

TEXAS AGRICULTURAL EXPERIMENT STATION

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

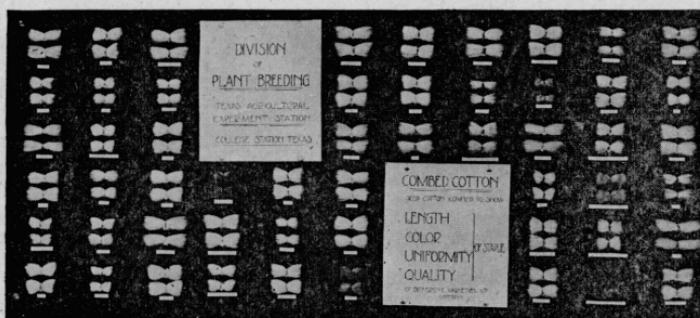
W. B. BIZZELL, President

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DIVISION OF PLANT BREEDING

THE STAPLE OF TEXAS COTTON



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COLLEGE STATION, BRAZOS COUNTY, TEXAS

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†As of August 1, 1920.

*In cooperation with the School of Veterinary Medicine, A. & M. College of Texas.

**In cooperation with the United States Department of Agriculture.

THE STAPLE OF TEXAS COTTON

E. P. HUMBERT.*

This bulletin gives the staple and drag, or body, of several varieties of cotton grown by the Texas Agricultural Experiment Station during the season of 1919. Apparent discrepancies may occur since results of but one year are tabulated. Each variety was grown at ten different places in the State, however, and an excellent opportunity was offered for making comparisons.

A later bulletin will give other facts of importance concerning these varieties. The yield per acre, percentage of lint, size of boll, earliness, etc., are factors which affect the value of a particular variety of cotton. The shorter varieties often yield best. Farmers are interested in the net returns from each acre, rather than in the price per pound or in any other one factor which affects the net return.

This bulletin is not meant to overemphasize the importance of staple length. It simply makes available certain data which have a bearing on the value of these varieties of cotton.

The varieties were planted in the regular variety test plats of the Station. The most important varieties are listed.

SOURCE OF SEED.

When seed is received by the Experiment Station for planting, it is given an acquisition number. These numbers are assigned consecutively and are called "Texas Station Numbers," or as abbreviated, "T. S. Nos." Seed for the 1919 cotton variety test was secured from the following sources:

T. S. No.	Variety.	Source.
793	Belton	Mr. D. T. Killough, Temple, Texas.
3150	Lone Star	Mr. R. S. Miesch, Clarksville, Texas.
3632	Mebane	Mr. A. D. Mebane, Lockhart, Texas.
3633	Mebane	Mr. A. D. Mebane, Lockhart, Texas.
3634	Mebane Triumph	Mr. A. M. Ferguson, Sherman, Texas.
3635	Mebane	Mr. R. F. Palmer, Troup, Texas.
3636	Mebane 406	Mr. A. M. Ferguson, Sherman, Texas.
3637	Kasch	Mr. Ed. Kasch, San Marcos, Texas.
3638	Boykin (New)	Mr. A. M. Ferguson, Sherman, Texas.
3639	Webb	Pittman and Harrison, Sherman, Texas.
3640	Bennett	Mr. R. L. Bennett, Paris, Texas.
3642	Lone Star	Mr. J. A. Moore, Grand Prairie, Texas.
3643	Lone Star	Mr. J. A. Moore, Grand Prairie, Texas.
3644	Lone Star	Mr. A. M. Ferguson, Sherman, Texas.
3645	Lone Star	Texas Seed and Floral Co., Dallas, Texas.
3646	Lone Star	Pittman and Harrison, Sherman, Texas.
3647	Jackson	Texas Seed and Floral Co., Dallas, Texas.
3648	Lone Star	Mr. D. A. Saunders, Greenville, Texas.
3649	Holdon	Mr. H. Stubblefield, Belton, Texas.

*Credit is due Messrs. E. W. Geyer, W. H. Hotchkiss, E. B. Reynolds, D. T. Killough, C. H. McDowell, R. E. Dickson, R. E. Karper, J. W. Jackson, G. T. McNess, and A. B. Cron, as superintendents of the stations where the cotton was grown; also, to Mr. J. B. Beers and Mr. Leon Hairston, of the U. S. Bureau of Markets and of the Texas A. and M. Extension Service (coöperating), who graded and stapled the samples.

