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W. B. BIZZELL, President

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DIVISION OF AGRONOMY

COTTON VARIETY EXPERIMENTS AT THE MAIN STATION, 1912 TO 1922

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*In cooperation with School of Veterinary Medicine.
**In cooperation with United States Department of Agriculture.

COTTON VARIETY EXPERIMENTS AT THE MAIN STATION 1912 to 1922

G. N. Stroman

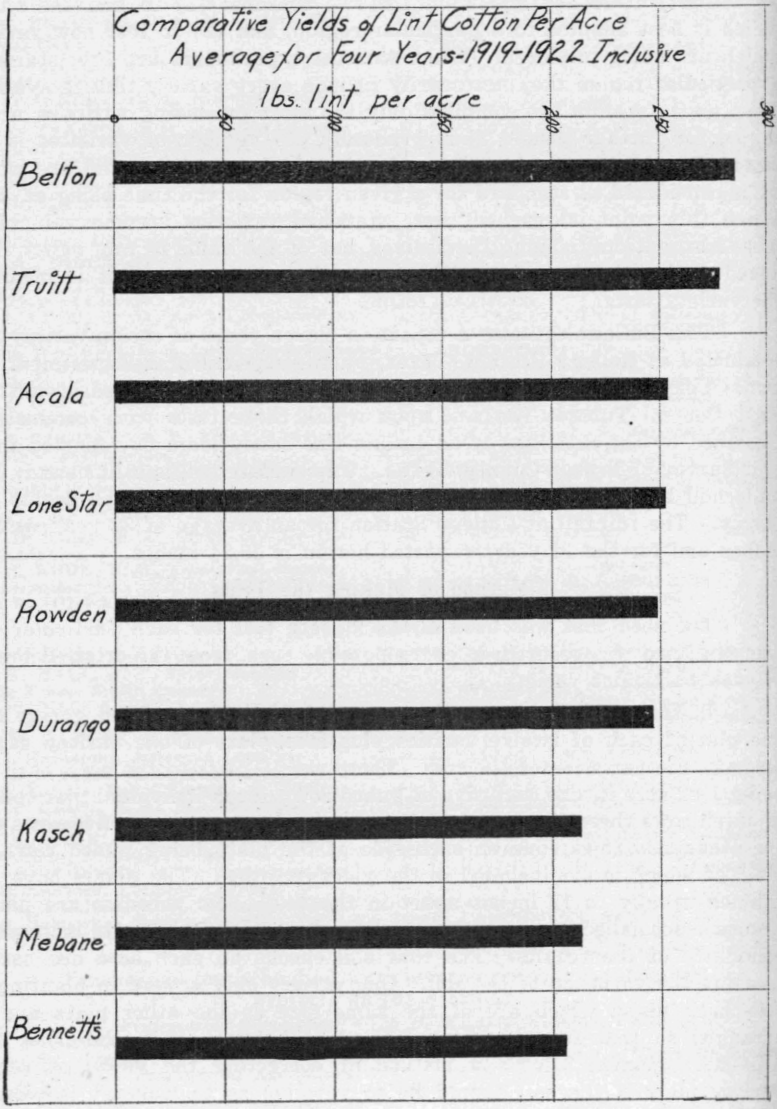
Variety tests are important for two reasons: (1) to find the variety which is best adapted to a particular region, and (2) to test new varieties which are being produced. When varietal experiments are first started in a particular region they necessarily include every variety that is available. Then as the results are compiled only the more promising varieties are retained for further tests. Thus gradually the number of varieties is narrowed down to those which have shown superior qualities and are worthy to be considered as standard for a given region for the time being at least. When this point is reached these standard varieties become valuable as measures, not only among themselves, but of the value of any newly introduced or developed strains. This measuring process is what is meant by the variety tests.

This Bulletin contains a report on eleven years of cotton variety tests conducted at College Station, Texas, by the Agricultural Experiment Station. These results will probably best apply to the flat-woods country of East Central Texas. The soil upon which these tests were conducted is classified by the Soil Survey as Lufkin fine sandy loam as reported in the Soil Survey of Brazos County, Texas. The surface soil is a fine sandy loam underlaid by a highly plastic and impervious drab clay, which drains very poorly. The rainfall at College Station for an average of 32 years is 37.83 inches and for the 11 years reported herein is 38.24 inches.

Method of Making the Tests

The seed that was used in the variety test for each particular year was new, and was secured, in every possible case, from the original breeder of each particular variety.

