insects is by airplane. This costs about one dollar an acre, which is higher than the cost of other methods, but it has certain advantages. The work is done quickly, and rainy weather causing muddy fields does not stop the poisoning. The plane flies just above the stalks and blows the poison on with such force that it actually penetrates the leaves and thus stays on better. This method has been used by some of the largest plantations near Calvert and Hearne, but it is largely in the experi-

⁸ H. B. Brown, Cotton, pp. 315-317.

The first thing I noticed when I stepped out of the car was the cold. It was a sharp contrast to the warm blanket I had been sitting under. I looked around, trying to get my bearings. The street was empty, and the houses on either side were dark and silent. I felt a little lost, but I knew I had to keep going. I started walking, my feet hitting the cold pavement. The air was crisp, and I could hear the distant sounds of the city. I felt a sense of purpose, a determination to see this through. I kept walking, my mind racing with thoughts of the future. I knew that this was just the beginning, and I was ready for whatever came next.

I had heard that the city was beautiful, but I didn't realize how much I would love it. The streets were wide and clean, and the buildings were tall and modern. I felt like I had found a new home. I walked for hours, my legs getting tired but my spirit growing stronger. I saw people walking in the same direction as I was, and I felt a sense of camaraderie. I knew that I was not alone, and that I was part of something bigger than myself. I felt a sense of hope, a belief that everything would work out in the end. I kept walking, my heart full of joy and my mind full of dreams.

I had heard that the city was beautiful, but I didn't realize how much I would love it. The streets were wide and clean, and the buildings were tall and modern. I felt like I had found a new home. I walked for hours, my legs getting tired but my spirit growing stronger. I saw people walking in the same direction as I was, and I felt a sense of camaraderie. I knew that I was not alone, and that I was part of something bigger than myself. I felt a sense of hope, a belief that everything would work out in the end. I kept walking, my heart full of joy and my mind full of dreams.

I had heard that the city was beautiful, but I didn't realize how much I would love it. The streets were wide and clean, and the buildings were tall and modern. I felt like I had found a new home. I walked for hours, my legs getting tired but my spirit growing stronger. I saw people walking in the same direction as I was, and I felt a sense of camaraderie. I knew that I was not alone, and that I was part of something bigger than myself. I felt a sense of hope, a belief that everything would work out in the end. I kept walking, my heart full of joy and my mind full of dreams.

I had heard that the city was beautiful, but I didn't realize how much I would love it. The streets were wide and clean, and the buildings were tall and modern. I felt like I had found a new home. I walked for hours, my legs getting tired but my spirit growing stronger. I saw people walking in the same direction as I was, and I felt a sense of camaraderie. I knew that I was not alone, and that I was part of something bigger than myself. I felt a sense of hope, a belief that everything would work out in the end. I kept walking, my heart full of joy and my mind full of dreams.

I had heard that the city was beautiful, but I didn't realize how much I would love it. The streets were wide and clean, and the buildings were tall and modern. I felt like I had found a new home. I walked for hours, my legs getting tired but my spirit growing stronger. I saw people walking in the same direction as I was, and I felt a sense of camaraderie. I knew that I was not alone, and that I was part of something bigger than myself. I felt a sense of hope, a belief that everything would work out in the end. I kept walking, my heart full of joy and my mind full of dreams.

mental stage because of its high cost. There is some probability that in the future it might be used on a community or cooperative basis.

A great many Bottom farmers begin dusting their cotton early in the season, even though no insects are in evidence, as insurance against possible damage later. If they wait to begin until damage is evident, then more poison is necessary, besides the loss already incurred from the insects. When the caterpillar is allowed to run unchecked, all the plant is devoured except the mature bolls and the stalk, and the fields present a very ragged and bedraggled appearance. If the caterpillars do not begin hatching out until the middle of August, then some cotton will be made, even though no poison is used, as most of the bolls are matured at that time. However, they usually hatch out much earlier, especially if the season is a wet one and the cotton makes a large stalk. A caterpillar infested field has a typically musty odor. When the weevil and boll worm are present alone, the cotton plant looks normal from a distance, but close examination shows a lack of bolls.

The success with which cotton insects are now controlled is a tribute not only to the courage and resourcefulness of the farmer, but also to the patience and untiring efforts of entomologists in the United States Department of Agriculture and in the Texas Agricultural and Mechanical College at College Station,, Texas.

