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MEASURED CROP PERFORMANCE

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INTRODUCTION

Choosing a tobacco variety is a problem which should receive much thought and careful study of performance records. There is a continual change in varieties available to the grower as newer and better varieties are developed by the Experiment Stations and private breeders. Complete and current information on performance, adaptability, and disease resistance is essential. To fill this need the Experiment Station conducts an Official Variety Test.

In this report the data from the 1954 Official Tobacco Variety Tests are presented. The evaluation program is designed to provide farmers in North Carolina a reliable source of comparative information on the performance of tobacco varieties. Varieties and advanced breeding material from commercial sources and the Experiment Station are evaluated in these tests. However, the data presented in this report concern only those varieties that are available to growers. These data, except for the summary table, represent only one year's data. It should be recognized that a single year's data may not portray the true performance of a tobacco variety over a wide range of seasonal conditions, and that further testing is needed to evaluate the performance of these varieties under other conditions.

The total number of flue-cured varieties grown in North Carolina is quite large. These differ in yielding ability, quality of the cured leaf, earliness, suckering habit, growth habit, disease reaction, and physical and chemical properties.

Many of the tobacco producing areas are already infested or are threatened by some of the serious soil-borne tobacco diseases. A grower should study his area carefully, particularly his farm, to determine what disease or diseases are present. The variety to be grown should be selected accordingly.

Some of the disease resistant varieties are of the broad leaf types and

their performance is equal to that of the better non-disease resistant varieties. Consequently a grower is no longer penalized by planting resistant varieties, and an early change to a resistant variety can be made with confidence in areas where disease threatens.

Thirty-two advanced lines and varieties were tested in the 1954 growing season at three locations, on disease-free soil. All commercial entries and those possessing disease resistance were also evaluated under appropriate disease conditions.

Extensive tests are conducted each year to collect data on performance of the various varieties. Before changing varieties, the grower is advised to study all facts and information available in order that a wise decision be made. The eligibility of a new variety for certification and for recommendation is based on its performance in these tests.

What May Be Tested

Both private breeders and those with federal or state affiliation may submit entries. The breeder must substantiate his entry with quantitative supporting data from experiments in which the proposed entry is compared with recognized varieties and these data must show real merit in order to qualify it for being included in the test. The personnel of the testing program may include entries whose performance records indicate that they may contribute to more effective crop production. In these tests there may be included certain entries from seed of lots offered for sale within the state, or from seed lots furnished by testing agencies of other states.

Early in December of each year rules governing the tests for the ensuing year are distributed to all previous participants and to those who make inquiry.

Agencies Sponsoring Entries

Coker's Pedigreed Seed Company, Hartsville, S. C.
McNair's Yield-Tested Seed Company, Laurinburg, N. C.
North Carolina Agricultural Experiment Station, Raleigh, N. C.
South Carolina Agricultural Experiment Station, Florence, S. C.
Speight Seed Farm, Winterville, N. C.
Virginia Agricultural Experiment Station, Chatham, Virginia

Test Locations

Four locations were used to represent the different soil and climatic conditions of the state. One test was included in each of the flue-cured belts, on state experiment stations. The locations were as follows:

TV 59 Border Belt Tobacco Research Farm, Whiteville, N. C. representing the Border Belt.

TV 60 Upper Coastal Plain Station, Rocky Mount, N. C. representing the Eastern Belt.

TV 61 McCullers Branch Station, Apex, N. C. representing the Middle Belt.

TV 62 Upper Piedmont Tobacco Research Farm, Rural Hall, N. C. representing the Old Belt.

The test at the McCullers Branch Station, TV 61, was abandoned because of a fertilizer differential in the field, causing the results to be unreliable. Therefore data from only three locations are reported herein.

Experimental Procedure

The tests were conducted on disease-free soil and the same entries occurred at every location. All entries were coded in the plant bed and in the field.

