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Performance Trials
of
FIELD CROP VARIETIES

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FRONT COVER: The new oat variety—Blount—being tested for yield and lodging and fertilized at different levels of nitrogen: clipped and harvested for grain and unclipped and harvested for grain.

Background: Several wheat varieties fertilized with different levels of nitrogen for forage production and harvested for grain.

1962

Performance Trials

of

FIELD CROP VARIETIES

CORN — COTTON — OATS — WHEAT — BARLEY

SOYBEANS — ALFALFA — GRAIN

SORGHUM — TOBACCO

**Data for 1962 with Summaries of Results
from Previous Years**

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STATION HATCH PROJECT NO. 33

Evaluation of the Performance of Varieties of Field Crops.

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RECOMMENDED CROP VARIETIES

(Listed Alphabetically)

Corn Hybrids

White—DeKalb 925, Dixie 29, Dixie 33, Dixie 77, P.A.G. 631W, P.A.G. 633W, P.A.G. 636W¹, Tenn. 501, Tenn. 503, U.S. 523W.
Yellow—Dixie 22, Funk G-710AA, Funk G-144, McCurdy 999, N. C. 288¹, Pioneer 309A, Pioneer 309B, Tenn. 604.

Cotton

Early—Cobal, Dixie King², Empire W.R. 61², Fox 4, Pope¹, Rex², Stardel.
Late—Auburn 56², Coker 100A (WR)², DeKalb 108², Delta-
pine Smooth Leaf, Stoneville 7A.

Oats

Fall-Seeded—Blount, Forkeddeer, LeConte, Victorgrain 48-93¹.
Victorgrain 48-93 recommended only for West Tennessee.

Wheat—Dual¹, Knox, Monon, Seneca.

Barley—Dayton, Holston, Hudson, Kenbar.

Alfalfa—Atlantic, Buffalo, DuPuits, Narragansett, Williamsburg.

Soybeans—Dorman, Hill, Hood, Lee, Ogden.

¹Present plans indicate that these varieties will not be recommended after this year.

²Recommended where fusarium wilt is prevalent.

Grain Sorghum—DeKalb E-56A, Frontier 400C, McCurdy 70, R.S. 610, Texas 601, Texas 620.

Burley Tobacco—Burley 1, Burley 11A³, Burley 11B³, Burley 21, Burley 37, Kentucky 16.

Dark Fired Tobacco—Broad Leaf Madole, Black Mammoth, DF-516.

Characteristics of Recommended Varieties (Listed Alphabetically)

Corn Hybrids

White—Full Season

Dixie 29—Good grain quality.

Dixie 33—Fair to medium quality with a trace of copper-coloring in the grain.

Dixie 77—Medium to good grain quality.

White—Medium Season

DeKalb 925—Single-eared—medium to good grain quality.

P.A.G. 631W—Medium grain quality.

P.A.G. 633W—Medium to good grain quality.

P.A.G. 636W³—Medium grain quality.

Tenn. 501—Medium to good grain quality.

Tenn. 503—Good grain quality—ressistant to leaf blight.

U.S. 523W—Medium to good grain quality.

Yellow—Full Season

Dixie 22—Medium to good grain quality.

Funk G-710AA—Medium to good grain quality.

McCurdy 999—Medium to good grain quality, earliest maturing variety in the full season test.

N.C. 288³—Good grain quality.

Pioneer 309B—Good grain quality.

Yellow—Medium Season

Funk G-144—Single-eared—medium grain quality.

Pioneer 309A—Single-eared—medium to good grain quality.

Tenn. 604—Medium to good grain quality.

Cotton

Early — Large bolls — Staple length 1-1/32 to 1-1/16 — Lint percent 35 to 37:

Cobal

DeKalb 108—Resistant to fusarium wilt. Strain-Cross variety.

³Present plans indicate that these varieties will not be recommended after this year.

Dixie King—Resistant to fusarium wilt.