CHAPTER VIII

CONCLUSION

The story of cotton along the central Brazos river is inextricably bound up with the glamorous history of Texas. From a time prior to the Civil War until the present this region has seen a continuous struggle between man and the forces of nature.

To the pioneer, as usual, fell the hardest struggle, in which a veritable jungle was cleared and an outlet made to the seacoast market. The earliest planters did not have to contend with the Indian, as the cattlemen had come before them and had driven him westward.

Although the Civil War did not devastate the cotton farms of Texas as much as it did those in Georgia and other states, it left them in a chaotic and disorganized condition. The chief obstacle to progress prior to this time had been the lack of transportation facilities to move the cotton to market. By 1860 the Houston and Texas Central railroad had been built from Houston north to Millican near the present Brazos bottom town of Bryan, Texas. In the years immediately following 1865, this railroad was extended north through the Brazos valley towns of Bryan, Hearne, and Calvert. The railroad veered east from the river at Calvert and thence to the

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF THE HISTORY OF ARTS
CHICAGO, ILLINOIS

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF THE HISTORY OF ARTS
CHICAGO, ILLINOIS

prairie region of Texas. Each of these towns served as a northern terminus for the road for a brief period, at which time cotton would be freighted there from many miles and the town would have all the characteristics of a boom center. From 1870 until well past 1900 (excepting the panic of 1897) was the golden era in cotton production along the Brazos. Labor was cheap and plentiful, living expenses were low, and the price of cotton was relatively high; so with the exception of flood years the Bottom farmers gained substantial profits in cotton.

The very fertility of the bottom land has been a hindrance to such modern farm developments as the tractor, diversification, and soil conservation. There are many traditions here that will have to be swept aside before these improvements are secured.

The future for the Brazos bottom cotton farmer is full of promise in the following ways: flood control through a series of dams seems assured within the next decade; insect control is well established; cooperative marketing is on its way; and improved living conditions for the tenant and the day laborer are slowly but surely emerging.

proceeding to the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

the ... of the ...

BIBLIOGRAPHY

- Brown, H. B., Cotton. First edition; New York: McGraw Hill Book Company, 1927. pp. 241, 285-286, 294-298, 300, 302-305, 315-317.
- Butler, Eugene, "Fifty Years of Cotton Growing," Progressive Farmer, 51:8, 57, February, 1936.
- Elliott, J. W., "Land Tenancy Under the Plantation System, a Study of Some Brazos River Bottom Plantations." Unpublished Master's thesis, Texas Agricultural and Mechanical College, College Station, Texas, 1921. pp. 56, 8.
- Encyclopedia Americana. 4th edition: New York: Encyclopedia Americana Corporation, 1924. vol. 4, p. 444.
- Gabbard, L. P., and H. E. Rea, "Cotton Production in Texas," Texas Agricultural Experiment Station Circular No. 39, April, 1926.
- Howard, L. O., The Cotton Plant. Washington: Government Printing Office, 1896. pp. 320-322.
- McCullough, W. R., and George Wolf, "Development and Organization of Cooperative Cotton Marketing Associations," American Cotton Cooperative Association Bulletin No. E-1, April, 1937. pp. 21-23.
- Oglesby, J. K., "--And So Cotton Came to Texas," Farm and Ranch, 46:2, October 29, 1927.
- Paddock, B. B., A History of Central and Western Texas. Chicago: Lewis Publishing Company, 1911. vol. 2, pp. 661, 662, 645, 725, 772-776.
- Tait, C. W., Family Archives of the University of Texas Library, Series II, No. 12. The University of Texas Free News Service, March 31, 1935.
- Wallis, Mrs. J. L., and L. L. Hill, Sixty Years on the Brazos; the Life and Letters of Dr. John Washington Lockhart, 1824-1900. Los Angeles: Dunn Brothers, 1930. pp. 18-20, 110-111.