In the method used, each set of variety tests consisted generally of one plat of each of twelve varities plus four plats of one variety used to measure the variation of the soil. There are 16 plats to the acre, each plat being 1-22 acre in size exclusive of guard rows. Each individual plat consists of seven rows three feet apart, although records are taken on five rows only, the other two rows (one on each side of the plat) being guard rows, the yield of which is not included in the yield recorded. The plants have been thinned usually to 12 inches apart in the row. The varieties are planted also on a second acre as a duplicate of the first acre, in order to increase the reliability of the results. The four soil checks on each acre are used to measure the variation of the soil. One variety only is used in planting the soil-check plats, which are of the same size as the other plats and are arranged so that four regular plats come between each soil-check plat. This arrangement affords a method of correcting the yields of regular variety plats if the soil should be so variable as to warrant it. On the other acres an auxiliary test is conducted for trying other varieties of less known behavior. This is preliminary to the regular variety test and as promising varieties appear they are transferred to the regular test for the following year.


Comparative Yields of Lint Cotton Per Acre
Average for Four Years-1919-1922 Inclusive
lbs. lint per acre
0
50
100
150
200
250
300
Belton
Truitt
Acala
LoneStar
Rowden
Durango
Kasch
Mebane
Bennett's

This method is the one that is used now at the Main Station, but in the early years other methods were in use. However, the results are comparable, as they are shown in yields per acre.

General Results

The summary of the results of the varieties from 1912 to 1922, inclusive, as regards yield of lint cotton per acre, is shown in Tables 1 and 2. Only the varieties which have the most promising value, that is, those which have not been discarded for one reason or another, and at the same time have been grown for at least four comparable years at College Station, are included in Table 1. In Table 2 are shown a few averages of additional periods of years and the table includes especially the earlier years of the test.

The averages for the different varieties included those which were grown during the same years. That is, average yields are given on a number of varieties which were grown during the four years, 1912 to 1915, inclusive; an average of another group of varieties which were grown during four years, 1919 to 1922, inclusive; an average of six years, 1914, 1917, 1918, 1919, 1921 and 1922; for a period of seven years, 1912, 1913, 1914, 1919, 1920, 1921, and 1922; and for other periods of years. Also, for three varieties, Lone Star, Rowden, and Mebane, which were grown during the entire eleven years, 1912 to 1922 inclusive, average yields are shown for the eleven-year period. In order that the varieties may be justly compared, the averages must be for the same years that they grew together in the variety test. The average is for production of lint in pounds per acre. The percentage of lint is also included in Table 1.

TABLE 1

Summary of the Variety Test of Cotton for Periods of Years, 1912 to 1922, inclusive, College Station, Texas, Showing the Yield of Lint Cotton per Acre and Percentage of Lint of Varieties Averaged for Different Periods of Years

Variety	1912 to 1922 incl.			1912, 1913, 1914, 1919, 1920, 1921, 1922			1914, 1917, 1918, 1919, 1921, 1922			1917 to 1922, incl.			1919 to 1922, incl.		
	Lbs.	Rank	Percent Lint	Lbs.	Rank	Percent Lint	Lbs.	Rank	Percent Lint	Lbs.	Rank	Percent Lint	Lbs.	Rank	Percent Lint
Lone Star	231	1	34	261	3	34	160	1	34	192	2	33	251	4	33
Rowden	224	3	33	265	2	33	150	2	33	189	3	33	248	5	33
Mebane	225	2	36	248	5	36	142	3	36	170	5	36	214	8	36
Acala										193	1	33	254	3	34
Durango				255	4	32	133	4	28	179	4	30	246	6	31
Kasch										169	6	38	214	7	38
Truitt				307	1	34							277	2	34
Belton													286	1	33
Bennett													206	9	35
Snowflake							130	5	27						

TABLE 2

Averages for Certain Periods of Years of Pounds of Lint per Acre, which were not included in Table 1

Variety	4 years 1912-1915 incl.		5 years 1912, 1913, 1914, 1916, 1917		5 years 1912, 1914, 1917, 1918, 1919		4 years 1915-1918 incl.		7 years 1912-1918 incl.		10 years 1912-1922 incl. excl. of 1915	
	Lint	Rank	Lint	Rank	Lint	Rank	Lint	Rank	Lint	Rank	Lint	Rank
Bank Account	247	9	225	8			124	5	204	5		
Cleveland	272	4	259	1			118	6	219	3		
Cook	280	2	242	5								
Durango			220	9	124	5					215	4
Ferguson's Round Nose							148	1				
Hendricks	237	10										
Lone Star	267	5	237	7	183	1	144	2	221	2	230	1
Mebane	275	3	253	2	169	2	143	3	228	1	224	3
Mortgage Lifter ...	266	6	241	6								
Rowden	265	7	244	4	157	4	125	4	213	4	229	2
Snowflake					124	5						
Toole	257	8										
Truitt	292	1										
Union Big Boll.....			250	3	165	3						