Empire W.R. 61—Resistant to fusarium wilt.

Rex—Resistant to fusarium wilt and bacterial blight.

Early Small bolls—Staple length 1-1/32 to 1-1/16—Lint percent 36-38:

Fox 4

Stardel

Lint percent 39 to 41:

Pope⁴

Late — Medium bolls — Staple length 1-1/32 to 1-1/16 — Lint percent 36 to 39:

Auburn 56—Resistant to fusarium wilt.

Coker 100A (WR)—Resistant to fusarium wilt.

Late Small bolls—Staple length 1-1/32 to 1-1/16—Lint percent 37 to 39:

Deltapine Smooth Leaf

Stoneville 7A

Oats

Fall-Seeded:

Blount—A short, stiff-strawed oat slightly less winter-hardy than Forkeddeer. Less lodging than LeConte and about equal in winter hardiness. Similar to LeConte in vegetative growth and appearance except that the panicle is slightly longer and more spreading. Has out-yielded most other varieties over a 5-year period. Maturity date falls between LeConte and Forkeddeer. Due to its lodging resistance, Blount is best suited for soils with high natural fertility with adequate fertilization.

Forkeddeer—A very winter-hardy variety with yellow grain. Has a tendency to lodge under conditions of high fertility. Medium tall; matures a few days later than Victorgrain 48-93. Susceptible to crown rust.

LeConte—A stiff-strawed oat slightly less winter-hardy than Forkeddeer. Stands better than Forkeddeer, is a few days later in maturing and is about the same height. Susceptible to crown rust.

Victorgrain 48-93⁵—A stiff-strawed, semi-hardy type with high yield potential under mild winter conditions. Has a high degree of resistance to crown rust but is susceptible

⁴Present plans indicate that this variety will not be recommended after this year.

⁵Present plans indicate that this variety will not be recommended after this year.

to Helminthosporium blight. Should be planted early to reduce winter injury. Recommended only for West Tennessee. Slightly shorter and a few days earlier in maturity than Forkeddeer.

Wheat

Dual⁶—A late variety with medium height. Yields as well as Seneca and is more rust resistant. A winter-hardy variety that has good standing ability. Resistant to Hessian fly and thus can be seeded earlier in the fall.

Knox—A very early winter-hardy variety with short straw. Due to its tendency to stool during warm spells in the early spring, it may be injured by late spring freezes. Should be grazed to delay maturity. Semi-upright type growth with fair standing ability. Yields slightly higher than Seneca. Resistant to leaf rust.

Monon—A very early winter-hardy variety with moderate stiff straw which is a few inches shorter than Knox. Monon has a head type similar to Knox but has shorter tip awns. The variety is resistant to Hessian fly and highly resistant to leaf rust in the mature plant stage, yields as well as Knox and better than Seneca except on the Cumberland Plateau.

Seneca—A red-chaffed variety of medium height and fair standing ability. Yields slightly less than Knox. Susceptible to leaf rust.

Barley

Dayton—A winter-hardy, semi-rough-awned, early variety with good standing ability. Medium tall; one of the highest yielders in the state variety test. Susceptible to mildew and scald.

Holston—A winter-hardy, semi-smooth-awned, late variety which stands better than Kenbar and similar to Hudson in yield. Good resistance to mildew and scald.

Hudson—A winter-hardy, rough-awned variety with fair standing ability. It is 2 to 3 days earlier than Holston. Yields as well as Holston. Good resistance to mildew and scald.

Kenbar—A winter-hardy variety of medium height. About the same maturity as Dayton. Yields slightly less than Dayton and Holston. Good resistance to mildew and fair resistance to scald.

⁶Present plans indicate that this variety will not be recommended after this year.

Alfalfa

Atlantic—A variegated variety developed from selections having a wide genetic background. It has yielded well all over the state. Atlantic is somewhat tolerant, but not resistant to bacterial wilt.

