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# TEXAS AGRICULTURAL EXPERIMENT STATION

B. YOUNGBLOOD, DIRECTOR  
COLLEGE STATION, BRAZOS COUNTY, TEXAS

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BULLETIN No. 354

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DIVISION OF AGRONOMY

## VARIETIES OF COTTON FOR THE GULF COASTAL PLAINS OF TEXAS



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†As of April 1, 1927.

\*\*On Leave.

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\*\*\*In cooperation with U. S. Department of Agriculture.

\*\*\*\*In cooperation with the School of Agriculture.

## SYNOPSIS

This Bulletin is a report of the variety tests of cotton conducted at Substation No. 3 of the Texas Agricultural Experiment Station, Angleton, Texas, for the 13 years, 1914 to 1926, inclusive.

Mebane, Kasch, Cliett, New Boykin, Lone Star, Acala, and Truitt are well adapted to the humid part of the Gulf Coastal Plains of Texas and were the most profitable varieties. Mebane, T. S. No. 804, a Texas Station strain of Mebane cotton, made the highest average yield of lint for the 8-year period, 1919 to 1926, inclusive.

The most profitable varieties were characterized by high yield of lint, medium to large-sized bolls, percentages of lint ranging from 34 to 38 per cent, lint ranging in length from one to one and one-sixteenth inches, and relatively early maturity.

Negative correlations were obtained among the varieties studied, between yield and length of lint, and between length and percentage of lint; indicating a tendency for the yield of lint to decrease as the length of lint increases, and for the percentage of lint to decrease as the length of lint increases. Positive correlations were obtained between yield and percentage of lint, indicating a tendency for the yield to increase as the percentage of lint increases, the correlation being significant, however, in only two of the five years studied.

This Bulletin furnishes information on 132 varieties and strains of cotton of interest to growers in the humid part of the Gulf Coastal Plains of Texas.

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## VARIETIES OF COTTON FOR THE GULF COASTAL PLAINS OF TEXAS

D. T. KILLOUGH and V. E. HAFNER\*

This Bulletin reports the results of the variety tests of cotton conducted at Substation No. 3, Angleton, Texas, from 1914 to 1916 and from 1921 to 1926, together with the data reported in Texas Station Bulletin No. 274, which contained the results from 1917 to 1920, inclusive.

During the first few years the variety tests of cotton were conducted at Angleton, a large number of varieties were included. Many of these varieties were dropped from time to time as the results warranted, until at present (1926) only sixteen of the more desirable varieties are included in the variety test. These varieties are the ones that are best adapted to the conditions prevailing in the humid part of the Gulf Coastal Plains.

Substation No. 3, of the Texas Agricultural Experiment Station system, is located in the Gulf Coastal Plains of Texas, three miles northeast of Angleton, Brazoria county. It is about 14 miles from Christmas Bay, 18 miles from the Gulf of Mexico, and by improved highway, 46 miles south of Houston and 53 miles from Galveston, although by air-line it is approximately 38 miles southwest of Galveston.

The region surrounding Angleton is generally flat, with poor drainage. The experimental fields of the substation are fairly well drained, advantage having been taken of the large drainage ditches near by.

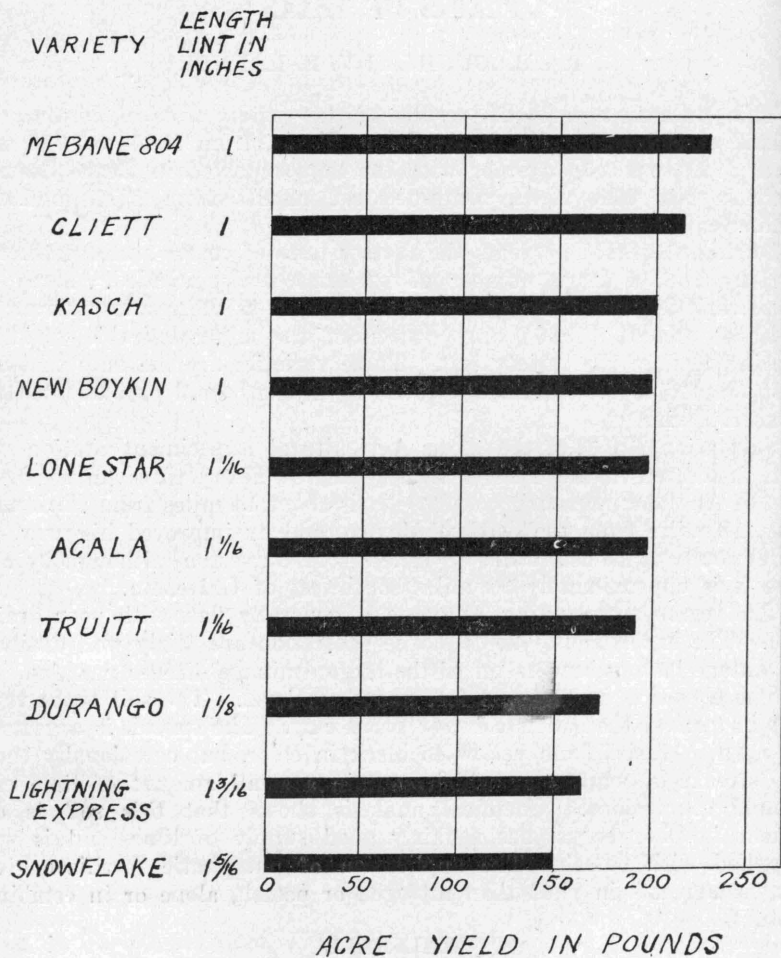
The elevation is 22 to 23 feet above sea level. The soil types vary, but in general the soil is a heavy black clay. The subsoil is a gummy clay which varies from yellow to black in color, but occasionally there are streaks of white clay which contain a small amount of lime carbonate concretions. Chemical analysis shows that this soil is deficient in phosphorus, has a fairly good supply of lime, and is well supplied with potash. The application of phosphatic fertilizer gives larger increases in yield than nitrogen or potash, alone or in combination.

### RAINFALL

The average annual rainfall at the Angleton Station for the 13-year period 1914-1926, inclusive, was 47.05 inches. There was considerable variation in the total annual rainfall, some years being much below the average and some years much above the average.

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\*Superintendent of Substation No. 3, Angleton, Texas; resigned September 1, 1926.



Comparison of yield of lint and length of lint for the 4 years, 1923 to 1926, inclusive.

Table 1.—Rainfall at Substation No. 3, Angleton, Texas, 1914-1926, inclusive.

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	Average
January...	0.49	2.96	1.62	2.34	0.27	6.20	6.02	3.33	5.87	1.36	4.74	3.25	3.55	3.23
February...	3.16	4.03	0.13	2.98	0.85	2.59	1.85	0.43	1.65	6.28	5.13	0.27	0.99	2.33
March.....	2.93	3.53	0.42	0.75	2.30	9.21	1.36	3.97	8.49	6.07	2.24	0.78	6.65	3.75
April.....	13.46	2.25	1.64	2.37	5.65	1.35	0.54	3.88	2.17	5.39	1.15	1.23	2.57	3.36
May.....	7.89	2.66	6.59	6.04	1.68	5.27	3.64	1.25	4.98	1.49	4.64	1.49	3.83	3.96
June.....	0.26	0.00	5.37	0.44	1.41	16.57	5.83	8.12	15.05	5.59	4.62	3.73	2.31	5.33
July.....	1.73	3.95	5.66	3.12	2.48	6.55	4.76	3.94	9.29	8.75	1.06	6.52	5.32	4.86
August.....	8.49	13.87	5.43	1.66	3.51	5.42	9.10	1.60	2.92	2.85	3.94	2.71	2.47	4.92
September	4.34	6.29	3.55	1.15	2.87	3.62	2.49	3.66	5.67	6.88	1.83	7.06	1.59	3.92
October...	3.61	2.49	1.08	0.49	5.67	5.93	6.81	1.05	7.02	3.55	0.02	10.54	3.98	4.02
November..	8.02	2.04	1.68	0.84	6.91	2.30	3.83	3.27	1.80	3.79	1.01	5.31	1.67	3.27
December..	4.19	4.74	2.13	0.56	3.93	1.78	3.05	3.73	3.05	10.72	8.36	3.72	3.50	4.11
Total..	58.57	48.81	35.30	22.74	37.53	66.79	49.28	38.23	67.96	62.72	38.74	46.61	38.43	47.05

Cotton did not suffer seriously from the lack of moisture at any time during the period from 1914-1926, except in 1918, although at times the rainfall was greatly in excess of the needs of the crop.

In 1916 the crop was a failure, owing to the stand being destroyed by the excessive rainfall during May and June of that year.

#### METHODS OF CONDUCTING THE COTTON VARIETY TESTS

The cotton in the variety test was planted in three-foot rows. The plants were thinned one to a hill, with the hills as near 12 inches apart as practicable. Fertilizers have not been used, except in 1917, when acid phosphate was applied to all plats at the rate of 200 pounds to the acre. The varieties in the test were given as near the same treatment as possible. The plats used for the test were given uniform treatment in the matter of plowing, planting, cultivation, and harvesting.

#### EXPERIMENTAL RESULTS BY YEARS

During the earlier years of the cotton variety testing, a large number of varieties were planted, but since 1920 only the better-adapted varieties have been planted in duplicate, except in 1925 and 1926, when they were carried in triplicate and quadruplicate, respectively.

Information on the source of seed of each variety of cotton that has been tested at Angleton for the 13-year period, 1914-1926, inclusive, may be obtained by referring to Table 22, which will be found on page 34.