Highest Yielding Varieties for East Central Texas

Table 1 shows several varieties that made the highest yields of lint per acre. These are discussed as follows:

Lone Star is a consistent yielder. It ranks first in the average for eleven years; also in an average for six years, 1914, 1917, 1918, 1919, 1921, and 1922; and second in the average for six years, 1917 to 1922 inclusive. Also, it ranked fourth for the years 1919 to 1922 inclusive, and third in another average for seven years, 1912, 1913, 1914, 1919, 1920, 1921, and 1922.

The Truitt variety ranked first in an average for seven years, 1912, 1913, 1914, 1919, 1920, 1921, and 1922, and (as shown in Table 2) in the average for the years 1912 to 1915 inclusive. Also, Truitt ranked second in an average for four years, 1919 to 1922 inclusive.

Acala is a dependable variety in this section, ranking first in the averages for years 1917 to 1922 inclusive, and third in an average for the four years 1919 to 1922 inclusive. This variety was not grown during the other periods of years that were averaged.

The Belton variety ranked first in the average for the years 1919 to 1922 inclusive, the only years it was grown in the test.

The varieties, Mebane, Rowden, Durango, Kasch, Snowflake, and Bennett have continued in this test and are varieties which do comparatively well in this section. Any of the varieties just mentioned is considered standard for this particular region of Texas.

Detailed Data and Results

The ten highest-yielding varieties as shown by the variety tests at College Station for each year of the experiment reported (1912 to 1922 inclusive) are given in tables as listed below. The results with the other varieties that were in the tests are listed in Table 14.

In Table 3, the data for 1912 are found; Table 4, 1913; Table 5, 1914; Table 6, 1915; Table 7, 1916; Table 8, 1917; Table 9, 1918; Table 10, 1919; Table 11, 1920; Table 12, 1921; and Table 13, 1922.

The data given in the tables listed above include only the ten highest-producing varieties as regards the number of pounds of lint per acre. There are, however, only nine varieties for 1920 and 1921, as those are all the varieties that were reported for those years.

The Relation of Rainfall to Yield

The rainfall by months for each year of the test along with the average for 32 years is shown in Table 15.

It is to be noted that high yields seem to be correlated with well distributed rainfall especially in June, July, and August. This is illustrated in 1917, a season of small amount of rainfall and especially dry during June, July, and August, a year when very poor yields were obtained. Also, in 1912, the year which gave the highest yields, although the rainfall was only

30 inches for the entire year, it was well distributed throughout the growing season.

The correlation coefficient for the relation of the average yield per acre of the ten high varieties for each year (this average appears at the bottom of each table for its particular year) to the amount of rainfall in June, July, and August, was $+.27 \pm .19$. Although this coefficient is not statistically significant, as it is less than twice its probable error, it does indicate, however, that the amount of rainfall during these three months influences the yield to some extent. The total amount of rainfall during June, July, and August was used to figure the correlation. It is notable that it is not so much the total amount of rainfall as the distribution during these three months which most affects the yield. A correlation coefficient calculated for the yearly amount of rainfall from November to October, inclusive, with the average yield per year of the ten high varieties, was $+.15 \pm .20$, which seemed to show that the total amount of rainfall for the whole year had no influence whatever on the yields either high or low.

Percentage of Lint

The pounds of seed cotton per acre, pounds of clean lint per acre, pounds of clean seed per acre, and percentage of lint or gin-turnout are given in Tables 3 to 13, inclusive, for each of the ten high varieties for each year.

These ten high varieties for each year are listed in each table in their order from highest to lowest as regards their production in pounds of lint per acre. **The percentage of lint or the gin-turnout is not very important in comparing varieties in order to determine which one the farmer should grow.** The farmer desires the variety which will bring him the most dollars and cents per acre. Percentage of lint or gin-turnout has very little to do with the most dollars and cents to the acre unless the production of lint per acre is the same for all varieties under consideration. If the yield of lint is the same for two varieties then all that the higher percentage of lint can make for the farmer is a small saving in picking expense. It is a question of how much lint a farmer can get per acre, because it is the number of pounds of lint per acre which brings to the farmer the most cash.