Buffalo—Selected out of an old Kansas common strain that is resistant to bacterial wilt. Buffalo is well adapted to Tennessee conditions and is one of the leading varieties sold in the state.

DuPuits—A variety that has great eye appeal because of the tall growth and fast recovery after clipping. It matures faster and should be cut earlier than other recommended varieties. DuPuits is stemmier and not as long-lived as other recommended varieties.

Narragansett—A synthetic variety of very diverse origin. It recovers somewhat slower than other adapted varieties after cutting. Narragansett is fine-stemmed and yields as well as Atlantic. This variety has been the top yielder at the Plateau Experiment Station, Crossville. Seed is in short supply in Tennessee.

Williamsburg—Developed from selections out of Kansas Common. It is susceptible to bacterial wilt. This variety has been a good producer and is well adapted over the state.

Soybeans

Dorman—A variety having large yellow beans. Matures about 2 weeks before Ogden and has about the same oil content as Ogden.

Lee—A yellow-seeded variety which matures a few days later than Ogden and shatters somewhat less than Ogden.

Hill—A yellow-seeded variety. Similar maturity to Dorman.

Hood—A yellow-seeded variety with similar maturity to Ogden.

Ogden—A high-yielding variety of mid-season maturity and has olive-colored beans.

Grain Sorghum Hybrids

DeKalb E-56A—A few days later than Martin Milo. The hybrid has deep red seed on large open heads. Good standing ability.

Frontier 400C—A variety of medium maturity with heads tight in compactness.

McCurdy 70—A variety of medium maturity. Red seed on heads of tight compactness.

R. S. 610—An early-maturing hybrid with heads tight in compactness.

Texas 601—A hybrid with medium maturity. Red heads of medium compactness.

Texas 620—An early maturing hybrid with red seed. Tends to lodge.

Burley Tobacco

Burley 1—A high-yielding, high-quality, high leaf number, “stand-up” variety that is highly resistant to black root rot and somewhat resistant to brown root rot. It performs best when topped early and kept suckered.

Burley 11A⁷—Has moderate resistance to black shank and fusarium wilt and high resistance to black root rot. A brittle, drooping leaf variety that may yield less than some varieties because of loss of bottom leaves due to earliness.

Burley 11B⁷—Has more resistance to black shank and fusarium wilt and is of lower quality than 11A. Similar to 11A in all other characteristics.

Burley 21—A very upright-leafed, high-yielding variety. Highly resistant to wildfire and mosaic and moderately resistant to black root rot and brown root rot. Plants are more vigorous and grow off faster in plant beds than other varieties.

Burley 37—A “stand-up” type variety, with resistance to black shank, wildfire, fusarium wilt, and black root rot. Higher yielder than Burley 11A and 11B. Later maturing variety than Burley 11A.

Ky. 16—A widely adapted “semi-stand-up” variety with moderate resistance to black root rot.

Dark Fire-Cured Tobacco

Broad Leaf Madole—A relatively high-yielding, high-acre-value variety. Susceptible to mosaic and wildfire.

Black Mammoth—Black mammoth produces a leaf somewhat darker and broader than Madole. Usually it does not droop quite as much as Madole. Susceptible to mosaic and wildfire.

⁷Present plans indicate that these varieties will not be recommended after this year

DF-516—A broad-leaved, open-growing, dark-green tobacco that is resistant to both mosaic and wildfire. Because of the large broad leaves this variety is perhaps best suited to the production of cutting and wrapping tobacco. The leaf spacing of DF-516 is about the same as that of Madole.

**PERFORMANCE TRIALS
OF
CORN — COTTON — OATS — WHEAT — BARLEY
SOYBEANS — ALFALFA — GRAIN
SORGHUM — TOBACCO**

Data for 1962 with summaries of results from previous years

INTRODUCTION

The purpose of the project, "Evaluation of the Performance of Varieties of Field Crops," is to test field crop varieties available to farmers of this and neighboring states, as well as the best experimental varieties being developed by experiment stations and other agencies.