1900-1901

1901-1902

1902-1903

1903-1904

1904-1905

1905-1906

1906-1907

1907-1908

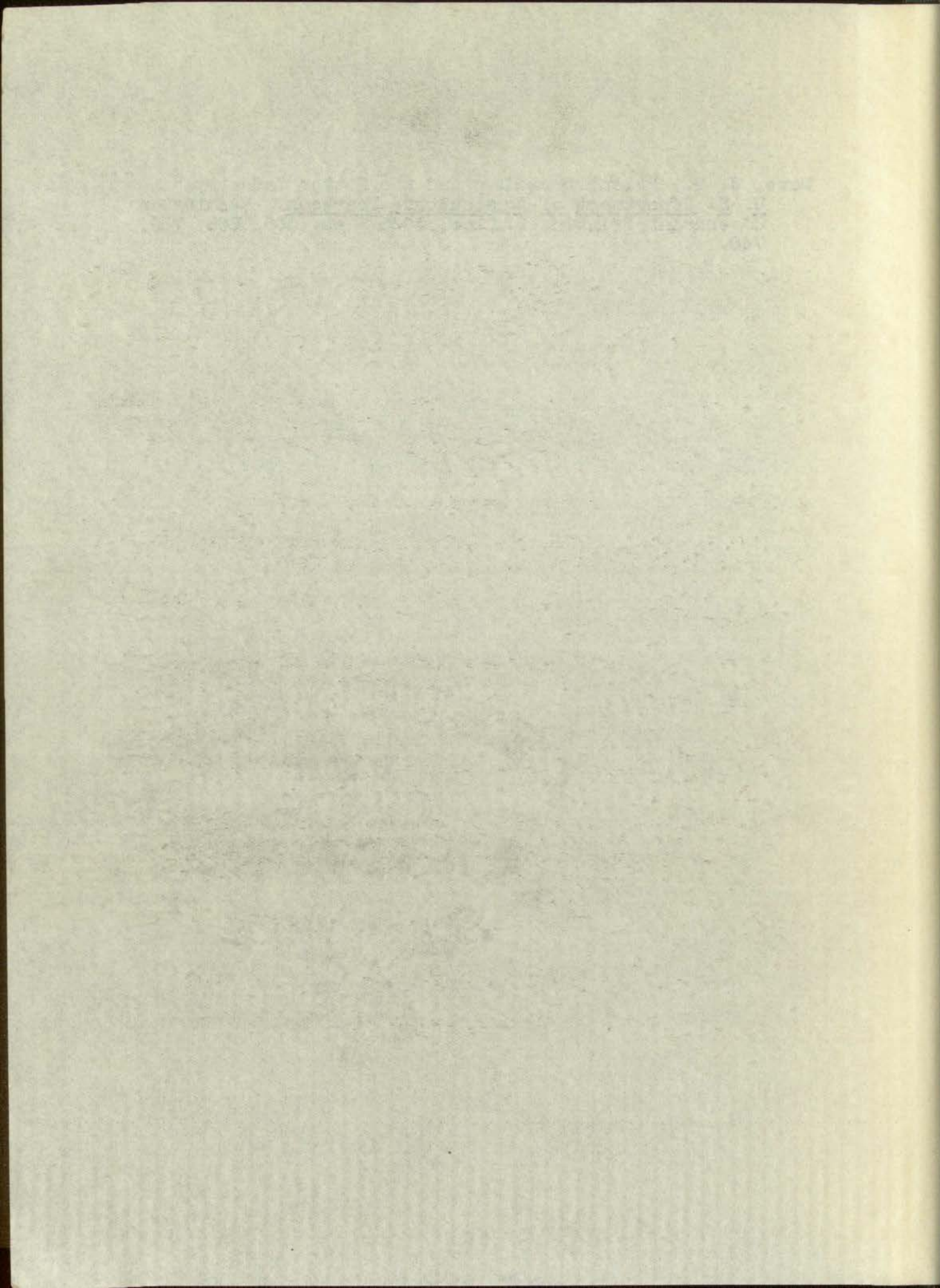
1908-1909

1909-1910

1910-1911

1911-1912

Ware, J. C., "Plant Breeding and the Cotton Industry,"
U. S. Department of Agriculture Yearbook. Washington:
Government Printing Office, 1936. pp. 666, 668, 739,
740.



INDIVIDUALS INTERVIEWED

Allen, W. S., A merchant in Calvert, Texas, who was born in Milam County in 1856.

Goddard, Joe, County Surveyor of McLennan County, beginning in 1902.

Lane, J. Felton, A citizen of Hearne, Texas, for forty years, the editor of the Hearne Democrat for twenty-five years, and a former district attorney. He is known as "The Tall Sycamore of the Brazos".

Lankart, C. S., A cotton breeder of Waco, Texas.