Four replications of a randomized block design were used at each location. The plants were banded and individually selected for transplanting so as to get uniformity within plots. Each two row plot consisted of 40 guarded plants. The rows were 3.5 feet apart with the plants spaced 22 inches in the row.

Farm practices of plant bed preparation, liming, fertilization, planting

date, cultivation, and insect and disease control were in accordance with those found to be favorable for the production of tobacco. Fertilizer was applied in accordance with soil test recommendation at the rate of 1000 pounds of 4-8-10 per acre on the Whiteville and Rocky Mount tests and 900 pounds of 4-8-10 per acre on the Rural Hall Test.

All varieties were topped and suckered. Individual plots were harvested according to the degree of maturity, tagged and kept separate throughout curing, sorting, and grading. Data on agronomic characters were taken in the field, and chemical determinations were made on the cured leaf. Disease reaction was noted in separate tests under severe disease conditions.

The methods of taking the data were as follows:

Ground suckers: Whenever ground suckers developed, they were removed prior to topping and the number on the total plot recorded. An average number per plant was calculated for each plot.

Days to flower: Starting when approximately 10% of the plants in the most advanced plots had flowered, the tops were broken when the first flower showed pink, at the first leaf below the last lateral branch of the flower. Flowering plants were topped approximately every four days until all topping was complete. An average flowering date, when 50% of the plants had flowered, was calculated.

Number of Suckers: The number of leaf axil suckers removed from plants in the entire plot during the growing season were recorded and an average number of suckers per plant was calculated for each plot. Suckers were removed whenever an appreciable number had exceeded six inches in length.

Number of harvestable leaves: Following the second or third primings the number leaves (including the ones already harvested) that could be harvested during the season was recorded from 10 competitive plants of each plot. An average number of leaves per plant was calculated.

Plant height at maturity: At the time of making the leaf count, the height in inches of the same 10 plants was measured. An average height per plant was calculated.

Internode length: This was calculated from the leaf number and height of each of the 10 plants.

Leaf length and width: The length and width, at the widest place, of the 5th, 10th, and 15th leaves from the top were measured on the same 10 plants and averages calculated. Varieties differ in their ability to produce broad leaves toward the top of the plant.

Yield per acre in pounds: When the harvest was completed, the tobacco was sorted and graded and the weight of the cured leaves harvested from each plot was recorded. Yields per acre in pounds were calculated.

Value per acre: Under the supervision of a government grader the tobacco from each plot was graded into appropriate government grades. The value per acre was calculated by multiplying the pounds of each grade by the average price paid for that grade in North Carolina during the 1952 season.

Value per 100 pounds: An average value per hundred pounds was calculated for each plot by dividing the value per acre by the yield per acre. This gives a rather good index of quality based on price per pound.

Chemical analyses: A sample of the cured leaf from each plot was submitted to the tobacco biochemistry laboratory in the Department of Agronomy for chemical analyses. The per cent of the following chemical constituents was determined on a dry weight basis.

- (a) Nicotine (total alkaloids)
- (b) Reducing sugars
- (c) Nitrogen (total)

The data were subjected to appropriate statistical analysis.

In spite of efforts to obtain perfect stands it was occasionally necessary to make an adjustment for missing plants. If less than one-twentieth of the plants were missing from a given plot, no adjustment was considered necessary. If more than one-twentieth of the plants were missing, the following adjustment was made for those characters which might be influenced by stands. If end or guard plants were missing, each missing plant was considered as one missing plant. Within the row, it was assumed that if adjacent plants were present, their increased growth would compensate for one-half of the missing plants. Thus, each guarded missing plant within a row was considered one-half a plant in adjusting for stand.

The data from all thirty-two entries were statistically treated. This report only includes the data on the twelve released varieties which were extracted from these analyses.

Standards for Comparison

Standard check varieties were included for comparison. These checks or standards, Dixie Bright 101 and 402, are the same that are used by other stations as recommended by the Tobacco Variety Evaluation Committee of the Tobacco Workers' Conference.