No Significant Correlation Found Betweet Percentage of Lint and Pounds of Lint Per Acre

A correlation table between percentage of lint and pounds of lint per acre was made by using only the ten highest varieties in lint yield for the years 1912 to 1922 inclusive, as given in Tables 3 to 13 inclusive. The Correlation coefficient was $+.1243 \pm .0654$. This coefficient is not significant on account of the fact that it is less than two times the probable error. So it is seen that, even though this correlation was figured on a highly specialized class of 110 samples, there was no significant correlation between percentage of lint and pounds of lint per acre.

Length of Lint

The length of lint is more important than percentage of lint. Even the length of lint has not been so important in the past because the local buyer did not pay a premium on length of staple. In such a case if the length of lint is better than ⅞ inch and up to 1 1-16 inches, the pounds of lint per acre is the only important consideration. Still, if we have a variety that has a long staple and at the same time has the best producing qualities as regards pounds of lint per acre, this variety will bring the farmer more dollars and cents, provided it is produced in large enough quantities to attract the buyer who recognizes its superior merit. Still, it seems as if our high-producing varieties have been the ones with comparatively short staples. There is a general trend toward recognition of better staples in the markets and the production of these will probably become increasingly profitable.

Quality of Lint

Quality of lint is important, but on account of the fact that quality is influenced very greatly by the cleanliness of picking, as well as by the weather, it would hardly justify us to compare the varieties in this regard at this time. Our ideal, though, is for a good quality of lint, especially as to strength, color, and texture.

Basis of Selecting the Variety to Plant

Then, in selecting the variety to plant the farmer should want to know, first, the producing power of the varieties as regards pounds of lint per acre; second, length of staple; third, quality; and fourth, percentage of lint or gin-turnout. It is very important that the farmer should not decide on the variety he wants to plant just because it will give him a high gin-turnout.

Summary and Conclusions

The experiments on varieties of cotton carried on at College Station, Texas, from 1912 to 1922, inclusive, are reported in this Bulletin.

The results of the experiments reported herein are perhaps most applicable to the section of East Central Texas generally known as the flatwoods country.

The data and results for the eleven years of the experiment are shown in the accompanying tables and illustrations. The ten high varieties for each year are shown and a summary table is given showing the average yields for certain periods of years for those varieties which have been in the test for four years and have not for one reason or the other been discarded. These are considered the standard varieties for this section of the State. These rank according to the different averages as follows:

1. An average of four years, 1919 to 1922, inclusive: Belton, Truitt, Acala, Lone Star, Rowden, Durango, Kasch, Mebane, and Bennett.

2. An average of six years, 1917 to 1922, inclusive: Acala, Lone Star, Rowden, Durango, Mebane, and Kasch.

3. An average of six years, 1914, 1917, 1918, 1919, 1921, and 1922: Lone Star, Rowden, Mebane, Durango, and Snowflake.

4. An average of seven years, 1912, 1913, 1914, 1919, 1920, 1921, and 1922: Truitt, Rowden, Lone Star, Durango, and Mebane.

5. An average of eleven years, 1912 to 1922, inclusive: Lone Star, Mebane, and Rowden.

A table is given showing the yield in pounds of lint per acre of each variety for each year for all varieties grown in the variety test during the period from 1912 to 1922 inclusive.

There is some relation between yield of lint and rainfall, although no close correlation can be traced.

Yield of lint per acre is much more important than percentage of lint or gin-turnout. No correlation was found between percentage of lint and pounds of lint per acre.

Length of lint is not as important as yield of lint, but it is more important than percentage of lint, provided the staple is longer than ⅞ inch.

The farmer in selecting a variety to plant should consider, first, its productive power as regards pounds of lint per acre; second, length of staple; third, quality of lint; and fourth, percentage of lint.

TABLE 3

The Ten High-Yielding Varieties for the Year 1912

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		505		35.37
Virgatus	1621	577	1044	35.60
Bohemium Big Boll	1540	558	982	36.25
Truitt	1540	523	1017	33.93
Chambers Staple	1320	509	811	38.59
Crowder	1320	502	818	38.03
Durango	1375	491	884	35.70
Union Big Boll	1457	488	969	33.50
Unknown	1360	472	889	34.71
Mebane	1284	468	815	36.42
Bolivia	1511	468	1043	30.94

