

1896

Ninth annual report of the agricultural experiment stations of the Louisiana State University and A. & M. College.

Louisiana State University and Agricultural & Mechanical College

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NINTH ANNUAL REPORT

OF THE

State College
of Washington
Library

Agricultural Experiment Stations

OF THE

LOUISIANA STATE UNIVERSITY

AND

A. & M. COLLEGE,

FOR 1896.

TO THE GOVERNOR.

BATON ROUGE

PRINTED AT THE TRUTH BOOK AND JOB OFFICE.

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Agriculture

LOUISIANA STATE UNIVERSITY AND A. AND M. COLLEGE, }
OFFICE OF STATE EXPERIMENT STATION, }
Baton Rouge, January 29, 1897. }

To His Excellency, Murphy J. Foster, Governor of Louisiana :

SIR—In accordance with the provisions of section 3 of the Act of Congress to establish Agricultural Experiment Stations, in connection with the colleges established in the several States under the provisions of an Act approved July 2, 1862, and the Acts supplementary thereto, I beg leave to submit a report of the Louisiana Agricultural Experiment Stations, including a statement of the receipts and disbursements from July 1st, 1895, to July 1st, 1896.

STATION NO. 1,

Sugar Experiment Station, Audubon Park, New Orleans. Sugar cane, which constitutes the chief crop of this station, has also been the chief study in the laboratories and sugar house during the past year. In the field, experiments covering the entire subject of proper fertilization of the cane have been continued on the same plats. This is the seventh year that such experiments on same plats with same manures have been conducted, and the combined results have been prepared in bulletin form, and are now ready for publication.

Experiments in different methods of cultivation, drainage and irrigation, have also been continued. Physiological investigations of the sugar cane, both in the field and microscopical laboratory, have been energetically pushed during the year, and valuable results obtained. Among the numerous varieties of cane under trial on the station, are some twenty-five seedlings, several of which have so far shown a high sugar content. Samples of Nos. 95 and 74 of these seedlings have been quite extensively distributed among the planters during the past fall,

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and a much larger quantity will be available for distribution next season.

In the sugar house and chemical laboratory, extensive experiments have been made in different methods of clarification and filtration, and the results obtained will soon be available for an interesting bulletin. Prof. W. R. Dodson, Microscopist and Bacteriologist of the stations, spent the entire fall and part of the winter in the study of the physiology of the growing cane, the ferments of the sugar house, and processes of preserving syrups and molasses by sterilization. His valuable work will soon be given to the public. Mr. R. E. Blouin and his assistants, have for the first time, thoroughly studied the composition of cane juices and the changes therein induced by different methods of clarification and evaporation. His results are extremely interesting, and will form the basis of a valuable bulletin soon to be published. The nine-roller mill was used exclusively this year for the extraction of the juice of the cane. The new circular diffusion battery, so generously donated by one of our recent graduates, Mr. S. Eliseo Suarez, of United States of Colombia, South America, was erected in time for use during the season, but the intensely interesting experiments in the various clarifications of the mill juices induced us to continue the use of the mill throughout the season. The past season, while showing a deficiency of rainfall, was never sufficiently dry to require irrigation of the cane. The crop was, therefore, not quite as heavy as the previous one, but was richer in sugar, and the results obtained in the sugar house were about the same each year.

Our young citrus grove continues to grow and increase. During the year, in our nursery, quite a number of varieties of oranges were budded on the sour and trifoliata stock. The hardier varieties, Satsuma and Kumquat, on the trifoliata stock, have proven resistant to the most intense cold ever known in the latitude of New Orleans.

The fibre plants, including varieties of jute, hemp and ramie, were grown in such quantities last season as to induce

the trial of new decorticating machines at this station, but none were attracted by them, and to our disappointment, no trials of machines were made.

Alfalfa is still a magnificent success on this station, yielding six to eight heavy cuttings annually. It furnishes green food for stock throughout the entire year, and cures into a hay relished by all farm animals. Red and crimson clovers, Italian rye and Rescue grasses are also successfully grown.