Seasonal Conditions

In general the 1954 season was not too favorable for producing high quality tobacco. Rainfall was inadequate in most of the state during the most crucial period. Rainfall data were taken at each of the locations and is included in Table 6.

The Whiteville test, TV 59, was transplanted May 3 under very dry conditions and it remained rather dry until the varieties began to flower early in July. The tobacco had made very poor growth until this time. One harvest was made

prior to the ending of the drought. When the drought period was ended, the rapid growth immediately following the rains necessitated delaying the second harvest for a period of one week. The tobacco made the major proportion of its growth during July, as a result the tobacco tended to be heavy bodied and dark. Very few cutters were found in any of the varieties in the grading process. The heavy leaf grades tended to give high yields. As a result of the dry weather the nicotine content was generally high.

The Rocky Mount test, TV 60, was transplanted May 4 under very favorable conditions and made excellent early growth. A rather dry June almost proved disastrous but the early July rains provided conditions favorable for good growth. A good quality tobacco was produced in this test and the yields were high.

The Rural Hall test, TV 62, was transplanted May 18 under very favorable conditions. The plants made excellent growth early in the season. There were two dry periods during the latter part of the June and the latter part of July. As a result the development of the upper portion of the plant was suppressed. The lower portion of the plant in most varieties produced a good quality tobacco. The leaves were unusually thin. The leaves produced towards the top of the plant were only fair to poor quality.

None of the seasons at the three locations were ideal for tobacco production, however, the general growth at the end of the season was considered good in each of the tests.

Performance Records

A single year's data at a given location may not portray the true performance of a tobacco variety over a wide range of seasonal conditions. Therefore data from only one year's test should be taken cautiously. Longer records

of performance are more dependable and should be utilized when available.

The North Carolina Crop Improvement Association recognizes the need for several years' data to thoroughly evaluate a variety. They require that a variety must be in the Official Tobacco Variety Test for a minimum of two years before it is eligible for consideration for certification. The College also recognizes the need for extensive testing and therefore requires that a variety be in this test at least two years before it can be considered for recommendation.

Presented in Table I is a comparison of certain flue-cured tobacco varieties from 1949 to 1954, with the exception of 1952 when the test failed. All the varieties are compared on a percentage of the mean of a standard, 402 and Dixie Bright 101, in the test in which they appeared. The more comparison available on a variety, the more reliable is the data. The varieties with the higher number of comparisons have been in the tests for a number of years, while the varieties with only three comparisons have appeared in the test only one year. The varieties are compared for acre yield, acre value, and value per 100 pounds. The value per 100 pounds provides an estimate of quality.

In Table II the averages of twelve varieties at three locations in 1954 are compared. The data from TV 59, TV 60, and TV 62 were combined to study average varietal performances over a wide area. Comparisons are made for yield per acre, value per acre, value per 100 pounds, days to flower, sucker characteristics, plant characteristics, and chemical constituents. In considering value per acre, all varieties appeared to perform similarly except Oxford 1-181 which was lower and Coker 139 which was higher. Some of the varieties such as Hicks, White Gold, and Oxford 1-181 flower early, while

the others are intermediate to late. This does not mean that some were two to three weeks later in maturing but only that they flowered later. All varieties were ready for harvest at about the same time. The late flowering varieties tended to produce fewer suckers.

Included in Table II is a disease rating for Black shank and Fusarium wilt. The Black shank data were obtained on diseased plots in cooperation with the Plant Pathology Faculty and the U.S.D.A., A.R.S. F.C.R.B. These tests were located in Pitt and Lenoir Counties under severe disease conditions. The data represent the per cent of diseased plants as of August 23. The Fusarium wilt test was conducted in the greenhouse after the plant roots had been injured and artificially inoculated.

Data from individual locations are presented in Tables III, IV, and V. Certain varieties tended to perform differently at the various locations. The data in these tables represent only one location in one year.