TABLE 4
The Ten High-Yielding Varieties for the Year 1913

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		299.6		35.33
Roberts	852	323	529	37.93
Crowder	907	317	590	34.90
Half & Half	865	316	549	36.50
Cleveland	831	311	520	37.39
Huffman	927	308	619	33.21
Toole	886	306	580	34.58
Luce	873	296	577	33.85
Jackson	755	278	477	36.88
Cannon	806	273	533	33.86
Mortgage Lifter	782	268	515	34.24

TABLE 5
The Ten High-Yielding Varieties for the Year 1914

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		235.		36.05
Truitt	755	269	486	35.67
Crowder	710	265	445	37.32
Roberts	692	251	441	36.24
Peterkin	606	243	363	40.15
Crenshaw	633	230	403	36.31
Broadwells	669	226	443	33.72
Dongola	650	225	425	34.63
Cleveland	595	218	377	36.64
Simpkins	596	215	382	36.02
Union Big Boll	624	210	414	33.65

TABLE 6

The Ten High-Yielding Varieties for the Year 1915

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		236		36.99
Huffman	769	279	490	36.27
Cooke 729	687	274	413	39.87
Roberts	721	247	474	34.27
Lone Star	659	245	415	37.10
Ricks	563	244	320	43.31
Ferguson's Round Nose	670	220	450	32.90
Mebane	640	219	421	34.22
Bates	542	218	324	40.15
Half & Half	584	208	376	35.58
Cooke	565	203	357	36.19

TABLE 7

The Ten High-Yielding Varieties for the Year 1916

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		352.1		35.45
Cook	1121	438	683	39.07
Ferguson's A-711	1055	417	638	39.53
Mebane 804	1040	351	688	33.75
Ferguson's Round Nose	1009	354	646	35.12
Wannamaker's Big Boll	928	338	572	36.45
Cleveland Big Boll	992	334	643	33.76
Allen's Express	1017	324	692	31.80
Mebane	927	349	578	37.65
Lone Star	1003	327	676	32.60
Rowden	834	289	534	34.70

TABLE 8

The Ten High-Yielding Varieties for the Year 1917

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		53.7		37.13
F. G. 33	202	71	131	35.15
Boykin	155	64	91	41.19
Kasch's Improved	150	61	89	40.67
Webb	159	61	98	38.50
Chisholm	144	51	93	35.52
Mebane	131	49	82	37.49
Acala	135	48	87	35.68
King X Triumph	132	47	85	35.65
Improved Champion	117	44	73	37.46
Rowden	121	41	80	34.03

TABLE 9

The Ten High-Yielding Varieties for the Year 1918

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		144		35.29
Mebane Triumph	486	180	306	37.02
Ferguson's Triumph	454	165	289	36.36
Boykin	463	160	303	34.56
Cook's 931	387	153	234	39.56
Ferguson's Mebane Triumph	406	150	256	36.94
Ferguson's Lone Star	415	143	272	34.41
F. G. 33	381	139	245	36.27
Ferguson's Round Nose	387	123	264	31.76
Mebane	347	117	230	33.67
Lone Star	356	115	241	32.31

TABLE 10

The Ten High-Yielding Varieties for the Year 1919

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		263		36.12
Acala No. 5	987	358	629	36.23
Lone Star	921	324	597	35.18
Belton	895	306	589	34.19
Mebane Triumph	806	296	510	36.67
Truitt	818	296	522	36.13
Boykin	759	292	467	38.46
Half & Half	823	280	543	34.02
Triumph No. 406	713	275	438	38.55
Acala	769	267	502	34.72
Mebane	715	265	450	37.09

TABLE 11

The Nine High-Yielding Varieties for 1920

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		408		35.15
Truitt	1359	476	883	35.00
Belton	1346	458	888	34.01
Acala	1333	450	883	33.75
Durango	1294	426	868	32.94
Rowden	1197	410	787	34.26
Lone Star	1185	400	785	33.77
Kasch	1014	390	624	38.44
Mebane	949	345	604	36.31
Bennett	832	315	517	37.84

TABLE 12

The Nine High-Yielding Varieties for the Year 1921

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		118		31.19
Truitt	412	137	275	33.15
Mebane 804	436	137	299	31.29
Snowflake	472	127	345	36.75
Belton	388	122	266	31.44
Durango	419	120	299	28.64
Acala	357	113	244	31.51
Lone Star	349	111	238	31.76
Mebane	318	108	210	33.96
Rowden	299	91	208	30.20

TABLE 13

The Ten High-Yielding Varieties for the Year 1922

Variety	Lbs. Seed Cotton per acre	Lbs. Lint per acre	Lbs. Seed per acre	Per Cent Lint
Average		193		34.50
Rowden	747	260	487	34.80
Belton	755	257	498	34.08
Durango	697	214	483	30.64
Truitt	597	200	370	33.50
Snowflake	673	190	484	28.16
Acala	566	188	378	33.19
Bennett	461	172	289	37.23
Lone Star	461	164	297	35.64
Kasch	376	149	226	39.69
Mebane	360	138	223	38.10

TABLE 14

Varieties which were included in the variety test at College Station, Texas from 1912 to 1922, inclusive, with their respective yields in pounds of lint by years.