A large number of varieties of corn are grown, including several from Mexico, Brazil, Cuba and Peru. Through the kindness of Gen. Leon Jastremski, United States Consul at Callao, nine varieties of the celebrated Cuzco corns were received and planted. He also sent a quantity of beans and other garden seed.

A large number of varieties of sorghum (saccharine and non-saccharine) and various forage crops, newly imported, were tried to attest their value for stock, with varied success. Several species of Dolichos grew luxuriantly in the field, but failed to produce seed. From plants grown in tubs, a small quantity of seed of each was obtained, which have been reserved for future use. The canaigre, after several years' trial, is found inadapated to our damp soil and climate. The Velvet Bean, tried for first time last year, is very promising. The vines were large and vigorous, and fruit abundant. There was almost an entire absence of fruits of all kinds during the past season.

Since our last report, the Audubon Sugar School, inaugurated and supported by the planters of this State, has been suspended here, and re-established at the Louisiana State University and A. & M. College. It will be conducted along the same lines, and the appliances at this station will be utilized during the fall months for the purpose of giving instruction to the sugar classes, which will be temporarily transferred here during the grinding season.

The suspension of this school made necessary the reduction of force on this station, and accordingly Doctors Wilkinson and Beeson have been compelled to seek employment elsewhere. Mr. R. E. Blouin, formerly assistant chemist of the

State Experiment Station, Baton Rouge, has been made the chief chemist here, and he is assisted by Mr. H. W. Taylor. Mr. E. G. Clarke, who has so faithfully served this station for the last four years as farm manager, accepted a more lucrative position with the recently established Experiment Station of the Hawaiian Sugar Planters' Association, and left us in October last. Dr. R. N. Morgan has been selected as his successor.

STATION NO. 2.

State Experiment Station, Baton Rouge, La., has had only a slight change in the staff. Mr. E. B. Fitts, who succeeded Mr. W. B. Mercier as farm manager, has been recalled to an honorable position in his Alma Mater, "The Storrs Agricultural College of Connecticut," and his place has been filled by Mr. James Clayton, late of the Experiment Station of Texas. Mr. Fitts was employed to test the question of the adaptability of our bluff and alluvial lands to the growing of cigar tobacco, and he remained with us long enough to see his labors crowned with success. The tobacco of last year grown upon the bluff lands has been pronounced of a very superior character, and justifies the positive assertion of the perfect adaptability of the cigar type upon these soils. Through the kindness and courtesy of Mr. L. O. Courcault, who owns and conducts a cigar factory at Convent, St. James parish, a large quantity of this tobacco has been made into cigars, and at the late session of the State Agricultural Society at Baton Rouge, he gratuitously distributed many boxes among the delegates in attendance. The universal verdict of those who tried them was, that they were fully the equal of any domestic cigar, and scarcely inferior to the lower grades of Havanas.

Experiments in cottons, corns and other field crops have been continued. Special attention has been given to the growth of Egyptian cotton on this and both of the other stations, to test whether we can grow this staple and supply the demand of our manufacturers, and keep at home the millions now sent annually to Egypt. Seeds from Dr. T. David, of Zagazig, Egypt, and

from Consul General Pennfield, of Cairo, were received and planted, and directions given by both followed in the planting and cultivation. The crops have been gathered and await the arrival of a McCarthy roller gin, now en route from England, to be ginned, and the staple forwarded to the Boston manufacturers for use and comparison with that raised in Egypt.

In the Horticultural Department a success has been made in the growing of winter vegetables, especially cucumbers, under glass. Several shipments made to Chicago realized good returns. The orchards and gardens are in good condition, and if one may judge from inquiries for assistance, are growing in popular favor daily. There is quite a demand for new and improved varieties of seed, which is usually supplied.

The veterinarian of the station has during the past season aided in quelling the virulent outbreak of charbon in the alluvial districts of Northeastern Louisiana. He has also been called upon by several Police Juries to exterminate glanders, to which he always responded. The demand for his services seems to be increasing—a gratifying condition testifying to the growing appreciation of science in its application to “Nature’s dumb nobility.”

The Entomologist has been busy during the past season in studying the life histories of many of our most important insects, and the result of his labors are now ready for the press.