#### Results in 1917

In 1917 there were 52 varieties in the variety test, but only the most profitable varieties are given in Table 2. The varieties are arranged in order of yield of lint. The yields were exceptionally large, which might be due in part to the acid phosphate which was applied; but more likely to the unusually favorable season for cotton production. It will be noted that the five highest-yielding varieties produced more than

a bale and a half to the acre. The varieties with the highest yields of lint cotton rank as follows: Kasch, Lone Star, Improved Champion, Heavy Fruiter, and Mebane. Acala was not among the 10 highest yielders, but is included in the table because of its good production in later years.

Table 2.—Ten highest yielding varieties in 1917.

T. S. No.	Variety	Percentage of Lint	Number of Bolls to the Pound	Acre Yield in Pounds	
				Seed Cotton	Lint
2465	Kasch.....	39.2	60	2252	883
2472	Lone Star.....	37.7	63	2245	846
2462	Improved Champion.....	37.6	67	2238	841
2463	Vandiver's Heavy Fruiter.....	34.3	62	2408	826
2470	Mebane Triumph.....	36.5	62	2066	754
2469	Ferguson's Roundnose.....	35.4	64	2100	743
2474	Wannamaker Cleveland.....	38.2	74	1905	728
2479	Mortgage Lifter.....	32.3	67	2138	691
2493	King's Extra Early.....	33.1	96	1953	646
2461	Acala.....	34.5	67	1649	569

### Results in 1918

Table 3 gives the 10 highest-yielding of the 50 varieties grown in the test in 1918. The yields, while not as high as in 1917, were above the average for the period 1917 to 1926, inclusive. The five highest-yielding varieties are as follows: Mortgage Lifter, Cook, Early King, Simpkins Prolific, and Vandiver's Heavy Fruiter.

Table 3.—Ten highest yielding varieties in 1918.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Percentage	Length in Ins.	Grade		Seed Cotton	Lint
3021	Mortgage Lifter.....	45.4	1	S M	67	964	438
3028	Cook No. 588.....	42.3	3/4	S M	82	885	374
3046	Early King.....	39.1	7/8	G M	103	914	357
3047	Simpkin's Prolific.....	42.5	15/16	M	108	811	345
2998	Vandiver's Heavy Fruiter.....	39.3	7/8	S M	90	833	327
3000	F. G. 33.....	40.1	1 1/16	G M	101	725	291
3038	Boykin.....	42.0	1	G M	69	693	291
3006	Mebane Triumph.....	39.0	1	G M	78	725	283
3029	King X Triumph.....	37.8	7/8	G M	97	740	280
3005	Lone Star.....	37.1	1	G M	76	723	268

### Results in 1919

The yields of the varieties of cotton grown in 1919 are given in Table 4. There were 44 varieties in the experiment, but only the 10 highest-yielding varieties are given in Table 4.

The yields of lint ranged from 586 pounds per acre for Mebane (T. S. No. 804) to 366 pounds for Snowflake. These yields are large for



this section. The grade and length of lint of all varieties tested in 1919 are given in Bulletin 266, "The Staple of Texas Cotton."

Table 4.—Ten highest yielding varieties in 1919.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Percentage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane.....	33.2	1	M	56	1764	586
3674	Union Big Boll.....	32.6	3/4	S M	71	1773	578
3659	Acala No. 5.....	36.3	1 1/16	S M	62	1574	571
3635	Mebane.....	34.9	1	G M	56	1340	468
3637	Kasch.....	37.8	1	S M	53	1221	461
3647	Jackson.....	34.7	1	G M	56	1285	446
3660	Truitt.....	35.9	7/8	S M	53	1221	438
3150	Lone Star.....	34.4	1 1/8	G M	49	1265	435
3661	Chisholm.....	33.8	7/8	G M	64	1286	434
3667	Express.....	33.4	1 1/4	M	69	1245	416

### Results in 1920

Only 11 varieties of cotton were included in the test in 1920, the yields of which are shown in Table 5. Mebane T. S. No. 804, Mebane T. S. No. 4120, and Acala, head the list, with Snowflake and Durango, which are longer-staple varieties, at the bottom. The grade of lint as a whole was good. The yields, while not as high as in 1917 and 1919, were slightly above the average for the 10-year period, 1917 to 1926, inclusive. The five highest-yielding varieties ranked according to yield of lint are as follows: Mebane T. S. No. 804, Mebane T. S. No. 4120, Acala, Kasch and Rowden.

Table 5.—Varieties tested in 1920.

F. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Percentage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane.....	34.6	15/16	S M	67	922	319
4120	Mebane.....	38.3	7/8	S M	56	825	316
4131	Acala.....	35.5	1 1/8	G M	65	884	314
4117	Kasch.....	40.5	7/8	G M	54	733	297
4116	Rowen.....	34.9	1 1/16	G M	56	843	294
793	Belton.....	35.3	1 1/16	G M	58	808	285
4115	Bennett's Lone Star.....	38.2	1 1/8	S M	50	722	276
4119	Lone Star.....	36.7	1	S M	54	747	274
4150	Lone Star.....	36.1	1	G M	61	665	240
4114	Durango.....	33.6	1 3/16	G M	78	541	182
4118	Snowflake.....	29.5	1 1/4	G M	77	601	177

### Results in 1921

The yields of the 12 varieties of cotton tested in 1921 are given in Table 6. All varieties did well until the gulf storm on June 22, when they were damaged considerably. The yields were small and may be considered as failures.

Table 6.—Data on varieties tested in 1921.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Per-centage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane*	33.9	1	S M	91	168	57
5990	Truitt	35.5	15/16	S M shy	74	121	43
5989	Mebane	37.9	1 1/16	S M	69	103	39
5992	Kasch	39.4	29/32	S M	69	94	37
5995	Lone Star	37.6	1 1/8	S M	72	93	35
5994	Bennett's Lone Star	37.2	1 3/32	S M shy	71	94	35
5986	Lone Star	34.7	1	S M	78	95	33
5984	Belton	35.5	1 1/32	S M	77	90	32
5988	Acala	36.0	1 1/16	G M shy	84	86	31
5993	Rowden	34.8	1 1/32	S M	76	89	31
5987	Durango	32.1	1 5/32	S M	105	84	27
5991	Snowflake	28.8	1 5/32	S M shy	95	73	21

\*Average of soil checks.

## Results in 1922

Data on the 13 varieties of cotton tested in 1922 are given in Table 7. The yields as a whole were smaller than the average for the 10-year period, 1917 to 1926, inclusive, probably due to the excessive rainfall during the growing season. The five most profitable varieties were: Mebane, T. S. No. 804, Cook, Lone Star, Acala, and Mebane, T. S. No. 6563, in the order named.

Table 7.—Data on varieties tested in 1922.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Per-centage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane	34.3	7/8	M	68	1063	365
6560	Cook 588	36.6	11/16	M	86	713	261
6570	Lone Star	37.0	1 1/16	S M	60	675	250
6571	Acala	34.1	1 1/16	S L M	70	592	202
6563	Mebane	37.2	31/32	M	61	537	200
6566	Truitt	34.3	7/8	M	65	533	183
6565	Lone Star	36.4	1 1/16	S L M	64	500	182
6574	Rowden	33.7	1 3/32	M	70	419	141
5984	Belton	33.2	1	S M	79	419	139
6572	Bennett's Lone Star	37.9	1 3/32	M	65	364	138
6564	Durango	31.7	1 5/32	M	79	426	135
6573	Kasch	38.9	13/16	M	65	324	126
6575	Snowflake	27.9	1 3/8	M	88	394	110

## Results in 1923

Table 8 gives the data obtained on the 13 different varieties of cotton grown in 1923. The excessive rainfall during the growing season was more disastrous than in 1922. The yields were small and the grade of lint poor. Mebane, T. S. 804, Truitt, Rowden, Cliett, Kasch, and Acala all ranked in the order named, for lint production. Mebane, T. S. No. 804, was again the outstanding variety in yield.

Table 8.—Data on varieties tested in 1923.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Percentage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane.....	32.3	31/32	S L M shy	72	257	83
6803	Truitt.....	34.7	31/32	S L M	60	213	74
6797	Rowden.....	33.5	1 1/16	L M	60	218	73
6807	Cliett.....	38.0	15/16	S L M	62	190	72
6810	Kasch.....	38.0	1	S L M	63	187	71
6781	Acala.....	34.0	1 1/32	S L M	60	203	69
6796	Lightning Express.....	27.0	1 3/16	L M	96	252	68
6784	Bennett's Lone Star.....	37.1	31/32	L M	58	178	66
6783	Lone Star.....	36.1	31/32	L M	65	158	57
6802	Hallmark.....	27.0	1 1/16	L M	80	185	50
6786	New Boykin.....	36.2	31/32	L M	77	138	50
6782	Belton.....	32.4	1 1/16	S L M	60	145	47
6780	Mebane.....	38.1	1 1/32	L M	63	118	45

Results in 1924

Thirteen varieties were included in the variety test of cotton in 1924, as shown in Table 9. The yields this year were very near the average for the 10-year period, 1917 to 1926, inclusive. Cliett, Lone Star, Mebane, T. S. No. 804, Acala, and New Boykin, in the order named, were the more profitable. Cliett and New Boykin, which were included in the test for the first time in 1923, made good yields. The lint of these two varieties measured about one inch.