Mayo, Thomas, The librarian of the Texas Agricultural and Mechanical College, College Station, Texas.

McCall, R. L., A resident of the Brazos valley near Calvert, Texas, since 1872.

McCrary, J. R., A plantation owner, and a former president of the Brazos Valley Cotton Cooperative Association, Calvert, Texas.

Price, J. E., Now a resident of Kosse, Texas, who lived in the Brazos bottom near Marlin, Texas, during the Reconstruction Period after the Civil War.

Rogers, Marjorie, A lawyer in Marlin, Texas, interested in Falls County history and Texas history, and the author of historical sketches appearing in the Dallas News and periodicals.

Tomlinson, A. P., A cotton planter at Tomlinson Hill near Marlin, Texas.

Wood, Fred L., A plantation owner near Hearne, Texas.

Youngblood, J. W., A cotton planter near Waco, Texas.

Alfred J. ...
...

William ...
...

James ...
...

Robert ...
...

William ...
...

James ...
...

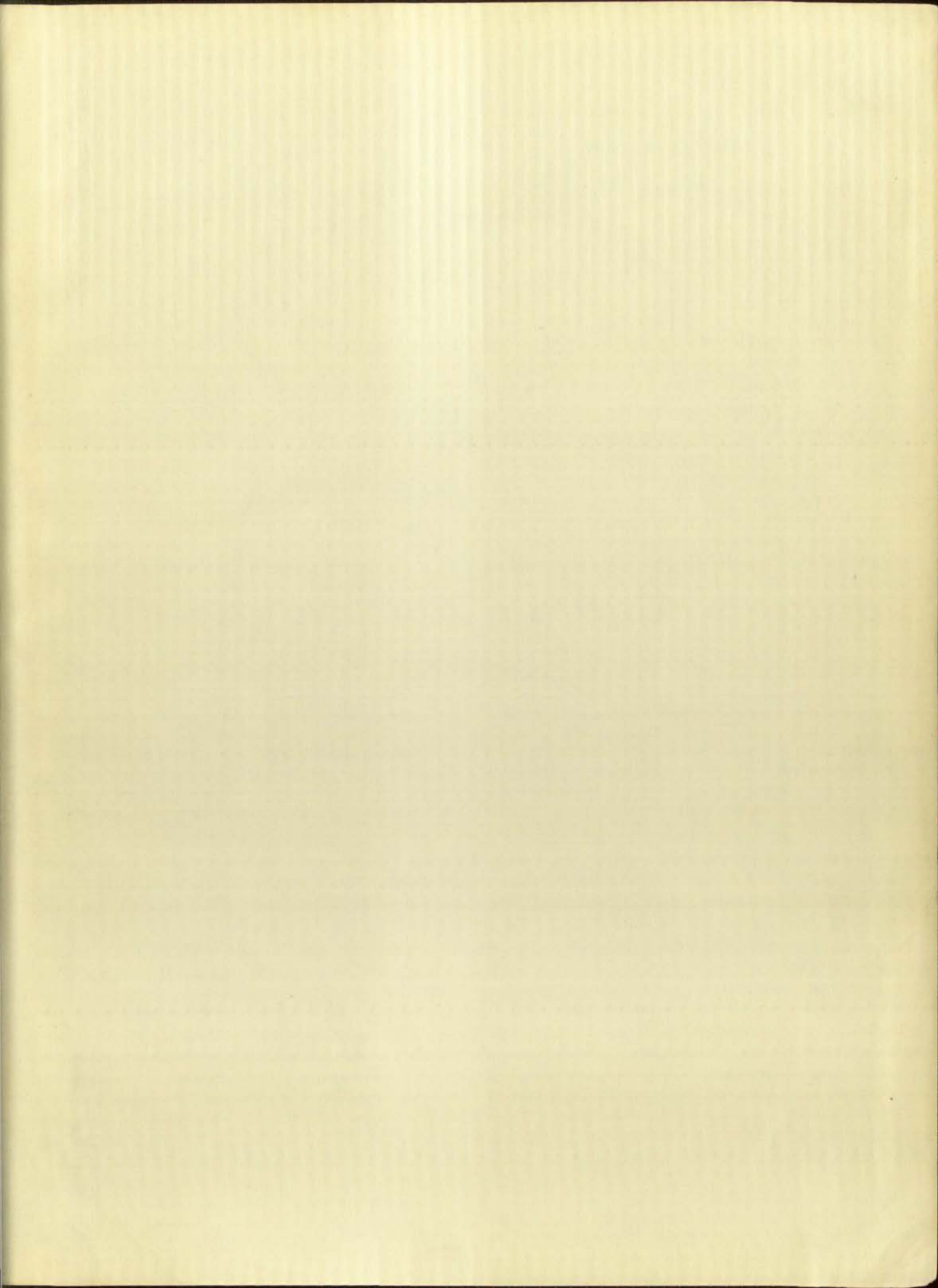
Robert ...
...