The Botanical Garden has received many valuable additions during the year, and is becoming greatly more attractive. Prof. Dodson, besides the work performed at Audubon Park, to which allusion has already been made, has studied the root tubercles on luminous plants, and his results are embodied in Bulletin No. 46, just issued. Valuable additions have been made to his bacteriological outfit, which he is energetically using in the prosecution of his work.

Since our last report, Mr. J. D. Clark, a graduate of the University, has been appointed assistant chemist of this station, vice Mr. R. E. Blouin, promoted and assigned to Audubon Park. This laboratory continues to meet the numerous demands made upon it by the public.

The State Agricultural Society held, a few days since, its eleventh annual meeting on the University grounds at Baton Rouge. It was conjointly the guest of the Louisiana State University, Louisiana Central Agricultural Association, and city and parish of Baton Rouge. Ten years ago this society was organized on these same grounds, and it seems fitting and proper it should return each decade to the place of its birth.

STATION NO. 3.

North Louisiana Experiment Station, Calhoun, La., has this year been the theatre of many disasters. In common with the entire hill country, this station has entered throes of a drouth early in April, and remained without a refreshing shower until late in September. The results were almost complete destruction of every kind of crop. A few lessons of wisdom were suggested by the comparison of the experiments during the drouth. First, the only crop which made a fair growth and moderate yields was tobacco—a tap rooted plant, of quick growth and maturity. It was planted in April and harvested in July. The stubbles remained dormant until September, when refreshing showers started the suckers, and by careful handling of the same, and a very late frost, a fairly good second crop was obtained. Second. Small crops of corn were made, where previous rotations had filled the soil with humus; while on adjoining plats, without vegetable matter, scarcely a grain was found. Tap-rooted, quick maturing plants show their superior drouth resisting powers, and the presence of humus in the soil increased the yield of each crop many fold. By a systematic rotation, whereby an accumulation of vegetable matter in the soil may be obtained, an insurance even against extreme drouths may be effected.

The severity of this drouth has never, within man's recollection, been equalled. Some idea of its intensity may be obtained from the statement, that everything made on the station was consumed by the stock early in September, when usually enough is made to last the entire year. Of course all experiments were vitiated.

The drouth affliction was great; but the station has suffered

from other afflictions of a more serious nature. Major J. G. Lee, who has been the able and efficient local Director since the establishment of the station, was promoted to the position of Commissioner of Agriculture and Immigration. This was a great blow to the station, and while thousands of his friends rejoice with him in his well merited promotion, legions of the friends of the station unite with us in bemoaning his loss to North Louisiana. His place has been filled by Mr. D. C. Sutton, a graduate of the State University, and formerly Assistant Director of the United States Experiment Station in Florida.

Mr. M. Bird, who has so long served the station as chemist, has been compelled from family affliction, to resign his position. Mr. Baynard Turpin, a graduate of the State University, has been appointed in his place.

The dairy at this station, which has been so successfully inaugurated and conducted, received a severe blow a few months since by the discovery in its herd of a young Jersey cow well advanced with "Tuberculosis." It is believed that this disease was caught from our late tobaccoist, Mr. W. F. Clarke, whose death from consumption was chronicled in the last report of the station. A resort to the Tuberculin test, revealed the startling fact that seven of the herd were more or less suffering from this disease. By order of the veterinary surgeons, a quarantine of the infected cattle was established, and subsequently a further test was made with Tuberculin upon the entire herd. Finding seven animals hopelessly in quarantine, it was deemed best to dispose of five of them, which was quickly done, leaving two most valuable cows of the purest and best strains, from which we hope to breed without endangering the offspring or rest of the herd. Full particulars of this outbreak was given in Bulletin No. 44.

The station has recently added to the number of its swine and poultry, a pair of registered Poland Chinas, and several trios of valuable chickens have been recently bought.

Despite the drouth and its desponding tendencies, a large crowd attended the fourth annual Fair and Camp-meeting held

last September at the station. The exhibits both of stock and farm products were good, though inferior to those of 1895.

The North Louisiana Agricultural Society still holds its regular meetings at the station, with usually large attendance and beneficial results.