Table 9.—Data on varieties tested in 1924.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Percentage	Length in Ins.	Grade		Seed Cotton	Lint
7459	Cliett's Superior.....	38.8	1	M	64	727	282
7386	Lone Star.....	36.9	1 1/32	M	68	742	274
804	Mebane.....	36.3	1	M	84	706	256
7381	Acala.....	34.1	1 1/16	M	99	724	247
7388	New Boykin.....	38.0	1 1/32	S L M	81	650	247
7408	Mebane.....	38.8	1	M	72	627	243
7385	Kasch.....	38.7	1	M	65	608	235
7409	Truitt.....	36.5	1 1/32	M	75	619	226
7383	Startex.....	33.3	1 1/16	M	90	642	214
7411	Belton.....	34.7	1 1/32	M	69	611	212
7391	Rowden.....	32.8	1 1/16	M	79	634	208
7390	Durango.....	31.9	1 1/8	M	112	649	207
7394	Lightning Express.....	28.4	1 5/32	M	94	552	157

Results in 1925

There were 17 varieties of cotton in the test in 1925 and data are given in Table 10. The highest-yielding varieties were Mebane, T. S. No. 804, New Boykin, Mebane, T. S. No. 7859, Kasch, and Mebane, T. S. No. 8400, ranking in the order named. Lightning Express was the highest yielder in the longer-staple group. The yields as a whole

were somewhat higher than the average for the 10-year period, 1917 to 1926, inclusive.

Table 10.—Data on varieties tested in 1925.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Per-centage	Length in Ins.	Grade		Seed Cotton	Lint
804	Mebane.....	34.3	1	S M	66	1109	380
7852	New Boykin.....	34.8	15/16	S M	63	907	316
7859	Mebane.....	36.0	1 1/16	S M shy	57	819	295
7858	Kasch.....	36.4	1	G M shy	61	784	285
8400	Mebane.....	34.8	1 1/16	S M	54	815	284
7854	Acala.....	32.5	1 1/16	G M shy	72	846	275
7847	Lightning Express.....	28.6	1.5/32	S M	87	942	269
7853	Truitt.....	32.8	1	S M	67	808	265
7848	Cliett's Superior.....	36.2	1	S M	62	730	264
8401	Blue Wagon.....	35.3	1 1/16	S M	60	746	263
7860	Delfos 6102.....	29.4	1 5/32	S M	96	884	260
7855	Rowden.....	31.3	1 1/32	S M	62	799	250
7411	Belton.....	31.9	1 1/32	S M shy	72	767	245
7851	Lone Star.....	34.7	1	S M shy	59	700	243
8399	Qualla.....	35.4	1 1/32	S M	59	602	213
7849	Snowflake.....	27.8	1 5/16	S M	71	669	186
7856	Durango.....	28.3	1 9/32	S M	90	491	139

## Results in 1926

Sixteen varieties were included in the test in 1926, which was a normal year as far as climatic conditions are concerned. Data on these varieties are given in Table 11. The five varieties which made the highest yield of lint rank as follows: Delfos 6102, Mebane, T. S. No. 9237, Cliett, Kasch, and Truitt. Lone Star, Blue Wagon, Mebane, T. S. No. 804, and Durango follow closely the above-named varieties in yield of lint. Delfos was the outstanding variety, both in regard to yield of lint and length of lint. Lightning Express and Snowflake, both of which have longer lint than the other varieties, made low yields of lint.

Table 11.—Data on varieties tested in 1926.

T. S. No.	Variety	Lint			Number of Bolls to the Pound	Acre Yield in Pounds	
		Per-centage	Length in Ins.	Grade		Seed Cotton	Lint
8602	Delfos 6102.....	32.2	1 5/32	M	93	812	261
9237	Mebane.....	35.6	31/32	M	59	688	245
8584	Cliett.....	37.1	1	M	57	605	224
8585	Kasch.....	36.6	15/16	M	62	562	206
8610	Truitt.....	33.4	15/16	M	67	604	202
8590	Lone Star.....	34.5	1	M shy	60	581	200
8601	Blue Wagon.....	34.9	1	S M shy	63	558	195
804	Mebane.....	34.4	1	M	66	563	194
8614	Durango.....	32.5	15/16	M	76	596	194
8613	Rowden.....	33.0	1 1/32	M	63	562	185
8599	New Boykin.....	34.3	1	M	65	512	176
8605	Lightning Express.....	29.2	1 1/4	M	95	576	168
8606	Acala.....	32.2	1 1/16	S M shy	75	505	163
8588	Mebane.....	36.6	1 1/32	M	55	444	163
5984	Belton—91.....	33.4	1 1/16	M	63	446	149
8595	Snowflake.....	27.0	1 5/16	M shy	77	455	123

### YIELD OF LINT

The yields of lint for all of the principal varieties of cotton which were grown at Angleton from 1917 to 1926, inclusive, are given in Table 12. Great variation is noted in the yields of the different varieties. In 1917, a very favorable year for cotton production, some varieties yielded more than a bale per acre. In 1919, the yield was also considerably above the average for the 10-year period. The yields were much below the average in 1921 and in 1923, which probably was due largely to the excessive rainfall which occurred during the early part of the growing season.

Mebane (T. S. No. 804) and Kasch were the only varieties which were grown each of the 10 years, 1917 to 1926, inclusive. For this period Mebane (T. S. No. 804) made an average yearly yield of 310 pounds of lint, and Kasch 279 pounds of lint to the acre. Mebane (T. S. No. 804) also made the highest average yield for all periods of years, except the three years, 1917 to 1919, inclusive, when it ranked second in yield.

For the eight-year period, 1919 to 1926, inclusive, Mebane (T. S. No. 804), Kasch, Mebane (A. D. Mebane Sales Agency), and Lone Star (D. A. Saunders) ranked in the order named in yield of lint.

During the four years, 1922 to 1925, inclusive, Mebane (T. S. No. 804), Acala (John D. Rogers), Mebane (A. D. Mebane Sales Agency), Lone Star (D. A. Saunders), and Truitt ranked in the order named in yield of lint.

For the four years, 1923 to 1926, inclusive, Mebane (T. S. No. 804), Cliett, Kasch, New Boykin, and Lone Star (D. A. Saunders) were the five highest-yielding varieties, in the order named.

During the last two years of the experiment, 1925 and 1926, Mebane (T. S. No. 804), Mebane (Mebane Cotton Breeding Association), Delfos 6102, Kasch, and New Boykin ranked in the order named, with respect to yield of lint.

These results show that the group of Mebane cottons (Mebane, Kasch, Cliett, and New Boykin), Lone Star, Acala, and Truitt are well adapted to the conditions in the humid part of the Gulf Coastal Plains of Texas. While Delfos 6102 has been grown at Angleton for only two years, 1925 and 1926, it is apparently a promising variety for the region, since it ranked third in average yield for the two years. Mebane (T. S. No. 804) was the most profitable variety, based on the total value of lint and seed, taking into consideration the yield of lint and seed, and also the length and grade of lint.

### SIZE OF BOLL

There appeared to be a large amount of variation between varieties in regard to the number of well-opened bolls of seed cotton required to weigh one pound. Data on the size of bolls for all varieties grown at Angleton from 1917 to 1926 are given in Table 13.





It was necessary to make averages for different periods of years, since all varieties were not grown in the test for the same period. During the years 1917, 1918, 1921, and 1924, when the rainfall during the summer and early fall months was deficient, the bolls which developed were smaller than those developed in years of favorable rainfall.

The bolls of practically all varieties were largest in 1919 and 1920, when the rainfall during the summer and early fall was abundant.

Mebane (A. D. Mebane Sales Agency) produced the largest average size of boll in every average in which it was included, excepting the four years, 1923 to 1926, inclusive, when Cliett held first place, Mebane second, and Lone Star and Kasch tied for third place. The varieties with longer lint, such as Snowflake, Durango, Lightning Express, and Delfos 6102, produced the smallest bolls. Mebane (T. S. No. 804), which has consistently been an early-maturing and high-yielding variety, produced medium-sized bolls.

The varieties having medium- to large-sized bolls generally produced the largest yields of lint cotton, as may be seen by referring to Table 12. The small-boll varieties, with the exception of Delfos 6102, made small yields.

#### PERCENTAGE OF LINT

Data on the percentage of lint for all varieties of cotton tested at Angleton from 1917 to 1926, inclusive, are given in Table 14. Eight different averages are given so that all of the principal varieties which were grown for more than two years might be studied on a comparable basis.

All varieties showed within themselves variation in the percentage of lint from year to year. Bennetts Lone Star appeared to be the most uniform in percentage of lint, while Mebane (T. S. No. 804) showed the greatest variation in percentage of lint.

The better-adapted varieties having the highest average percentage of lint follow in the order named: Kasch, Mebane (A. D. Mebane Sales Agency), Cliett, Mebane (Mebane Cotton Breeding Association), New Boykin, Lone Star (D. A. Saunders), Bennetts Lone Star, Mebane Triumph (Ferguson), and Mebane (T. S. No. 804). These varieties having a percentage of lint ranging in the various averages from 34 to 39.6 per cent, made the highest yields of lint cotton, as may be seen by referring to Table 12, page 14.

The varieties of cotton having a low percentage of lint (below 32 per cent) were among the low yielders of lint, with the exception of Delfos 6102.

Rainfall appeared to have no marked or consistent effect on the percentage of lint from year to year.

#### LENGTH OF LINT

Considerable variation in the length of lint was noted among the varieties of cotton from year to year, some varieties being more vari-



able than others. Environmental conditions may be responsible for a part of this variation; although it may be characteristic of some varieties to be more variable than others with respect to length of lint.