T. S. No.	Variety.	Source.
3650.....	Rowden.....	Rowden Brothers, Wills Point, Texas.
3651.....	Rowden.....	Mr. R. M. Womack, Wills Point, Texas.
3653.....	Belton.....	Mr. H. Stubblefield, Belton, Texas.
3655.....	Ferguson R. N.....	Mr. A. M. Ferguson, Sherman, Texas.
3656.....	Acala.....	Mr. F. D. Watson, Italy, Texas.
3657.....	Acala.....	Mr. F. D. Watson, Italy, Texas.
3658.....	Acala.....	Mr. A. B. Fowler, Clarksville, Texas.
3659.....	Acala 5.....	Mr. C. N. Nunn, Porter, Oklahoma.
3660.....	Truitt.....	Mr. T. B. Truitt, Ennis, Texas.
3661.....	Chisholm.....	Pittman and Harrison, Sherman, Texas.
3662.....	Harvell.....	Mr. Hardin Harvell, Belton, Texas.
3666.....	Durango.....	Mr. S. M. Tracy, Carlsbad, New Mexico.
3667.....	Express.....	N. L. Willett Seed Co., Augusta, Georgia.
3668.....	Foster.....	Mr. Morgan Latimer, Clarksville, Texas.
3669.....	Kekchi.....	Mr. W. M. Parks, Clarksville, Texas.
3670.....	Snowflake.....	Mr. John C. McLernon, Clarksville, Texas.
3673.....	Cleveland.....	Chris Reuter Seed Co., New Orleans, Louisiana.
3674.....	Union Big Boll.....	H. G. Hastings Seed Co., Atlanta, Georgia.
3675.....	Half and Half.....	N. L. Willett Seed Co., Augusta, Georgia.
3676.....	Mebane Triumph.....	Mr. A. M. Ferguson, Sherman, Texas.
3677.....	Mebane Triumph.....	Mr. A. M. Ferguson, Sherman, Texas.

LOCATION OF TESTS.

The varieties listed above were grown on the variety test-plats of the Main Station and each of several substations of the State. In most cases the values given are an average of two plats planted in duplicate on each Station. The tests were located as follows:

- Main Station—College Station, Brazos County.
- Substation No. 2—Troup, Smith County.
- Substation No. 3—Angleton, Brazoria County.
- Substation No. 5—Temple, Bell County.
- Substation No. 6—Denton, Denton County.
- Substation No. 7—Spur, Dickens County.
- Substation No. 8—Lubbock, Lubbock County.
- Substation No. 9—Pecos, Reeves County.
- Substation No. 11—Nacogdoches, Nacogdoches County.
- Substation No. 12—Chillicothe, Hardeman County.

All of the seed was received at the Main Station, College Station, and each variety as it came from the dealer or grower given a T. S. Number. The seed of each variety was then mixed and divided into the required number of lots and sent to the proper substation superintendent. Thus handled, the possible handicap of one Station's receiving a better grade of seed than the others was removed.

GINNING AND CLASSING.

The cotton of each substation was ginned at that substation on a ten-inch, ten-saw gin, run at moderate speed. A sample of each variety was taken by the superintendent and sent to the Main Station for classing. The classing (grading and stapling) was done by an experienced man, each sample being treated on its merits without regard to its variety or locality.

The figures and the symbols used in the table which follows are meant to be as simple as possible so as to be easily understood. The lengths are given to differences of one-sixteenth of an inch; as, for instance, seven-eighths, fifteen-sixteenths, one inch, one and one-six-

teenth, one and one-eighth, etc. A small letter *f* placed after the figure denoting length means "full." It signifies that the length was better than the figure indicates but not long enough for the next sixteenth. "Wasty" means that the sample was made up of fibers of unequal length. Such a sample is less desirable than one not so designated for the reason that there is more waste in preparing the cotton for spinning.

The capital letters refer to drag, or body, of the cotton in the sample, S, G, F, and P, meaning, respectively, strong, good, fair, and poor. The capital *V* standing for "very" emphasises, where used, the quality. Weak fibers are often spoken of as "soft." Drag, or body, has to do with the strength, smoothness, size, and twist of the individual fibers,—factors which affect the spinning value of the cotton.

The last column of the table gives the average length of each variety for all the tests of that variety. Differences of one-tenth of one-sixteenth are recorded.