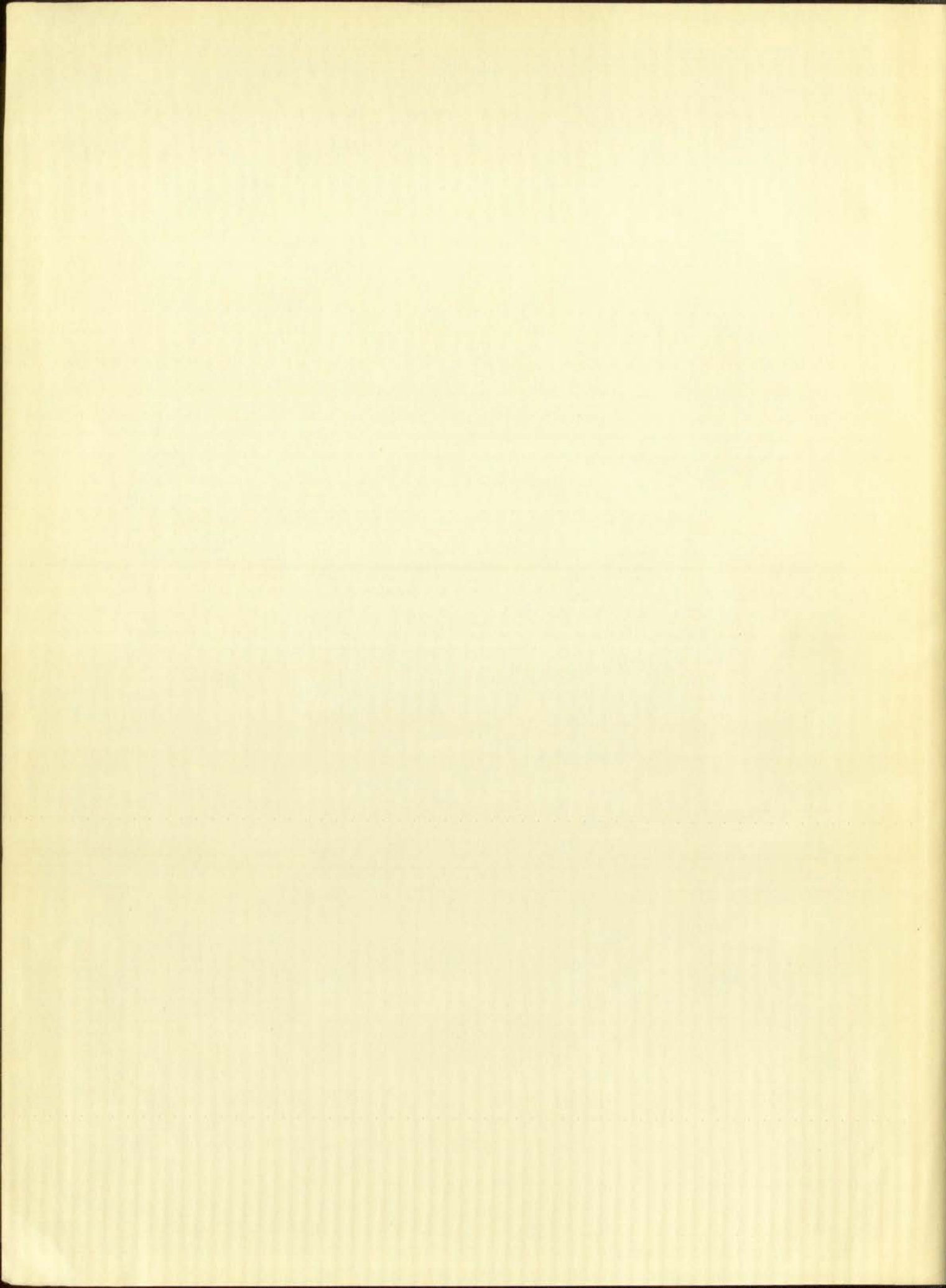
James ...
...