Rainfall during the growing season for the period 1919 to 1926 was sufficient for optimum growth of the plant; although in some years it was greatly in excess of the needs of the crop.

There is generally a good demand for cotton having lint from 15-16 to 1½ inches in length, and such cotton often commands a premium when sold on the staple market. The data obtained on the length of lint are given in Table 15. Varieties of cotton which have made good yields of lint at Angleton, and which have a length of lint within the range as stated above, follow in the order of their yield of lint: Mebane (T. S. No. 804), Cliett, Mebane (A. D. Mebane Sales Agency), Kasch, New Boykin, Lone Star (D. A. Saunders), Acala, and Truitt.

The varieties of cotton having longer lint, such as Snowflake, Durango, and Lightning Express, which have lint varying in length from 1 3-16 to 1 1-2 inches, did not produce the highest yields of lint, as may be seen by referring to Table 12, page 14. These varieties also produced small bolls (Table 13, page 18), and had a low percentage of lint (Table 14, page 20).

Varieties having an average length of lint of about 1 inch were, in most cases, relatively early in maturity. They also produced bolls medium to large in size, having a percentage of lint from 34 to 39.6, made good yields of lint, and were the most profitable ones for the humid part of the Gulf Coastal Plains of Texas. Delfos 6102, a comparatively new variety having been grown only during 1925 and 1926, produced good yields of lint, averaging 1 5-32 inches in length, was early in maturing, and gives promise of being one of the better-adapted varieties for this section.

### EARLINESS

A study was made of earliness of the varieties of cotton based on the following points: (a) The yield of seed cotton produced by the first three pickings; (b) the total number of blooms produced during the season and the number produced during the first thirty days of the blooming period; (c) the number of days occurring between the emergence of the seedling plants and the first bloom; and between emergence and the first open boll.

#### Earliness as Indicated by Yield

The earliness of a variety of cotton as indicated by yield in this *Bulletin* is considered from two points of view: first, from the amount of seed cotton produced at the first three pickings; and, second, by the percentage of the total crop produced by the first three pickings, the latter being the most accurate index of earliness. Picking began when the first few bolls in a variety were opened and continued throughout the season at approximately weekly intervals.



Table 13.—Number of bolls required to weigh one pound—Continued

Variety	Source of Seed	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	Averages for Certain Periods of Years							
												8 years 1919- 26, incl.	6 years 1919- 20-21- 22-25- 26	4 years 1919- 22, incl.	4 years 1919- 20-21- 26	4 years 1922- 25, incl.	4 years 1923- 26, incl.	3 years 1917- 18-19 incl.	2 years 1925- 26, incl.
Truitt	Truitt Seed Company, Ennis, Texas			53	74	65	60	75	67	67					67	67		67	
Snowflake	John C. McLernon, Clarksville, Texas	76	98	68	77	95	88		71	77		79	82	79				81	74
Durango	Texas Experiment Station, Lubbock, Texas	95	121	67	78	105	79		112	90	76	83	82	82				94	83
Lightning																			
Express	Coker's Pedigreed Seed Co., Hartsville, S. C.							96	94	87	95					93			91
Delfos 6102	Stoneville Pedigreed Seed Co., Stoneville, Miss.									96	93								95
Hallmark	A. S. McKain, Greenville, Texas							80											
Cook 588	Alabama Experiment Station, Auburn, Ala.		82				86												
Express	N. L. Willett Seed Co., Augusta, Ga.	98	126	69															98
Jackson	Texas Seed and Floral Co., Dallas, Texas	65		56															
Union Big Boll	H. G. Hastings, Atlanta, Ga.	71	114	71															85
Chisholm	Texas Seed Breeding Farms, Sherman, Tex.	72	96	64															77
Mortgage Lifter	H. G. Hastings, Atlanta, Ga.	67	67																
Early King	Chris Reuter, New Orleans, La.	88	103																
Simpkin's																			
Prolific	Chris Reuter, New Orleans, La.	98	108																
F. G. 33	C. S. Lankart, Fannin, Texas		101																
Vandiver's																			
Heavy Fruiter	Vandiver's Seed Co., Lavonia, Ga.	62	90																
King X																			
Triumph	Alabama Experiment Station, Auburn, Ala.		97																
Improved																			
Champion	W. M. Bodman, Lockhart, Texas	67	66																
Ferguson's																			
Roundnose	Ferguson Seed Farms, Sherman, Texas	64		58															
Wannamaker-																			
Cleveland	T. W. Wood & Son, Richmond, Va.	74																	
King's Extra																			
Early	Texas Seed and Floral Co., Dallas, Texas	96	101																



Table 14.—Percentage of lint—Continued

Variety	Source of Seed	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	Averages for Certain Periods of Years							
												3 years	6 years	4 years	4 years	4 years	4 years	3 years	2 years
												1919- 1926, incl.	1919- 20-21- 22-25- 26	1919- 1922, incl.	1919- 20-21- 26	1922- 1925, incl.	1923- 1926, incl.	1917- 18-19	1925- 1926
Simpkin's Prolific..	Chris Reuter, New Orleans, La.....		42.5																
F. G. 33.....	C. S. Lankart, Fannin, Texas.....		40.1																
Vandiver's Heavy Fruiter.....	Vandiver's Seed Co., Lavonia, Ga.....	34.3	39.3																
King X Triumph... Improved	Alabama Experiment Station, Auburn, Ala.....		37.8																
Champion....	W. M. Bodman, Lockhart, Texas.....	37.6	41.0																
Ferguson Round- nose.....	Ferguson Seed Farms, Sherman, Texas.....	35.4		35.6															
Wannamaker- Cleveland....	T. W. Wood & Son, Richmond, Va.....	38.2																	
King's Extra Early	Texas Seed and Floral Co., Dallas, Texas.....	33.1	38.8																

Table 15.—Length of lint—Length in inches.

Variety	Source of Seed	1918	1919	1920	1921	1922	1923	1924	1925	1926	Averages for Certain Periods of Years.						
											8 years 1919- 26, incl.	7 years 1918- 19-20- 21-22- 25-26	4 years 1919- 20-21 26	4 years 1919- 22, incl.	4 years 1922- 25, incl.	4 years 1923- 26, incl.	2 years 1925- 26
Mebane	A. D. Mebane Sales Agency, Lockhart, Texas	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
Cliett	San Marcos Valley Seed Farms, San Marcos, Texas	1 1/16	7/8	1 1/16	31/32	1 1/32	1	1 1/16	1 1/32	1	1	1	1	1 1/32	1 1/32	1 1/16	
Kasch	Ed Kasch, San Marcos, Texas	1	1	7/8	29/32	13/16	1	1	1	1	15/16	15/16	15/16	29/32	31/32	1	
Mebane	Mebane Cotton Breeding Association, Lockhart, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Mebane 804	Texas Exp. Station, Angleton, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Mebane	R. F. Palmer, Troup, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Qualla	H. Conrads, San Marcos, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Blue Wagon	S. Maston Nixon, Robstown, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
New Boykin	Ferguson Seed Farms, Sherman, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Boykin	Ferguson Seed Farms, Sherman, Texas	1	1	15/16	1	7/8	31/32	1	1	1	31/32	31/32	1	31/32	31/32	1	
Mebane Triumph	Ferguson Seed Farms, Sherman, Texas	1 1/8	15/16	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Lone Star	D. A. Saunders, Greenville, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Startex	Texas Exp. Sta., College Station, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Lone Star	Texas Exp. Station, College Sta., Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Bennett's Lone Star	R. L. Bennett, Paris, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Lone Star	Texas Seed and Floral Co., Dallas, Tex.	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Mebane Triumph	Texas Seed and Floral Co., Dallas, Tex.	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Rowden	Rowden Bros., Wills Point, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Belton	Texas Exp. Station, Temple, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Acala	John D. Rogers, Allenfarm, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Acala	Ferris Watson, Weslaco, Texas	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Acala No. 5	C. N. Nunn, Porter, Okla.	1 1/8	1 1/8	1	1 1/8	1 1/16	31/32	1 1/32	1	1	1 1/32	1 1/32	1 1/16	1 3/32	1 1/32	1	
Truitt	Truitt Seed Co., Ennis, Texas	1 1/4	7/8	1 1/4	15/16	7/8	31/32	1 1/32	1	1	15/16	15/16	15/16	31/32	31/32	1	
Snowflake	John C. McLernon, Clarksville, Texas	1 1/4	1 1/2	1 1/4	1 5/32	1 3/8	1 1/32	1 1/32	1	1	1 5/16	1 5/16	1 5/16	1 5/16	1 5/16	1 5/16	
Durango	Texas Exp. Station, Lubbock, Texas	1 1/8	1 3/16	1 3/16	1 5/32	1 5/32	1 1/32	1 1/32	1 1/8	1 9/32	15/16	15/16	1 5/32	1 1/8	1 3/16	1 1/8	
Lightning Express	Coker's Pedigreed Seed Co., Hartsville, South Carolina	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	
Delfos 6102	Stoneville Pedigreed Seed Co., Stoneville, Miss.	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	
Hallmark	A. S. McKain, Greenville, Texas	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	
Cook 588	Alabama Exp. Station, Auburn, Ala.	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	
Jackson	Texas Seed and Floral Co., Dallas, Tex.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Express	N. L. Willett Seed Co., Augusta, Ga.	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	1 1/4	1 3/16	
Union Big Boll	H. G. Hastings, Atlanta, Ga.	7/8	3/4	7/8	3/4	7/8	3/4	7/8	3/4	7/8	3/4	7/8	3/4	7/8	3/4	7/8	
Chisholm	Texas Seed Breeding Farms, Sherman, Texas	1 1/8	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	7/8	1 1/8	

Table 15.—Length of lint—Length in inches.—Continued.