Variety	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Allen	350	184	173	....	....	....	....	....	....	....	....
Alabama Wonder	....	....	118	164	....	....	....	....	....	....	....
Allen's Long Staple	....	....	164	....	....	....	....	....	....	....	....
Alabama Cleveland	....	....	....	151	335	....	....	....	....	....	....
Allen's Express	....	....	....	....	324	18	84	....	....	....	....
Acala	....	....	....	....	....	48	91	267	450	113	188
Acala No. 5	....	....	....	....	....	....	....	357	....	....	....
Bank Account	399	243	163	184	305	17	114	....	....	....	....
Bolivia	457	213	127	....	....	....	....	....	....	....	....
Burns	449	211	176	....	....	....	....	....	....	....	....
Brabham	324	206	117	....	....	....	....	....	....	....	....
Bohemian Big Boll	558	186	....	....	....	....	....	....	....	....	....
Bradburn	437	230	....	....	....	....	....	....	....	....	....
Black Rattler	....	158	131	....	....	....	....	....	....	....	....
Broadwells	....	199	226	....	....	....	....	....	....	....	....
Brazos	....	192	....	....	....	....	....	....	....	....	....
Bohlers	....	....	198	....	....	....	....	....	....	....	....
Burnett	....	....	169	....	....	....	....	....	....	....	....
Bostwick	....	....	....	195	....	....	....	....	....	....	....
Boykin	....	....	....	....	....	63	160	292	....	....	....
Bates	....	....	....	218	....	....	....	....	....	....	....
Bennett	....	....	....	....	....	....	....	254	315	84	172
Belton	....	....	....	....	....	....	....	306	458	122	257
Buckelew Big Boll	....	....	....	....	....	....	....	172	....	....	....
Broadwells D. Jtd.	....	....	....	....	....	17	....	....	....	....	....
Cleveland	412	311	218	149	334	20	86	....	....	....	....
Cleveland x Cook	....	....	....	184	....	....	....	....	....	....	....
Columbia	317	141	137	....	....	....	....	....	....	....	....
Cook	285	250	180	406	438	27	....	....	....	....	....
Crowder	502	316	265	....	....	....	....	....	....	....	....
Chandlers Prolific	412	202	....	....	....	....	....	....	....	....	....
Chambers Staple	509	....	....	....	....	....	....	....	....	....	....
Cannon	....	273	190	....	....	....	....	....	....	....	....
Culpepper	....	320	303	136	....	....	....	....	....	....	....
Chindo	....	220	....	....	....	....	....	....	....	....	....
Crenshaw	....	....	230	....	....	....	....	....	....	....	....
Chisholm	....	....	195	....	....	51	100	265	....	....	....
Cook 729	....	....	....	274	....	....	....	....	....	....	....
Cook Long Staple	....	....	....	....	....	37	....	....	....	....	....
Cook's 588	....	....	....	....	....	....	114	....	....	....	....
Cook's 931	....	....	....	....	....	....	153	....	....	....	....
Durango	491	154	151	....	280	22	66	227	426	120	214
Dixie	275	244	192	....	....	....	....	....	....	....	....
Dillon	316	59	170	....	....	....	....	....	....	....	....
Dongola	....	256	225	....	....	....	....	....	....	....	....
Early King	....	....	....	....	304	21	87	....	....	....	....
Edgeworth	220	254	159	....	....	....	....	....	....	....	....
Express	....	....	....	....	....	23	74	....	....	....	....
Ferguson's A 711	....	....	....	....	417	....	....	....	....	....	....
Ferguson's Lone Star	....	....	....	....	....	....	143	....	....	....	....
Ferguson's Mebane Triumph	....	....	....	....	....	....	150	....	....	....	....
Ferguson's Roundnose	419	....	....	220	354	42	123	258	....	....	....
Ferguson's Triumph 184	....	....	....	....	....	....	165	....	....	....	....
F. G. 33	....	....	....	....	....	71	139	247	....	....	....
Foster	....	178	154	....	....	....	....	227	....	....	....
Floradora	356	156	133	....	....	....	....	....	....	....	....
Gilstrap	....	....	....	....	....	....	....	249	....	....	....
Haaga	316	174	132	....	....	....	....	....	....	....	....
Haaga's Express	213	....	....	....	....	....	....	....	....	....	....
Half-and-Half	....	316	189	208	....	20	....	280	....	....	....
Hallmark	....	....	....	....	....	....	....	....	....	....	180