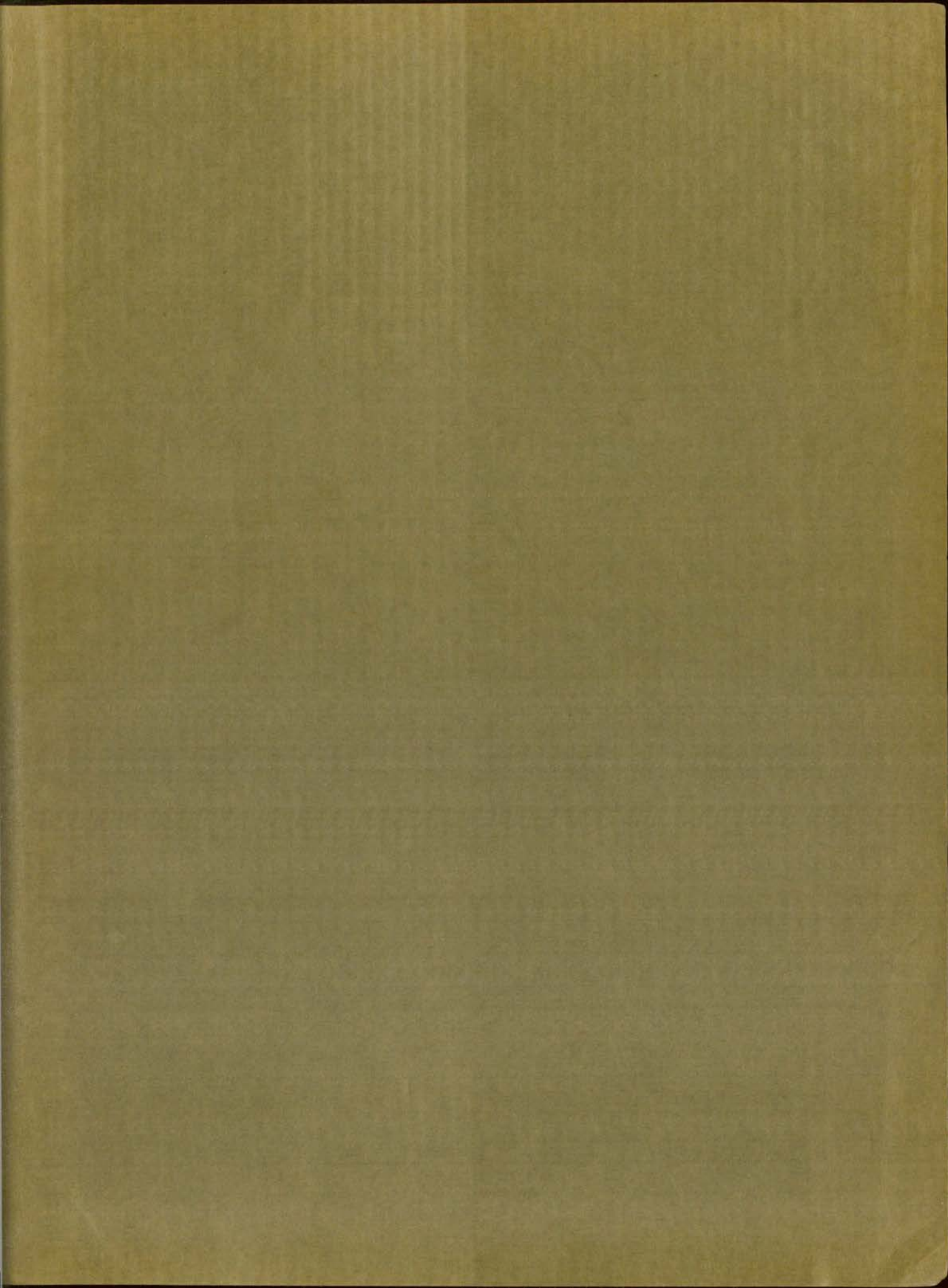
Robert ...
...

James ...
...

Robert ...
...







IMPORTANT!

Special care should be taken to prevent loss or damage of this volume. If lost or damaged, it must be paid for at the current rate of typing.

De... a