The following Bulletins have been issued during the year :

Bulletin No. 40, The Cow Pea ; origin, botanical relations, chemical composition, feeding value, restorative virtues to the soil, etc.

Bulletin No. 41, Tobacco; yellow leaf and cigar variety.

Bulletin No. 42, Horticulture; results of the year 1895.

Bulletin No. 43, Bovine tuberculosis in North Louisiana.

Bulletin No. 44, Charbon or Anthrax.

Bulletin No. 45, Commercial Fertilizers.

Special Bulletin, Geology and Agriculture, Part III.

The following constitutes the staff of the stations :

SUGAR EXPERIMENT STATION NO. 1.

Post Office, Audubon Park, New Orleans, La.

Wm. C. Stubbs, A. M., Ph. D., Director.

R. E. Blouin, M. S., Chemist.

H. W. Taylor, B. S., Chemist.

R. T. Burwell, M. E., Mechanical Engineer.

T. C. Glynn, Sugar Maker.

R. N. Morgan, B. S. A., V. S., Farm Manager.

E. S. Matthews, B. S., Soil Physicist.

Jas. K. McHugh, Secretary and Stenographer.

STATE EXPERIMENT STATION NO. 2.

Post Office, Baton Rouge, La.

Wm. C. Stubbs, A. M., Ph. D., Director.

D. N. Barrow, B. S.; Assistant Director.
 H. Skolfield, Treasurer.
 Chas. E. Coates, Jr., Ph. D., Chemist.
 J. D. Clark, B. S., Assistant Chemist.
 W. W. Clendenin, A. M., Geologist.
 W. R. Dodson, A. M., Botanist.
 S. B. Staples, D. V. S., and B. S., Veterinarian.
 H. A. Morgan, B. S. A., Entomologist.
 F. H. Burnette, Horticulturist.
 James Clayton, Farm Manager.

NORTH LOUISIANA EXPERIMENT STATION NO. 3.
 Post Office, Calhoun, La.

Wm. C. Stubbs, A. M., Ph. D., Director.
 D. C. Sutton, B. S., Assistant Director.
 Baynard Turpin, B. S., Chemist.
 Ivy Watson, Farm Manager.
 Gene Watson, Horticulturist.
 Geo. Steil, Dairyman.

At the end of this report will be found a correct exhibit of the receipts and expenditures arising from the Hatch Bill for the fiscal year, ending June 30, 1896. It shows expenditures have equalled the receipts.

Respectfully submitted.

WM. C. STUBBS,
 Director.

Statement of receipts and expenditures of the Louisiana

Agricultural Experiment Station, in account with the United States Appropriation.

1896.	CR.	DR.
The receipts from the Treasurer of the United States for the year ending July 1st, 1896.....		\$ 15,000.00
By salaries.....	\$ 7,944.10	
By labor.....	1,789.98	
By publications.....	1,759.62	
By postage and stationery.....	360.05	
By freight and express.....	410.58	
By heat, light and water.....	213.71	
By chemical supplies.....	947.18	
By seeds, plants and sundry supplies.....	160.39	
By fertilizers.....	168.94	
By feeding stuffs.....	247.27	
By library.....	187.71	
By tools, implements and machinery.....	351.90	
By furniture and fixtures.....	101.10	
By scientific apparatus.....	97.47	
By live stock.....	260.00	
	\$15,000.00	\$15,000.00

We, the undersigned members of the Bureau of Agriculture, to whom is entrusted the disbursements of the above funds, do certify that we have examined the accounts of the Experiment Station of the Louisiana State University and Agricultural and Mechanical College, for the fiscal year ending June 30, 1896, and have found the above classification to be correct, and that the receipts for the time named are shown to be \$15,000.00, and that the corresponding disbursements are \$15,000.00, for all of which the proper vouchers are on file, and have been examined by us and found correct.

(Signed)

J. G. LEE,
Commissioner of Agriculture.
WM. GARIG,

Vice President of Supervisors and ex-officio member
of Bureau of Agriculture.

I hereby certify that the foregoing statement is a correct copy from the books of the Louisiana Agricultural Experiment Station.

(Signed,)

H. SKOLFIELD, Treasurer.