Differences in Characters

Small differences, in the various characters studied, should be considered cautiously since it is not possible to determine absolute performing ability. The size of difference that may have been due to chance has been computed and listed at the bottom of each table of the 1954 data as the "least significant difference (L.S.D.)". These measures of chance should remind the reader not to misinterpret small differences.

Table 1. Percentage comparisons with the mean of 402 and D.B. 101 of certain flue-cured tobacco varieties. Official tobacco variety tests. 1949-1954^{1/}. North Carolina Experiments.

Variety	Number of comparisons	Acre Yield	Acre ^{2/} Value	Value/ 100 lbs.
Standard <u>402 + DB 101</u>	19	1680 lbs.	\$889 ^{3/}	\$53.58
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		Per cent	Per cent	Per cent
D.B. 101	19	101	100	99
402	19	99	100	101.
Hicks	17	93	97	103
Yel. Sp.	13	95	94	99
D.B. 102	13	87	77	89
Bot. Sp.	12	106	102	96
Va. Gold	11	109	106	98
Oxford 1	10	86	77	90
D.B. 28	10	109	102	94
Oxford 26	7	90	81	90
White Gold	7	95	98	105
Golden Harvest	6	98	97	98
Golden Cure	6	99	98	99
Oxford 1-181	6	88	87	99
Golden Wilt	5	95	90	96
Vam. 50	3	103	97	94
Speight "42"	3	105	101	96
McNair V.G. 2	3	103	103	100
Coker 139	3	128	137	107
Coker 140	3	101	103	101

^{1/} 1952 test not included.

^{2/} 1939 to 1941 average auction price on government grade basis used for 1949-51. 1952 average auction price on government grade basis used for 1953 and 1954.

^{3/} Adjusted to 1952 average.

Table 2. Comparison of varieties in 1954 for certain characteristics. Combined analysis for TV 59 Whiteville, TV 60 Rocky Mount, and TV 62 Rural Hall.

Variety	Yield per acre (lbs.)	Value per acre	Value per 100 lbs.	Days to flower	Ground suckers per plant	Leaf axil suckers per plant	Total suckers per plant
C.B. 101	1826	\$ 966	\$52.42	72	3.3	21	24
402	1803	992	54.74	65	1.2	21	22
Golden Cure	1814	969	52.65	69	1.5	21	22
White Gold	1678	956	56.68	58	1.2	22	23
Hicks	1716	975	56.07	60	1.3	22	23
Ox. 1-181	1565	842	53.63	61	.6	21	22
Yel. Sp. A	1764	979	54.89	66	2.1	21	23
Speight "42"	1903	992	51.40	73	2.7	17	20
McNair V.G. 2	1880	1013	53.76	67	.4	17	18
Coker 139	2334	1356	57.44	88	1.4	11	12
Coker 140	1843	1020	54.88	74	.9	17	18
D.B. 28	1946	1000	51.00	74	1.9	18	20
L.S.D. .05	105	81	2.87	3	.5	2.1	2.2
.01	138	107	3.78	4	.7	2.8	2.9
C.V. %	7	10	7.	4	40	15	14

Table 2. Cont. Comparison of varieties in 1954 for certain characteristics. Combined analysis for TV 59 Whiteville, TV 60 Rocky Mount and TV 62 Rural Hill.

Variety	Leaf number	Plant ht. (inches)	Internode length (inches)	% Reducing sugar	% Nicotine	% Nitrogen	% 1/ Black Shank	% 2/ Fusarium Wilt
D.B. 101	27	57.1	2.1	19.64	2.37	1.74	84.9	0
402	22	44.9	2.0	16.70	3.03	1.98	100.0	50
Golden Cure	24	47.6	2.0	16.55	2.71	1.87	-	100
White Gold	20	37.4	1.9	17.58	2.97	1.98	-	80
Hicks	20	37.8	1.9	16.70	2.92	1.84	100	78
Ox. 1-181	22	44.1	2.0	16.28	3.32	2.30	-	100
Yel. Sp. A	25	49.6	2.0	16.33	2.90	1.87	-	100
Speight "42"	25	51.6	2.1	16.75	2.47	1.92	100	80
McNair V.G. 2	24	44.5	1.9	16.79	2.52	1.99	100	100
Coker 139	31	51.6	1.7	18.59	1.45	1.58	38.1	100
Coker 140	27	50.8	1.9	15.40	1.80	1.93	46.8	80
D.B. 28	27	48.4	1.8	16.74	2.58	1.85	-	70
L.S.D. .05	1.3	2.8	.08	1.60	.43	.27	-	-
.01	1.6	3.5	.01	2.11	.57	.36	-	-
C.I. %	6	6	5	11	20	9	-	-