Variety	Source of Seed	1918	1919	1920	1921	1922	1923	1924	1925	1926	Averages for Certain Periods of Years.						
											8 years 1919- 26, incl.	7 years 1918- 19-20- 21-22- 25-26	4 years 1919- 20-21 26	4 years 1919- 22, incl.	4 years 1922- 25, incl.	4 years 1923- 26, incl.	2 years 1925- 26
Mortgage Lifter..	H. G. Hastings, Atlanta, Ga.....	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
Early King.....	Chris Reuter, New Orleans, La.....	7/8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Simpkin's Prolific	Chris Reuter, New Orleans, La.....	15/16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
F. G. 33.....	C. S. Lankart, Fannin, Texas.....	1 1/16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vandiver's Heavy Fruiter.....	Vandiver Seed Co., Lavonia, Ga.....	7/8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
King X Triumph	Alabama Exp. Station, Auburn, Ala....	7/8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

### Yield of Seed Cotton at First Three Pickings

The data obtained on this phase of earliness are given in Table 16. For the five years, 1922 to 1926, inclusive, Truitt produced the highest average yield of seed cotton at the first three pickings and also made the highest percentage of total yield at first three pickings (Table 17). Kasch, Lone Star, and Rowden rank next in the order named. For a period of four years, 1923 to 1926, inclusive, Lightning Express made the highest average yield of seed cotton at the first three pickings and also produced a larger percentage of its total yield at the first three pickings than the other varieties, Table 17. For another period of four years, 1922, 1923, 1924, and 1926, Mebane (T. S. No. 804) made the highest average yield of seed cotton at the first three pickings. This variety ranked second in percentage of the total crop produced at the first three pickings, Table 17. Acala (John D. Rogers), made the highest average yield of seed cotton at the first three pickings and also the largest percentage of the total crop produced at the first three pickings for the four years, 1922 to 1925, inclusive.

### The Percentage of Total Crop Produced at the First Three Pickings

The percentage of the total crop produced by the first three pickings of the several varieties appears in Table 17. In a general way it appears that those varieties which rank first in percentage of the total crop produced at the first three pickings, also produced the largest total crop as shown in Table 16. An exception to this is Rowden, which made the highest percentage of the total crop at the first three pickings for the years 1922 and 1923, but ranked fourth in the amount of seed cotton produced at the first three pickings for the two years (Table 16).

### Earliness as Indicated by Bloom Count

A record was kept during 1922 and 1923 of the number of blooms opening on 100 consecutive plants of every variety of cotton grown. The blooms were counted every fifth day, from the time the first bloom appeared until the end of the blooming period. A comparison is made in Table 18 between the number of blooms opening every fifth day during the first thirty days of the blooming period and the yield of seed cotton produced by the first three pickings; and also between the total number of blooms counted and the total yield of seed cotton.

The data obtained are given in Table 18. In general, these data show that the varieties which produced the largest number of blooms for the first 30 days of the blooming period and for the entire blooming period also produced the highest yield of seed cotton at the first three pickings and also the highest total yield.

It would appear that the number of blooms produced during the first 30 days of the blooming period is an indicator of earliness, but is not as accurate an index of earliness as the percentage of the total crop produced by the first three pickings.



Table 16.—Early maturity as measured by the yield of seed cotton produced by the first three pickings

Variety	Source of Seed	Averages for Certain Periods of Years in Pounds of Seed Cotton Per Acre																								
		5 Years 1922-26, incl.			4 Years 1923-26, incl.			4 Years 1922-25, incl.			4 Years 1922-23-24-26			3 Years 1922-25-26			2 Years 1922-23			2 Years 1925-26						
		Total yield	First 3 pickings		Total yield	First 3 pickings		Total yield	First 3 pickings		Total yield	First 3 pickings		Total yield	First 3 pickings		Total yield	First 3 pickings		Total yield	First 3 pickings					
		Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	Lbs.	Lbs.	Rank	
New Boykin	Ferguson Seed Farms, Sherman, Texas				549	300	2																723	448	3	
Chiett	San Marcos Valley Seed Farms, San Marcos, Texas				518	246	4																676	369	6	
Kasch	Ed Kasch, San Marcos, Texas	455	246	4	495	242	5	427	242	5	375	191	5	544	330	3	193	159	9				671	364	7	
Blue Wagon	S. Maston Nixon, Robstown, Texas																						663	347	9	
Mebane	Mebane Cotton Breeding Association, Lockhart, Texas																						764	408	5	
Mebane	A. D. Mebane Sales Agency, Lockhart, Texas	448	210	6	458	172	9	448	232	6	354	155	7	560	317	5	250	206	6	636	295	12				
Mebane 804	Texas Agri. Exp. Sta., Angleton, Texas										464	265	1				314	261	2							
Truitt	Truitt Seed Co., Ennis, Texas	520	303	1	539	281	3	497	292	2	446	256	2	623	412	1	312	253	3	713	421	4				
Lone Star	D. A. Saunders, Greenville, Texas	488	260	2	504	233	6	463	259	3	434	214	3	573	357	2	279	222	5	647	351	8				
Rowden	Rowden Bros., Wills Point, Texas	497	250	3	525	227	7	479	259	4	419	206	4	589	328	4	272	228	4	690	320	10				
Belton	Texas Exp. Station, Temple, Texas	444	211	5	461	179	8	441	221	7	362	165	6	535	304	6	244	202	7	614	286	13				
Acala	John D. Rogers, Allenfarm, Texas							552	361	1							349	281	1							
Bennett's Lone Star	R. L. Bennett, Paris, Texas																224	187	8							
Snowflake	John C. McLernon, Clarksville, Texas													501	293	7				573	285	14				
Durango	Texas Exp. Station, Lubbock, Texas													462	287	8				544	296	11				
Delfos 6102	Stoneville Pedigreed Seed Co., Stoneville, Miss.																			850	525	1				
Lightning Express	Coker's Pedigreed Seed Co., Hartsville, S. C.				552	360	1													771	519	2				

Table 17.—Early maturity as measured by the percentage of the total crop produced by the first three pickings made at weekly intervals.

Variety	Source of Seed	Averages for Certain Periods of Years													
		5 Years 1922-1926, inclusive		4 Years 1923-1926, inclusive		4 Years 1922-1925, inclusive		4 Years 1922-23-24- 26		3 Years 1922-25-26		2 Years 1922-1923		2 Years 1925-1926	
		%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
New Boykin	Ferguson Seed Farms, Sherman, Texas	54.6	2	54.6	2	56.7	3	50.9	3	60.7	4	82.4	5	62.0	2
Chett	San Marcos Valley Seed Farms, San Marcos, Texas	47.5	5	48.9	4	51.8	6	43.8	7	56.6	7	82.4	6	54.6	5
Kasch	Ed Kasch, San Marcos, Texas	54.1	2	48.9	4	56.7	3	50.9	3	60.7	4	82.4	5	54.2	8
Blue Wagon	S. Maston Nixon, Robstown, Texas	54.1	2	48.9	4	56.7	3	50.9	3	60.7	4	82.4	5	53.4	10
Mebane	Mebane Cotton Breeding Association, Lockhart, Texas	46.9	6	37.6	9	51.8	6	43.8	7	56.6	7	82.4	6	46.4	14
Mebane 804	A. D. Mebane Sales Agency, Lockhart, Texas	58.3	1	52.1	3	58.8	2	57.4	2	65.1	1	83.1	3	59.0	4
Lone Star	Truitt Seed Company, Ennis, Texas	53.3	3	46.2	6	55.9	4	49.3	4	62.3	2	79.6	9	54.3	7
Rowden	D. A. Saunders, Greenville, Texas	50.3	4	43.2	7	54.1	5	49.2	5	55.7	8	83.8	1	46.4	13
Bolton	Rowden Bros., Willis Point, Texas	47.5	5	38.8	8	50.1	7	45.6	6	56.8	6	82.8	4	46.6	12
Acala	Texas Experiment Station, Temple, Texas	47.5	5	38.8	8	50.1	7	45.6	6	56.8	6	82.8	4	46.6	12
Bennett's Lone Star	John D. Rogers, Allenfarm, Texas	47.5	5	38.8	8	50.1	7	45.6	6	56.8	6	82.8	4	46.6	12
Snowflake	R. L. Bennett, Paris, Texas	65.2	1	65.2	1	65.4	1	65.4	1	65.4	1	83.5	2	49.7	11
Durango	John C. McLernon, Clarksville, Texas	65.2	1	65.2	1	65.4	1	65.4	1	65.4	1	83.5	2	54.4	6
Delfos 6102	Texas Experiment Station, Lubbock, Texas	65.2	1	65.2	1	65.4	1	65.4	1	65.4	1	83.5	2	61.8	3
Lightning Express	Stoneville Pedigreed Seed Co., Stoneville, Miss.	65.2	1	65.2	1	65.4	1	65.4	1	65.4	1	83.5	2	67.3	1
	Coker's Pedigreed Seed Co., Hartsville, S. C.	65.2	1	65.2	1	65.4	1	65.4	1	65.4	1	83.5	2	67.3	1

Table 18.—Early maturity as measured by the production of blooms and its relation to yield.