LENGTH OF STAPLE, 1919 VARIETY TESTS

T. S. No.	Variety Name	Main Station	Substations												Average in 16ths								
			No. 2	No. 3	No. 5	No. 6	No. 7	No. 8	No. 9	No. 11	No. 12												
3632	Mebane	1 1/16	G	1 1/16	G	1 1/16	G	15/16	F	1 1/16	G	3/4	P	7/8	S	1 1/16	G	1 1/16	F	1 1/16	G	15.9	
3633	Mebane	1 1/16	G	1 1/16	G	1 1/16	S	1 1/16	S	1 1/16	F	3/4	F	1 1/16	F	1 1/16	G	1 1/16	G	1 1/16	G	16.0	
3634	Mebane Triumph	1	F	7/8	F	7/8	S	15/16	F	7/8	G	3/4	P	3/4	P	15/16	G	13/16	F	1 1/16	G	14.2	
3635	Mebane	1	F	7/8	G	1 1/16	S	7/8	F	1 1/16	G	3/4	P	7/8	F	3/4	F	1 1/16	G	1 1/16	G	14.6	
3636	Triumph No. 406	1	G	1 1/16	S	15/16	S	7/8	F	1 1/16	G	7/8	F	3/4	S	15/16	F	13/16	F	1 1/16	G	14.5	
3637	Kasch	1	G	1 1/16	S	1 1/16	F	7/8	F	1 1/16	G	3/4	G	7/8	F	1 1/16	S	1 1/16	G	1 1/16	G	15.3	
3638	Boykin (New)	7/8	F	1 1/16	G	7/8	S	15/16	F	7/8	G	3/4	G	3/4	P	1 1/16	F	15/16	F	1 1/16	G	14.4	
3639	Webb	7/8	F	1 1/16	F	1 1/16	G	7/8	S	7/8	F	3/4	G	1 1/16	F	1 1/16	G	15/16	F	1 1/16	G	15.1	
3676	Mebane Triumph	7/8	G	1 1/16	S	7/8	S	3/4	P	1 1/16	G	3/4	P	3/4	G	7/8	G	13/16	P	1 1/16	G	14.0	
3677	Mebane Triumph	15/16	F	7/8	F	15/16	F	7/8	F	7/8	F	3/4	P	3/4	P	15/16	F	15/16	F	1 1/16	G	14.2	
3661	Chisholm	1	F	1 1/16	F	7/8	F	7/8	P	1 1/16	G	7/8	F	7/8	P	1 1/16	G	1 1/16	G	1 1/16	G	15.4	
3150	Lone Star	1 1/16	G	1 1/16	F	1/8	G	1 1/16	F	1 1/16	G	7/8	F	7/8	F	1 1/16	G	1 1/16	S	1 1/16	G	16.3	
3640	Bennett	1 1/16	G	1 1/16	F	1/8	S	1 1/16	G	1 1/16	G	7/8	F	7/8	S	1 1/16	G	1 1/16	G	1 1/16	G	16.4	
3642	Lone Star	1	S	1 1/16	S	1 1/16	G	1 1/16	G	1 1/16	G	7/8	S	7/8	S	1 1/16	F	1 1/16	G	1 1/16	G	16.2	
3643	Lone Star	1	G	1 1/16	G	1 1/8	S	1 1/16	S	1 1/16	G	3/4	G	1 1/16	F	1 1/16	G	1 1/16	G	1 1/16	G	16.1	
3644	Lone Star	1	G	1 1/16	G	1 1/16	S	1 1/16	F	1 1/16	F	7/8	F	1 1/16	F	1 1/16	G	1 1/16	G	1 1/16	G	16.2	
3645	Lone Star	7/8	F	7/8	F	7/8	F	1 1/16	S	1 1/16	F	3/4	F	3/4	S	1 1/16	G	1 1/16	F	1 1/16	G	15.0	
3646	Lone Star	1	F	1 1/16	F	1 1/16	G	1 1/16	S	1 1/16	G	1 1/16	F	7/8	F	1 1/16	G	1 1/16	G	1 1/16	G	16.5	
3648	Lone Star	1 1/16	F	1 1/16	F	1 1/8	F	1 1/16	F	1 1/16	S	3/4	F	7/8	F	1 1/16	G	1 1/16	G	1 1/16	G	16.4	
3649	Holdon	1	G	1 1/16	F	1 1/16	F	1 1/16	F	1 1/16	S	7/8	F	7/8	S	1 1/16	G	1 1/16	G	1 1/16	F	16.2	
3647	Jackson	15/16	F	7/8	F	7/8	G	7/8	F	1 1/16	G	7/8	F	1 1/16	G	1 1/16	G	15/16	F	1 1/16	G	15.1	
3655	Ferguson R. N.	7/8	F	7/8	F	7/8	S	3/4	S	1 1/16	F	3/4	G	7/8	F	1 1/16	G	1 1/16	P	1 1/16	G	14.5	
3650	Rowden	1	G	1 1/16	S	1 1/8	S	1 1/8	S	1 1/16	G	7/8	F	7/8*	1	1 1/16	F	1 1/16	S	1 1/16	G	16.3	
3651	Rowden	1	S	1 1/16	F	1 1/16	S	1 1/16	S	1 1/16	G	7/8	F	7/8*	1	1 1/16	F	1 1/16	S	1 1/16	G	16.5	
793	Belton	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	F	1 1/16	S	1 1/16	G	16.5	
3653	Belton	1	G	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	3/4	G	1 1/16	F	1 1/16	G	1 1/16	V	1 1/16	G	16.1	
3656	Acala	1 1/8	G	1 1/8	F	1 1/8	V	1 1/8	S	1 1/16	F	1 1/16	G	1 1/16	F	1 1/16	G	1 1/8	G	1 1/8	G	17.7	
3657	Acala	1 1/8	G	1 1/8	F	1 1/8	S	1 1/16	F	1 1/16	F	15/16	G	7/8	F	1 1/16	G	1 1/16	G	1 1/16	G	16.8	
3658	Acala	1 1/8	G	1 1/16	F	1 1/8	S	1 3/16	V	1 1/8	F	1 1/16	F	7/8	F	1 1/16	G	1 3/16	G	1 1/8	G	17.4	
3659	Acala No. 5	1 1/16	G	1 1/8	G	1 1/16*	S	1 1/16	S	1 1/16	F	1 1/16	F	1 1/16	G	1 1/16	G	1 1/16	G	1 1/16	G	16.8	
3660	Truitt	1 1/16	G	1 1/16	G	7/8	G	1 3/16	S	1 1/16	F	7/8	F	1 1/16	S	1 1/16	G	1 1/16	F	1 1/16	G	16.2	
3662	Harvell	7/8	F	7/8	F	3/4	V	7/8	P	1 1/16	G	3/4	F	7/8	F	3/4	V	3/4	V	7/8	G	13.4	
3666	Durango	1 1/8	G	1 1/8	G	1 3/16	V	G	1 1/8	S	1 1/8	G	1 1/16	F	3/4	G	1 3/16	G	1 3/16	G	1 1/8	G	17.6
3667	Express	1 1/8	G	1 1/8	G	1 1/4	S	1 1/8	S	1 1/8	F	1 1/16	F	1 1/16	G	1 1/8	G	1 3/16	S	1 1/8	G	18.0	
3668	Foster	1 3/16	G	1 3/16	S	1 3/8	S	1 1/8	F	1 1/8	F	1 1/16	G	1 1/16	F	1 1/8	G	1 3/16	G	1 1/8	G	18.1	
3669	Kekchi	1 1/16	F	1 1/16	F	1 3/16	V	S	1 1/16*	S	1 1/8	G	1 1/16	G	1 1/16	S	1 1/16	G	1 1/8	G	1 1/16	17.2	
3670	Snowflake	1 1/4	S	1 1/4	F	1 1/2	V	S	1 7/16	V	S	1 3/8	G	1 1/8	F	1 1/4	S	1 5/16	G	1 1/4	G	20.4	
3673	Cleveland	7/8	F	7/8	F	3/4	V	P	3/4	P	1 1/16	F	7/8	F	7/8	F	15/16	S	15/16	F	1 1/16	14.3	
3674	Union Big Boll	7/8	P	3/4	F	3/4	V	soft	3/4	V	soft	3/4	G	3/4	S	3/4	F	15/16	F	3/4	P	12.9	
3675	Half and Half	3/4	P	3/4	P	7/8	V	P	1 1/16	F	1 1/16	F	3/4	G	3/4	V	soft	13/16	F	7 8	G	13.4	