1/ Two locations (Dail and Davis farm) - 4 reps of 25 plants each. Readings taken Aug. 23, 1954.
 Varieties with known susceptibility not included in tests.
 2/ Greenhouse test 1951.

Table 2. Con't. Comparison of varieties in 1954 for certain characteristics. Combined analysis for TV 60 Rocky Mount and TV 62 Rural Hall. ^{1/}

Variety		Width 5th leaf	Width 10th leaf	Width 15th leaf	Length 5th leaf	Length 10th leaf	Length 15th leaf
L.B. 101		6.2	8.2	9.3	12.1	15.6	17.5
102		6.5	8.6	10.2	13.7	17.4	19.4
Golden Cure		6.9	9.0	11.2	14.0	17.0	20.1
White Gold		6.5	8.7	10.2	16.1	19.4	19.5
Hicks		6.2	8.6	10.1	15.2	19.1	20.2
Cx. 1-181		6.0	7.9	9.9	15.0	18.3	20.1
Yel. Sp. A		6.5	8.2	9.6	14.0	17.2	19.7
Speight "42"		6.4	8.4	10.7	12.3	16.7	20.4
McNair V.G. 2		7.0	8.7	9.9	15.6	19.3	21.4
Coker 139		7.1	9.4	9.4	14.8	17.9	18.7
Coker 140		6.2	8.0	9.0	12.7	16.0	17.8
D.B. 28		5.9	7.7	9.6	11.9	15.3	18.5
L.S.G.	.05	1.0	0.8	0.9	2.0	1.5	1.4
	.01	1.4	1.1	1.2	2.6	2.0	1.8
C.V.	%	11	7	6	10	6	5

^{1/} Data taken in inches on 5th, 10th, and 15th leaf from the top of the plant, respectively.

Table 3. Comparison of varieties in 1954 for certain characteristics.
TV 59 Whiteville

Variety	Yield per acre lbs.	Value per acre	Value per 100 lbs.	Days to flower	Ground suckers per plant	Leaf axil suckers per plant	Total suckers per plant
D.B. 101	2032	1101	54.18	63	4.6	23	27
402	2035	1117	54.79	56	1.2	21	22
Golden Cure	2019	1100	54.48	57	1.8	22	25
White Gold	1884	1099	58.40	51	1.7	21	22
Hicks	1963	1110	56.59	52	1.6	21	24
Cx. 1-181	1825	982	53.78	56	.7	20	21
Yel. Sp. A	1920	1063	55.32	56	3.2	24	27
Speight "42"	2133	1128	52.86	60	4.2	19	23
McNair V.G. 2	2015	1055	52.85	56	0.5	17	17
Coker 139	2468	1398	56.64	65	2.3	16	19
Coker 140	1971	1049	53.17	60	1.1	21	22
D.B. 28	2256	1139	50.42	60	3.1	21	24
L.S.D. .05	223	162	5.02	2	1.2	2.8	3.3
.01	297	216	6.68	3	1.6	3.7	4.3
C.V. %	6	9	6	2	39	10	10

Table 3. Cont'd. Comparison of varieties in 1954 for certain characteristics.
TV 59 Whiteville