Variety	Source of Seed	Averages for 1922 and 1923							
		Yield in Pounds of Seed Cotton Per Acre				Number of Blooms Produced on 100 Consecutive Plants			
		Total		First Three Pickings		Total		Number Produced During First 30 Days	
		Pounds	Rank	Pounds	Rank	Number	Rank	Number	Rank
Mebane 804	Texas Experiment Station, Angleton, Texas	660	1	548	1	141	1	88	1
Mebane	A. D. Mebane Sales Agency, Lockhart, Texas	328	5	270	4	92	6	53	7
Kasch	Ed Kasch, San Marcos, Texas	256	9	211	9	85	8	47	9
Lone Star	D. A. Saunders, Greenville, Texas	329	4	262	6	92	7	53	8
Bennett's Lone Star	R. L. Bennett, Paris, Texas	271	8	225	8	75	9	57	6
Acala	John D. Rogers, Allenfarm, Texas	368	2	320	2	120	3	73	2
Truitt	Truitt Seed Company, Ennis, Texas	372	3	302	3	122	2	66	5
Rowden	Rowden Bros., Wills Point, Texas	319	6	287	5	96	5	71	4
Belton	Texas Experiment Station, Temple, Texas	282	7	233	7	105	4	72	3

Table 19.—Early maturity as measured by the number of days occurring from emergence of seedling plants to first bloom and to first open boll.

Variety	Source of Seed	Averages for Certain Periods of Years													
		1922		1923		1925		3 Years 1922-23-25		2 Years 1923-25		2 Years 1922-25		2 Years 1922-23	
		Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days	Ist bloom Days	Ist open boll Days
Acala	John D. Rogers, Allentown, Texas	37	98	46	84	50	95	44.3	92.3	48.0	89.5	43.5	96.5	41.5	91.0
Lightning Express	Coker's Pedigreed Seed Co., Hartsville, S. C.	37	99	50	84	50	95	47.7	95.3	50.0	89.5	45.5	98.5	44.5	94.0
Kasch	Ed Kasch, San Marcos, Texas	35	99	52	89	54	98	45.3	95.7	53.0	93.5	42.5	98.0	43.0	95.5
Lone Star	D. A. Saunders, Greenville, Texas	36	99	51	91	50	97	45.7	96.0	50.5	94.0	43.0	98.0	43.5	95.5
Belton	Texas Experiment Station, Temple, Texas	34	98	49	92	50	97	44.7	96.3	50.0	95.5	42.5	97.5	41.5	96.0
Rowden	Rowden Bros., Willis Point, Texas	35	97	49	93	53	98	45.7	96.0	51.0	95.5	44.0	97.5	42.0	95.0
Mcbane	A. D. McBane Sales Agency, Lockhart, Texas	34	97	46	94	54	98	44.7	96.3	50.0	96.0	44.0	97.5	40.0	95.5
Truitt	Fruit Seed Co., Ennis, Texas	35	98	49	94	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
New Boykin	Ferguson Seed Farms, Sherman, Texas	35	98	49	94	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Cluett	San Marcos Valley Seed Farms, San Marcos, Texas	35	98	49	94	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Durango	John C. McLernon, Clarksville, Texas	37	97	52	94	53	99	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Snowflake	Texas Experiment Station, Lubbock, Texas	35	98	49	94	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Qualla	H. Conrads, San Marcos, Texas	37	97	52	94	53	99	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Delfos 6102	Stoneville Pedigreed Seed Co., Stoneville, Miss.	37	97	52	94	53	99	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Blue Wagon	S. Maston Nixon, Robstown, Texas	37	97	52	94	53	99	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Mcbane	Mcbane Cotton Breeding Association, Lockhart, Texas	37	97	52	94	53	99	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Mcbane 804	Texas Experiment Station, Angleton, Texas	37	99	48	85	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Bennett's Lone Star	R. I. Bennett, Paris, Texas	37	99	48	85	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Hallmark	A. S. McKean, Greenville, Texas	37	99	50	92	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Cook	Alabama Experiment Station, Auburn, Alabama	37	99	50	92	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5
Lone Star	Texas Experiment Station, College Station, Texas	37	98	48	85	53	98	45.7	96.0	51.0	96.0	44.0	97.5	40.0	95.5

### Earliness as Indicated by the Number of Days from Emergence to First Bloom and to First Open Boll

Data on the number of days from emergence to first bloom and from emergence to first open boll of the several varieties for the three years, 1922, 1923, and 1925, appear in Table 19. It would appear from these results that in a general way the number of days from emergence to first open boll is a better indicator of earliness than the number of days from emergence to first bloom. Perhaps the most striking feature about these data is that there is very little difference between the varieties in the days from emergence to first bloom and from emergence to first open boll. Neither of these indicators of earliness, however, is as accurate as the percentage of the total crop produced by the first three pickings.

### Conclusions on Earliness

Data are presented on the several factors which indicate earliness; namely, (a) amount of seed cotton produced at the first three pickings, and percentage of total crop produced at the first three pickings; (b) the number of blooms produced, and (c) the number of days from emergence to first bloom and to first open boll. These data indicate that the percentage of the total crop produced at the first three pickings is the most accurate index of earliness. It also happens that those varieties which produced the largest percentage of seed cotton at the first three pickings, also produced the highest yield at the first three pickings as well as the highest total yield. The number of blooms counted at five-day intervals for the first 30 days of the blooming period also indicate the relative earliness of the varieties, although it is not as accurate an indicator as the percentage of the total crop produced at the first three pickings. The number of days from emergence to first bloom and to first open boll do not appear to be as accurate an indicator of earliness as the other two mentioned.

### COMPARISON OF VARIETIES REGARDING YIELD OF LINT, SIZE OF BOLL, PERCENTAGE AND LENGTH OF LINT, AND EARLINESS

Eleven of the most productive varieties of cotton which were grown at Angleton from 1922 to 1926, are listed in Table 20. In this table comparisons are made between the yield of lint and number of bolls required to weigh one pound; yield and percentage of lint; yield and length of lint; yield and early maturity. Two groups of averages were necessary to include all of the eleven varieties: one being for the four years, 1922 to 1925, inclusive; and the other for the four years, 1923 to 1926, inclusive.

Table 20.—Comparison of yield with other characteristics of the varieties of cotton which were best suited to the Gulf Coastal Plains of Texas

Variety	Source of Seed	Yield of Lint in Pounds Per Acre				Number of Bolls Required to Weigh One Pound		Percentage of Lint		Length of Lint in Inches		Early Maturity—Percentage of Total Crop Produced by First Three Weekly Pickings	
		4 Years 1922-25 incl.		4 Years 1923-26, incl.		4 Years 1922-25, incl.	4 Years 1923-26, incl.	4 Years 1922-25, incl.	4 Years 1923-26, incl.	4 Years 1922-25, incl.	4 Years 1923-26, incl.	4 Years 1922-25, incl.	4 Years 1923-26, incl.
		Lbs.	Rank	Lbs.	Rank	No.	No.	%	%	Inches	Inches	%	%
Mebane 804	Texas Experiment Station, Angleton, Texas.....	271	1	228	1	73	72	34.3	34.3	31/32	1	.....	.....
Cliett.....	San Marcos Valley Seed Farms, San Marcos, Tex.	.....	.....	211	2	.....	61	.....	37.5	.....	1	.....	47.5
Mebane.....	A. D. Mebane Sales Agency, Lockhart, Texas.....	196	3	187	7	63	62	37.5	37.4	1 1/32	1 1/32	51.8	37.6
Kasch.....	Ed Kasch, San Marcos, Texas.....	179	6	199	3	64	63	38.0	37.4	31/32	1	56.7	48.9
New Boykin.....	Ferguson Seed Farms, Sherman, Texas.....	.....	.....	197	4	.....	72	.....	35.8	.....	1	.....	54.6
Lone Star.....	D. A. Saunders, Greenville, Texas.....	189	4	194	5	64	63	36.0	35.6	1 1/32	1	55.9	46.2
Acala.....	John D. Rogers, Allenfarm, Texas.....	198	2	.....	.....	75	.....	33.7	.....	1 1/16	.....	65.4	.....
Truitt.....	Truitt Seed Co., Ennis, Texas.....	187	5	192	6	67	67	34.6	34.4	31/32	1	58.8	52.1
Rowden.....	Rowden Bros., Wills Point, Texas.....	168	7	179	8	68	66	32.8	32.7	1 1/16	1 1/16	54.1	43.2
Belton.....	Texas Experiment Station, Temple, Texas.....	161	8	163	10	70	66	33.1	33.1	1 1/32	1 1/16	50.1	38.8
Lightning Express.....	Coker's Pedigreed Seed Co., Hartsville, S. C.....	.....	.....	166	9	.....	93	.....	28.3	.....	1 3/16	.....	65.2

Mebane (T. S. No. 804), which produced the highest average yield of lint in both averages, had a medium-sized boll; a percentage of lint of 34.3; a length of lint of about one inch; and by referring to Table 17 it will be noted that it matured its crop of cotton relatively early. Since no record was made of the early maturity of Mebane (T. S. No. 804) in 1925, it was not included in the averages for early maturity in Table 20. Cliett, Mebane (A. D. Mebane Sales Agency), and Kasch, which were high yielders of lint, produced larger bolls than Mebane (T. S. No. 804), and also had a higher percentage of lint. The length of lint was about the same for all four of these varieties, ranging from 1 inch to 1 1-32 inches, and they also matured their crops of cotton relatively early.