*Wasty.

The varieties in the table given above may be conveniently placed in several more or less distinct groups for study. In the table which follows eleven varieties of the Mebane type, nine of the Lone Star type, two of the Apple Boll type (Jackson and Ferguson's Round Nose), four of the Rowden type, four of the Acala type, one of the Truitt type, and three of the very short staple type (Cleveland, Union Big Boll and Half and Half) are averaged together. They are designated in the table as A (Mebane), B (Lone Star), C (Apple Boll), D (Rowden), E (Acala), F (Truitt), and G (Short Staple). Such a grouping has its disadvantages in that some strains of a given variety may be better than others. A careful study of the detail table is recommended as best, but the summary table may be helpful for comparative purposes.

	Main Station	Substations								
		No. 2	No. 3	No. 5	No. 6	No. 7	No. 8	No. 9	No. 11	No. 12
A.....	15.5	15.5	15.3	14.3	15.4	12.4	13.6	15.4	15.1	16.7
B.....	16.1	16.1	17.4	16.8	16.5	13.5	14.0	16.6	17.1	17.0
C.....	14.5	14.0	15.0	13.0	16.5	13.0	15.0	16.0	15.5	16.0
D.....	16.2	16.0	16.7	17.5	17.0	14.0	15.0	15.7	17.2	17.0
E.....	17.7	17.7	18.0	18.0	17.2	15.7	15.0	17.0	17.5	17.5
F.....	17.0	16.0	14.0	19.0	16.0	14.0	17.0	16.0	16.0	17.0
G.....	13.3	12.7	12.7	13.3	14.7	12.7	12.7	14.3	13.3	15.7

It hardly seems necessary to summarize the results in the text of this bulletin, since the tables themselves are self-explanatory and a summary of the whole test. The data will be further used in discussing the value of the several varieties in a forthcoming bulletin giving yields, percentages, etc.