Variety	Leaf number	Plant ht. (inches)	Internode length (inches)	% Reducing sugar	% Nicotine	% Nitrogen
C.B. 101	27	52.4	2.0	18.68	2.54	1.90
402	21	40.2	1.9	14.65	3.55	2.13
Golden Cure	23	43.3	1.9	16.54	3.02	1.99
White Gold	20	39.8	2.1	16.63	3.15	2.18
Hicks	20	39.4	2.0	17.45	3.02	2.04
Ox. 1-181	22	42.5	2.0	14.92	3.53	2.47
Yel. Sp. A	23	44.9	2.0	15.30	2.72	2.21
Speight "42"	25	46.5	1.9	17.07	2.80	2.13
McNair V.G. 2	23	40.9	1.8	15.76	2.61	2.16
Coker 139	30	48.0	1.6	19.28	1.67	1.79
Coker 140	25	47.6	1.9	15.39	2.04	2.04
D.B. 28	25	44.1	1.8	15.41	2.91	2.04
L.S.D. .05	1.54	3.0	0.18	2.62	.94	-
.01	2.05	4.1	0.24	3.49	1.25	-
C.V. %	4	4	6	10	23	-

Table 4. Comparison of varieties in 1954 for certain characteristics.
TV 60 Rocky Mount

Variety	Yield per acre (lbs.)	Value per acre	Value per 100 lbs.	Days to flower	Ground suckers per plant	Leaf axil suckers per plant	Total suckers per plant
D.B. 101	2144	1174	54.75	70	4.8	35	40
402	1973	1120	56.78	63	2.4	33	36
Golden Cure	2076	1178	56.68	64	2.5	35	37
White Gold	1841	1063	57.79	57	1.6	35	37
Hicks	1968	1171	59.56	56	2.3	35	37
Ox. 1-181	1648	905	54.86	58	0.9	34	35
Yel. Sp. A	2029	1190	58.62	64	3.1	32	35
Speight "42"	2211	1214	54.86	65	3.9	31	35
McNair V.G. 2	2152	1202	55.71	61	0.6	30	31
Coker 139	2786	1690	60.66	82	1.8	17	19
Coker 140	2304	1383	59.90	70	1.6	28	29
D.B. 28	2155	1171	54.37	69	2.4	29	32
L.S.D. .05	160	128	3.74	3	.8	4.9	5.0
.01	212	170	4.95	4	1.1	6.5	6.4
C.V. %	5	8	5	3	25	13	12

Table 4 (cont). Comparison of varieties in 1954 for certain characteristics.
TV 60 Rocky Mount.

Variety	Leaf Number	Plant ht. (inches)	Internode length (inches)	% Reducing sugar	% Nicotine	% Nitrogen
D.B. 101	27	59.8	2.2	22.08	2.39	1.82
402	22	45.3	2.0	19.32	3.30	2.07
Golden Cure	23	46.1	2.0	19.51	2.51	1.82
White Gold	19	35.0	1.9	20.19	2.72	1.90
Hicks	19	35.8	1.9	19.19	3.24	1.85
Ox. 1-181	21	40.6	1.9	17.84	2.92	2.18
Yel. Sp. A	25	49.2	1.9	18.92	3.13	1.71
Speight "42"	25	50.4	2.0	19.61	2.55	1.90
McNair V.G. 2	22	40.9	1.9	18.32	2.87	2.04
Coker 139	30	54.7	1.9	19.71	1.41	1.65
Coker 140	26	52.8	2.0	18.24	1.78	1.93
D.B. 28	26	48.0	1.9	20.43	2.52	1.57
L.S.D. .05	1.91	4.4	.16	2.71	.57	-
.01	2.53	5.9	.21	3.60	.76	-
C.V. %	6	6	5	10	15	-

Table 5. Comparison of varieties in 1954 for certain characteristics.
TV 62 Rural Hall