TABLE 14—(Continued)

Variety	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Hartsville 7	206	228	156	....	....	....	....	....	....	....	....
Hartsville 9	....	....	....	....	252	....	....	....	....	....	....
Harvell	....	....	....	....	353	41	....	125	....	....	....
Hastings' Mortgage Lifter	....	....	....	....	....	....	91	....	....	....	....
Hasting's Upright	....	....	....	....	267	19	94	....	....	....	....
Hawkins Prolific	....	110	167	....	314	19	....	....	....	....	....
Hendricks	387	194	165	201	295	....	....	....	....	....	....
Hites Prolific	....	....	....	....	....	15	....	....	....	....	....
Hites	....	110	194	....	....	....	....	....	....	....	....
Holdon	....	....	....	....	....	42	92	182	....	....	....
Huffman	....	308	187	279	....	....	....	....	....	....	....
Improved Champion	....	....	....	....	332	44	87	....	....	....	....
Ideal	....	....	....	....	324	....	....	....	....	....	....
Jackson	425	278	176	....	....	....	....	237	....	....	....
Jackson's Big Boll	....	....	....	....	....	37	....	....	....	....	....
Karachigis	....	213	....	....	....	....	....	....	....	....	....
Kasch	....	....	....	....	....	....	....	244	389	73	149
Kasch's Improved	....	....	....	....	....	61	100	....	....	....	....
Keenan Goodson	412	....	....	....	229	....	....	....	....	....	....
Kekchi	....	....	....	....	....	....	....	223	....	....	....
King	....	....	131	126	....	....	....	....	....	....	....
Kings Express Early	....	....	....	....	....	38	....	....	....	....	....
King x Triumph	....	....	....	....	....	47	110	....	....	....	....
King 850	....	....	....	....	....	....	144	....	....	....	....
Lone Star	382	234	209	245	327	34	115	324	400	115	164
Long Staple	433	267	....	....	230	....	....	....	....	....	....
Luce	....	205	....	....	....	....	....	....	....	....	....
Mokpo	....	....	....	....	115	....	....	....	....	....	....
Matchless	....	....	....	....	275	....	....	....	....	....	....
Matchless Extra Early Big Boll	....	....	....	....	....	21	108	....	....	....	....
McKelson	275	247	....	....	....	....	....	....	....	....	....
Mebane	468	240	175	219	349	49	117	265	345	108	138
Mebane 804	....	....	....	....	351	....	....	....	....	137	175
Mebane Triumph	....	....	....	....	322	42	180	296	....	....	....
Mexican Big Boll	....	....	....	....	....	14	....	....	....	....	....
Mixed	....	151	246	....	....	....	....	....	....	....	....
M. S. Lone Star	....	....	....	....	....	....	....	....	....	....	166
Money Maker	....	....	....	....	....	12	....	....	....	....	....
Mortgage Lifter	448	268	206	142	263	21	....	....	....	....	....
Pemiscot	....	....	110	....	....	....	....	....	....	....	....
Perry's Improved	....	....	189	....	....	....	....	....	....	....	....
Peterkin	....	186	243	157	....	16	....	....	....	....	....
Petways	....	275	....	....	....	....	....	....	....	....	....
Petways Improved	....	....	159	....	....	....	....	....	....	....	....
Red Leaf	....	220	91	89	....	....	....	....	....	....	....
Ricks	....	....	....	244	....	....	....	....	....	....	....
Roberts	....	323	251	247	....	....	....	....	....	....	....
Rublee	....	....	....	195	....	....	....	....	....	....	....
Rowden	452	236	178	196	289	41	76	231	410	91	260
Rowden-Belton	....	....	....	216	....	....	....	....	....	....	....
Rowden 576	....	....	....	....	....	....	64	....	....	....	....
Rowden Big Boll	....	....	....	....	299	....	....	....	....	....	....
Rowden Ludd	....	....	....	....	332	....	....	....	....	....	....
Rowden Choice Prolific	....	....	....	....	....	25	....	....	....	....	....
Russell Big Boll	226	....	....	....	....	....	....	....	....	....	....
Sea Island	....	....	47	....	84	....	....	....	....	....	....
Selection	....	179	....	....	....	....	....	....	....	....	....
Simpkins	....	230	215	84	....	....	....	....	....	....	....
Simpkins Prolific	....	....	....	....	....	27	73	....	....	....	....