Acala made good yields of lint, produced a medium-sized boll, had a percentage of lint of 33.7, a length of lint of 1 1-16 inches, and was the earliest-maturing variety. Lightning Express was also one of the earliest maturing varieties, producing lint 1 3-16 inches in length; but to offset these advantages, it made a low yield of lint, had small bolls, and an average percentage of lint of only 28.3.

New Boykin, Lone Star, and Truitt made good yields of lint. They produced medium- to large-sized bolls having a percentage of lint ranging from 34.4 to 35.8, had a length of lint of about 1 inch, and were early-maturing varieties. Rowden and Belton made lower yields of lint and a lower percentage of lint, but slightly longer lint than Lone Star, New Boykin, and Truitt. With respect to size of boll and earliness of maturity, Rowden and Belton were somewhat similar to New Boykin, Lone Star, and Truitt.

The varieties of cotton which are listed in Table 20, with the possible exception of Rowden, Belton, and Lightning Express, were the highest yielders of lint and apparently are best suited to conditions in the Gulf Coastal Plains of Texas. These better varieties, in addition to producing high yields of lint, produced medium- to large-sized bolls having a percentage of lint ranging from 33.7 to 38.0 per cent. They had a length of lint which varied from 31-32 to 1 1-16 inches, averaging slightly better than 1 inch and all were relatively early in maturing their crops of cotton.

#### **CORRELATION BETWEEN YIELD, LENGTH OF LINT, AND PERCENTAGE OF LINT**

The correlations between yield of lint and length of lint; yield of lint and percentage of lint; and between percentage of lint and length of lint, on the 10 to 17 varieties of cotton studied at Angleton for the five years, 1919, 1920, 1921, 1922, and 1925, are given in Table 21. In figuring the coefficient of correlation, each variety is treated as a unit for each year in which it appears. The correlations are thus inter-varietal and measure the tendency for association between the characters as they occurred in the different varieties studied; and do not necessarily

mean that the same relationship would be found between different plants all belonging to the same variety. A study of the relationships between characters which exist within a variety of cotton are reported in Texas Station Bulletin No. 332. Owing to the comparatively small number of individuals composing the population (10 to 17 varieties), from which the probable errors are calculated, too much emphasis should not be placed on the significance of the correlation coefficient secured from a study of the three characters, yield of lint, length of lint, and percentage of lint.

Table 21.—Correlation between yield, length of lint, and percentage of lint.

Year	Yield of Lint with Length of Lint	Yield of Lint with Percentage of Lint	Percentage of Lint with Length of Lint
1919.....	-.41 ± .18	-.04 ± .21	-.67 ± .12
1920.....	-.82 ± .07	.62 ± .13	-.76 ± .09
1921.....	-.51 ± .16	.39 ± .18	-.52 ± .15
1922.....	-.45 ± .17	.22 ± .20	-.71 ± .10
1925.....	-.66 ± .09	.54 ± .12	-.78 ± .06
Corrected average coefficient of correlation.....	-.51 ± .07	.28 ± .15	-.62 ± .10

#### Correlation Between Yield and Length of Lint

The correlations between yield of lint and length of lint for the five years as given in Table 21, ranged from  $-.41 \pm .18$  to  $-.82 \pm .07$  having a corrected average coefficient of correlation of  $-.51 \pm .07$ . With regard to the varieties studied, there appears to be a fairly significant negative correlation in some years, between yield of lint and length of lint, indicating a tendency for the yield of lint to decrease as the length of lint increases, particularly when the length becomes longer than 1 1/16 inches, as illustrated in Figure 1 on page 6.

#### Correlation Between Yield and Percentage of Lint

The correlation between yield of lint and percentage of lint for the five years given in Table 21, ranged from  $-.04 \pm .21$  to  $.62 \pm .13$ , the corrected average coefficient of correlation being  $.28 \pm .15$ . In two of the five years, 1920 and 1925, with the varieties studied, there appeared to be a tendency for the yield of lint to increase as the percentage of lint increased; while in 1919 the correlation was negative and not significant, and in 1921 and 1922 the correlation was positive and not significant. In no case was the percentage of lint of a variety higher than 40 per cent or lower than 28 per cent.

#### Correlation Between Percentage and Length of Lint

Negative correlations were obtained between percentage of lint and length of lint, as shown in Table 21. The correlation coefficients ranged



from  $-.52 \pm .15$  to  $-.78 \pm .06$ , the corrected average coefficient of correlation being  $-.62 \pm .10$ . The coefficients appeared to be rather significant in four of the five years, in which from 10 to 17 varieties were studied each year. These results indicate that, in the case of the varieties studied, there appears to be a tendency for the length of lint to decrease as the percentage of lint increases.

Correlation does not necessarily rest on physiological or genetic relations, and much of the correlation which does exist may be due to the physical impossibility for the breeder of the variety to stress equally all of the desirable characteristics which his variety may possess, in making his plant selections. Part of the observed correlation may also be due to the association of certain characters in the variety at the time the breeder first began to improve it, and if he has placed no emphasis on these characters in making selections the correlation between them has probably remained unchanged.

#### VARIETIES OF COTTON TESTED AT ANGLETON, 1914-1926, INCLUSIVE

The more important varieties of cotton have been discussed previously in this Bulletin, but a complete list of all varieties is given here for information of anyone desiring a complete record of the variety test at this Station.

A list of all the varieties of cotton that have been grown in variety tests at Substation No. 3, Angleton, Texas, since 1914, together with source of seed and yields of lint, is given in Table 22.

Table 22.—Varieties tested at Angleton from 1914 to 1926, inclusive, with their yields of lint cotton in pounds per acre

Variety	Source of Seed	1914	1915	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Acala	Barrow Bros., Quinlan, Texas			566	176								
Acala No. 5	C. N. Nunn, Porter, Okla.					571							
Acala	A. B. Fowler, Clarksville, Texas					367							
Acala (Special)	F. D. Watson, Weslaco, Texas					347	314	31					163
Acala	F. D. Watson, Weslaco, Texas					285							
Acala	John D. Rogers, Allenfarm, Texas								202	69	247	275	
Allen's Express	Chris Reuter, New Orleans, La.			155	191								
Allen's Improved Long Staple	N. L. Willett Seed Co., Augusta, Ga.	111											
Bank Account	H. G. Hastings, Atlanta, Ga.	133	25	536	195								
Bates	N. L. Willett Seed Co., Augusta, Ga.		25										
Belton	Texas Experiment Station, Temple						285	32	139	47	212	245	149
Belton	H. Stubblefield, Belton, Texas					280							
Bennett's Lone Star	R. L. Bennett, Paris, Texas					275	276	35	138	66			
Black Rattler	Nichols & Hooks, Clarksville, Texas	71											
Blue Wagon (Mebane)	S. Maston Nixon, Robstown, Texas											263	195
Bohler's Triple Joint	N. L. Willett Seed Co., Augusta, Ga.	162											
Bolivia	J. L. Wooten, Columbus, Texas	133											
Bostwich	N. L. Willett Seed Co., Augusta, Ga.		23										
Boykin	Ferguson Seed Farm, Sherman, Texas				291								
Broadwell's Double Jointed	W. P. Broadwell & Co., Alpharetta, Ga.	150		384	91								
Bucklew Big Boll	Bucklew Bros., Oenaville, Texas					370							
Burn's Long Staple	Eugene Fant, Seneca, S. C.	96											
Cannon's World Skinner	Townsend, Oldham Co., Gorman, Texas	118											
Chisholm	Texas Seed Breeding Farm, Sherman, Texas			482	156	434							
Cleveland Big Boll	N. L. Willett Seed Co., Augusta, Ga.	188	44	112	249	390							
Clietta	San Marcos Valley Seed Farms, San Marcos, Texas									72	282	264	224
Columbia	N. L. Willett Seed Co., Augusta, Ga.		24										
Columbia Improved	N. L. Willett Seed Co., Augusta, Ga.	112											
Cook 588	Alabama Experiment Station, Auburn, Ala.	205	37		374				261				
Cook's Improved	Alabama Experiment Station, Auburn, Ala.	169											
Cook's Silk Long Staple	Peter Henderson Co., New York, N. Y.			541	174								
Crowder	E. A. Crowder, Marquez, Texas	157											
Culpepper's Improved Big Boll	N. L. Willett Seed Co., Augusta, Ga.	158											
Delfos 6102	Stoneville Pedigreed Seed Co., Stoneville, Miss.											260	261
Dillon	N. L. Willett Seed Co., Augusta, Ga.	78											
Dongola Big Boll	N. L. Willett Seed Co., Augusta, Ga.	193											
Durango	Texas Experiment Station, Lubbock, Texas	113	31	485	193	334	182	27	135		207	139	194
Early King	Chris Reuter, New Orleans, La.			452	357								
Edgeworth	J. C. Little, Lewisville, Ga.	158											
Express	N. L. Willett Seed Co., Augusta, Ga.			393	219	416							

Table 22.—Varieties tested at Angleton from 1914 to 1926, inclusive, with their yield of lint cotton in ponds per acre—Continued