Variety	Yield per acre (lbs.)	Value per acre	Value per 100 lbs.	Days to flower	Ground suckers per plant	Leaf axil suckers per plant	Total suckers per plant
D.B. 101	1352	658	48.78	82	.36	6	0
402	1459	769	52.67	74	.06	8	8
Golden Cure	1399	681	47.24	84	.04	6	0
White Gold	1360	741	54.27	64	.12	11	11
Hicks	1279	678	52.18	70	.10	9	0
Ox. 1-181	1286	674	52.29	68	.10	9	10
rel. Sp. 1	1382	704	50.83	76	.05	7	8
Spsight "42"	1421	667	46.85	90	.12	3	3
McNair V.G. 2	1508	793	52.49	82	.07	5	6
Coker 139	1784	989	54.84	112	.07	1	1
Coker 140	1285	636	48.95	90	.02	3	4
D.B. 28	1504	724	48.06	89	.06	4	4
L.S.D. .05	178	141	5.90	7	.20	2.34	2.4
.01	236	187	7.81	9	.26	3.10	3.2
C.V. %	9	14	8	6	138	31	32

Table 5. Con't. Comparison of varieties in 1954 for certain characteristics.
TV 62 Rural Hall

Variety	Leaf number	Plant ht. (inches)	Internode length (inches)	% Reducing sugar	% Nicotine	% Nitrogen
D.B. 101	26	57.1	2.2	17.92	2.24	1.54
102	24	48.4	2.1	15.51	2.35	1.79
Golden Cure	26	53.2	2.0	13.60	2.68	1.85
White Gold	23	38.6	1.7	15.69	3.09	1.95
Hicks	22	39.4	1.8	13.66	2.52	1.65
Gz. 1-181	24	48.8	2.0	15.72	3.57	2.32
rel. Sp. A	27	53.9	2.0	14.52	2.82	1.74
Speight "42"	26	56.3	2.2	13.66	2.13	1.79
McNEir V.G. 2	28	50.8	1.8	16.02	2.09	1.82
Coker 139	33	50.8	1.5	16.96	1.32	1.34
Coker 140	29	52.0	1.8	12.58	1.64	1.88
D.B. 28	30	52.8	1.8	14.04	2.38	1.99
L.S.D. .05	2.74	5.5	.15	2.87	.78	-
.01	3.64	7.5	.20	5.80	1.40	-
C.V. %	8	8	5	13	23	-

Table 6. Rainfall Record by Locations 1954

Days	March	April	May	June	July	August	September
<u>Border Belt Tobacco Research Farm, Whiteville, N. C.</u>							
1-7	.08	.52	.28	.60	.94	.69	.24
8-14	.01	1.31	1.12	1.46	1.09	.23	.12
15-21	.92	.00	.43	.00	2.90	.15	.29
22-28	1.48	.38	.47	.07	.82	3.15	.88
29-31	<u>1.73</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>	<u>.99</u>	<u>.25</u>
Total	4.22	2.21	2.30	2.13	5.75	5.21	1.78
<u>Upper Coastal Plain Station, Rocky Mount, N. C.</u>							
1-7	1.14	.45	.13	.00	2.17	2.92	.00
8-14	.53	2.19	1.83	.15	.06	.00	.32
15-21	.29	1.54	.22	.83	2.41	1.53	1.59
22-28	.82	.20	.15	.00	.15	.81	.00
29-31	<u>2.61</u>	<u>.03</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>	<u>.54</u>
Total	5.39	4.41	2.33	.98	4.79	5.26	2.45
<u>Upper Piedmont Tobacco Research Farm, Rural Hall, N.C.</u>							
1-7	.82	.07	.94	.10	.52	1.01	.00
8-14	1.66	.69	1.43	1.25	.43	1.54	.00
15-21	1.57	.92	2.56	2.54	1.56	1.30	.37
22-28	.49	.08	.00	.00	.82	1.86	.00
29-31	<u>.83</u>	<u>.00</u>	<u>.02</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>	<u>.00</u>
Total	5.37	1.76	4.95	3.89	3.33	5.71	.37