TABLE 14—(Continued)

Variety	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Snowflake	....	158	140	....	....	23	92	206	....	127	189
Station	354	....	....	....	....	....	....	....	....	....	....
Sunbeam	....	....	....	....	332	....	....	....	....	....	....
Sunflower	....	255	99	....	....	....	....	....	....	....	....
Sure Crop	....	....	....	....	287	18	99	....	....	....	....
Simpkins Ideal	....	....	....	....	....	19	92	....	....	....	....
Silk Long Staple	....	....	....	....	....	....	103	....	....	....	....
Texas Oak	....	199	141	167	....	....	....	....	....	....	....
Texas Progress	....	....	....	....	327	41	107	....	....	....	....
Texas Wood	....	211	158	169	....	....	....	....	....	....	....
Toole	387	306	176	161	....	10	....	....	....	....	....
Trice	....	213	....	....	....	27	91	....	....	....	....
Truitt	522	246	269	133	....	....	....	296	476	137	200
Triumph 406	....	....	....	....	....	....	....	275	....	....	....
Uncle Sam	345	....	....	....	....	....	....	....	....	....	....
Union Big Boll	488	220	210	....	309	21	121	251	....	....	....
Unknown	472	247	135	....	....	....	....	....	....	....	....
Unknown Long Staple	....	....	153	....	....	....	....	....	....	....	....
Vandiver's Heavy Fruiter	....	....	....	....	....	26	77	....	....	....	....
Virgatus	577	262	....	215	....	....	....	....	....	....	....
Wannamaker	....	....	....	....	....	48	74	....	....	....	....
Wannamaker Big Boll	....	....	....	....	338	....	....	....	....	....	....
Webb	....	....	....	....	....	61	110	272	....	....	....
Webber	121	89	371	....	....	....	....	....	....	....	....
Webber 49	....	....	....	....	251	....	....	....	....	....	....
Webber 82	....	....	....	....	281	....	....	....	....	....	....
Willis	....	....	....	....	....	....	....	270	....	....	....
Wooten's Columbia	....	....	....	....	275	....	....	....	....	....	....
Yuma	....	....	29	....	48	....	....	....	....	....	....

TABLE 15

Monthly and Yearly Total Rainfall at College Station, Texas
1912 to 1922 inclusive, with 32-year Mean

Month	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	32-Yr. Mean
Total	30.69	37.51	38.92	43.92	28.05	15.50	34.53	57.00	47.69	43.29	43.50	37.83
Total (June, July, August)	5.40	2.18	7.74	17.42	5.33	3.08	4.45	18.49	17.22	11.76	6.12	8.52
January	0.92	2.98	0.55	2.63	5.90	1.86	1.96	4.12	6.35	2.09	5.39	3.22
February	2.53	3.63	2.58	0.59	0.00	2.21	4.39	6.58	0.80	1.86	4.13	2.54
March	6.58	3.23	5.40	1.85	0.36	0.45	0.62	2.55	1.40	4.15	3.95	2.48
April	2.11	2.98	2.95	16.90	0.83	2.74	4.78	1.32	0.64	12.64	7.28	4.07
May	4.12	2.44	7.61	0.00	11.55	1.86	2.52	8.28	5.97	1.84	9.31	4.71
June	2.21	1.78	0.12	3.08	2.94	0.00	2.73	9.01	5.09	10.92	4.56	3.56
July	2.98	T	0.49	0.69	1.59	0.60	0.47	4.07	4.64	0.64	0.58	2.40
August	0.21	0.40	7.13	13.65	0.80	2.48	1.23	5.41	7.49	0.20	0.98	2.56
September	1.14	4.01	0.37	0.45	0.81	2.09	0.81	3.26	3.63	3.67	1.72	2.75
October	1.64	3.34	0.57	0.00	1.35	0.16	5.72	8.19	6.30	0.16	1.82	2.76
November	0.92	3.41	6.57	T	1.56	0.99	5.83	2.45	3.00	0.38	3.03	3.21
December	5.33	9.31	4.58	4.08	0.36	0.06	3.47	1.76	2.38	4.74	0.75	3.57

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