Varieties	Source of Seed	1914	1915	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Ferguson's Round Nose	Ferguson Seed Farm, Sherman, Texas		44	743		364							
F. G. 33	C. S. Lankart, Fannin, Texas				291								
Floradora	H. T. Byars, Carrutherville, Mo.	107											
Foster	Morgan Latimer, Clarksville, Texas					245							
Foster's Long Staple	Wilmon Newell, College Station, Texas	116											
Gilstrap	Olin Gilstrap, Omen, Texas					369							
Haaga's Extra Long Staple	Oscar Haaga, Memphis, Tenn.		76										
Half and Half	N. L. Willett Seed Co., Augusta, Ga.	141		479	261	404							
Hallmark	A. S. McKain, Greenville, Texas									50			
Hartsville No. 9	J. L. Coker & Co., Hartsville, S. C.	118											
Harvell	Hardin Harvell, Belton, Texas			573		207							
Hastings' Upright	H. G. Hastings, Atlanta, Ga.				193								
Hawkins	Chris Reuter, New Orleans, La.	162		103									
Heavy Fruiter	E. B. Cannon & Son, Angleton, Texas	139	3										
Hendricks	A. F. Hendricks, Blair, Okla.	184											
Hites Prolific	W. T. Hite, Augusta, Ga.	116		467	247								
Holdon	W. M. Parks, Clarksville, Texas			594	202	264							
Huffman	G. B. Huffman, Longview, Texas	171	35										
Improved Champion	W. M. Bodman, Lockhart, Texas			841	189								
Jackson	Texas Seed and Floral Co., Dallas, Texas			595		446							
Kasch	Ed Kasch, San Marcos, Texas			883	191	461	297	37	126	71	235	285	206
Kekchi	W. M. Parks, Clarksville, Texas					308							
King's Extra Early	Texas Seed and Floral Co., Dallas, Texas	150		646									
King X Triumph	Alabama Experiment Station, Auburn, Ala.				280								
Laytons Improved	N. L. Willett Seed Co., Augusta, Ga.		28										
Lightning Express	Coker's Pedigreed Seed Co., Hartsville, S. C.									68	157	269	168
Lone Star	Texas Seed and Floral Co., Dallas, Texas			468	268	92							
Lone Star	U. S. Department of Agriculture, Washington, D. C.	151											
Lone Star	Ferguson Seed Farms, Sherman, Texas		40	846	146	159							
Lone Star	Texas Experiment Station, College Station, Texas					435	240	33	250				
Lone Star	D. A. Saunders, Greenville, Texas					364	274	35	182	57	274	243	200
Lone Star	Pittman-Harrison, Sherman, Texas					248							
Lone Star (T. S. No. 3642)	J. A. Moore, Grand Prairie, Texas					174							
Lone Star (T. S. No. 3643)	J. A. Moore, Grand Prairie, Texas					208							
Matchless Extra Early Big Boll	H. G. Hastings, Atlanta, Ga.			624	264								
Mebane	A. D. Mebane Sales Agency, Lockhart, Texas					405	316	39	200	45	243	295	163
Mebane (T. S. No. 804)	Texas Experiment Station, Angleton, Texas			641	223	586	319	57	365	83	256	380	194

Table 22.—Varieties tested at Angleton from 1914 to 1926, inclusive, with their yields of lint cotton in pounds per acre—Continued

Variety	Source of Seed	1914	1915	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Mebane	Mebane Cotton Breeding Association, Lockhart, Texas											284	245
Mebane Triumph 183	Ferguson Seed Farms, Sherman, Texas				93								
Mebane Triumph 184	Ferguson Seed Farms, Sherman, Texas				97								
Mebane Triumph 186	Ferguson Seed Farms, Sherman, Texas				172								
Mebane Triumph	Ferguson Seed Farms, Sherman, Texas			754	166	431							
Mebane Triumph 406	Ferguson Seed Farms, Sherman, Texas					376							
Mebane Triumph "A"	Ferguson Seed Farms, Sherman, Texas					372							
Mebane Triumph	Texas Seed and Floral Co., Dallas, Texas			205	283								
Mebane	Texas Seed Breeding Farm, Sherman, Texas			537	225								
Mebane	R. F. Palmer, Troup, Texas					468							
Mexican Big Boll	N. L. Willett Seed Co., Augusta, Ga.			505	217								
Money Maker	N. L. Willett Seed Co., Augusta, Ga.		42	451	72								
Mortgage Lifter	H. G. Hastings Seed Co., Atlanta, Ga.	108	31	691	438								
New Boykin	Ferguson Seed Farms, Sherman, Texas									50	247	316	176
Pemiscot	H. T. Byars, Carruthersville, Mo.	121											
Peterkin	N. L. Willett Seed Co., Augusta, Ga.	120		459									
Qualla	H. Conrads, San Marcos, Texas											213	
Roberts Big Boll	N. L. Willett Seed Co., Augusta, Ga.	140	30										
Rowden	Rowden Bros., Wills Point, Texas		40				272	294	31	141	73	208	250
Rowden	R. M. Womack, Wills Point, Texas						254						
Rowden	Texas Seed and Floral Co., Dallas, Texas			490	208								
Rowden	Texas Seed Breeding Farm, Sherman, Texas			415	217								
Rowden	R. H. Norwood, Wills Point, Texas	89											
Russell	N. L. Willett Seed Co., Augusta, Ga.		25										
Simpkins	N. L. Willett Seed Co., Augusta, Ga.		76										
Simpkin's Ideal	Wake Co., Cottonseed Co., Raleigh, N. C.			609	187								
Simpkin's Prolific	Chris Reuter, New Orleans, La.	174		640	345								
Snowflake	Nichols & Hooks, Clarksville, Texas	98											
Snowflake	John C. McLernon, Clarksville, Texas			415	250	366	177	21	110			186	123
St. Anthony's Improved	W. P. Reed, Angleton, Texas	103											
Startex	Texas Experiment Station, College Station, Texas										214		
Sunflower Long Staple	N. L. Willett Seed Co., Augusta, Ga.	81											
Sure Crop	H. G. Hastings, Atlanta, Ga.			594	202								
Texas Oak	N. L. Willett Seed Co., Augusta, Ga.	83	29										
Texas Progress	Progress Seed Imp. Co., Carlton, Texas			624	215								
Texas Wood	N. L. Willett Seed Co., Augusta, Ga.	113	18										
Toole	N. L. Willett Seed Co., Augusta, Ga.	123	20	526	149								
Trice	N. L. Willett Seed Co., Augusta, Ga.			131	217								



### SUMMARY

The results of the variety test of cotton at Angleton show that the group of Mebane cottons (Mebane, Kasch, Cliett, and New Boykin), Lone Star, Acala, and Truitt are well adapted to the conditions in the humid part of the Gulf Coastal Plains of Texas. A Texas Station strain of Mebane (T. S. No. 804), made the highest average yield for the 8-year period, 1919-1926, inclusive.

Mebane (A. D. Mebane Sales Agency) produced the largest average size of boll. The varieties having medium- to large-sized bolls, however, produced the largest average yields of lint.

Varieties of cotton having lint about one inch in length produced the largest average yields of lint.

*All varieties of cotton showed within themselves variation in the percentage of lint from year to year. Bennett Lone Star appeared to be the most uniform in percentage of lint, while Mebane (T. S. No. 804) showed the greatest variation in this respect. Those varieties of cotton having percentages of lint ranging from about 34 to 38 per cent made the highest average yields of lint, showing that yield of lint in general is more important than percentage of lint. For instance, Mebane (T. S. No. 804), having an average percentage of lint of 34.3, yielded 271 pounds of lint per acre; while Kasch having a percentage of 38.0 yielded 179 pounds of lint per acre, showing that a high percentage of lint is not always indicative of a high yield of lint.*

The percentage of the total crop produced by the first three pickings, as considered in this Bulletin, is an accurate indicator of earliness. The number of blooms produced during the first 30 days of the blooming period, and the number of days from emergence to first open boll are also indicators of earliness, but they are not as accurate indicators of earliness as the percentage of the total crop produced by the first three pickings. In general the high-yielding varieties were relatively early in maturity.

Negative correlations were obtained among the varieties studied between yield and length of lint, and between length and percentage of lint; indicating a tendency for the yield of lint to decrease as the length of lint increases, and for the percentage of lint to decrease as the length of lint increases. Positive correlations were obtained between yield and percentage of lint, indicating a tendency for the yield to increase as the percentage of lint increases, the correlation being significant, however, in only two of the five years studied.

The results show that the varieties of cotton which were the most profitable were characterized by high yields of lint, medium- to large-sized bolls, percentages of lint ranging from 34 to 38, and having lint varying in length from 1 to 1 1-16 inches, and relatively early maturity.

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## LIST OF BULLETINS REPORTING RESULTS OF EXPERIMENTS CONDUCTED AT SUBSTATION NO. 3, ANGLETON, TEXAS

The following publications of the Texas Agricultural Experiment Station report data secured in experiments conducted at Substation No. 3, Angleton, Texas:

- Bulletin No. 172. Sudan Grass—1915.
- Bulletin No. 195. Japanese Sugar Cane as a Forage Crop—1916.
- Bulletin No. 197. Progress Report at Substation No. 3, Angleton, Texas, 1909-1914.
- Bulletin No. 229. Experiments at Substation No. 3, 1909-1916.
- Bulletin No. 230. Spacing in Rows of Corn and Its Effect upon Grain Yield—1918. (Exhausted.)
- Bulletin No. 266. The Staple of Texas Cotton—1920. (Exhausted.)
- Bulletin No. 274. Cotton Variety Experiments—1921. (Exhausted.)
- Bulletin No. 276. Corn Variety Experiments—1921. (Exhausted.)
- Bulletin No. 340. The Effect of Spacing on the Yield of Cotton—1926.
- Bulletin No. 342. Angleton Grass—1926.
- Circular No. 37. Subterranean Clover—A New Sandy-land Grazing Crop for Southeastern Texas—1925.