The tests were conducted using field plot designs, fertility levels, and experimental techniques that have been found suitable for each crop.

Committees composed of specialists from the research, resident teaching, and extension staffs of the University of Tennessee College of Agriculture study the performance data and determine varieties to be recommended.

In order for a variety to be recommended, it must yield well and have other characteristics that are suitable for Tennessee conditions.

PRESENTATION OF DATA

The tests were conducted in each of the principal agricultural regions of the state where the specific crop is being grown. Plots of each variety were replicated several times at each location. Locations of field tests are given in each table of data. An average of the performance of a variety across the area of adaptation and over a period of years is the best basis for evaluation.

The tables on the following pages have been prepared with the entries listed in order of performance, the highest-yielding entry being listed first.

The least significant difference (L.S.D.) values at the 5% level for the 1962 tests are shown at the bottom of each table. The yields of any two varieties being compared must differ by at least this amount in order for the varieties to be considered different in yielding ability. Also coefficient of variation values (C.V. %) are shown at the bottom of each table. At each location where tests were conducted in 1962 the soil types are reported at the end of the table.

CORN

The 1962 full-season corn variety tests were conducted at 4 locations and the early-maturing tests were conducted at 7 locations. There were 30 entries in the full-season test and 36 in the early-maturing test. The experimental design used was a randomized complete block with 6 replications.

The growing season was generally good in the locations of the tests except for Fort Pillow, Martin, and Jackson. Two of the full-season tests were at Jackson and Fort Pillow, thus reducing the state average of the full-season corn.

Dixie 29 and Pioneer 309A were included in both the full-season and the early-maturing tests to provide some measure of relative performance of the two groups.

Amounts of fertilizer applied to each test were considered sufficient for corn to yield over 100 bushels per acre. The tests were planted at the rate of 28,000 plants per acre and thinned to give a stand of 14,000 plants per acre.

Data are presented in tables 1 through 6. Yields are expressed in bushels per acre, adjusted to 15.5% moisture.

**Table 1. Corn: Yields of 36 Early-Maturing Hybrids at Each of Seven Locations in 1962.
Six Replications at Each Location**

Color	Hybrid	State av.	Greene- ville ¹	Knox- ville ²	Cross- ville ³	Jack- son ⁴	Spring Hill ⁵	Spring- field ⁶	Martin ⁷
Commercially available:		Bushels per acre							
W	Dixie 29 ⁸	105	149	103	67	95	106	124	94
W	Pioneer 509W	99	135	90	70	86	95	122	95
Y	Pioneer 310	99	128	94	77	83	101	127	81
Y	DeKalb 805	99	128	94	87	83	92	124	83
W	Tenn. 501	99	135	90	71	88	105	122	80

Table 1.—(Continued)

Color	Hybrid	State av.	Greene- ville ¹	Knox- ville ²	Cross- ville ³	Jack- son ⁴	Spring Hill ⁵	Spring- field ⁶	Martin ⁷
Commercially available:		Bushels per acre							
Y	Stulls 111YA	98	138	93	65	74	95	143	82
W	DeKalb 925	98	135	93	70	78	97	131	82
Y	Tenn. 604	98	138	87	72	84	94	130	78
W	P.A.G. 633	98	137	86	62	91	100	121	88
W	Meacham's M7	98	126	96	76	83	91	124	87
Y	Pioneer 309A ³	94	119	90	66	83	97	118	87
W	Stulls 500W	93	137	92	63	62	85	121	89
W	Princeton 990	92	125	82	66	71	92	120	90
Y	Stulls 100YA	92	118	77	65	82	97	122	82
Y	Funk G-702	90	119	82	71	67	89	117	83
Y	Hilligoss 9X3L	90	114	86	77	69	92	113	76
Y	Funk G-144	90	114	81	74	70	89	116	82
W	Tenn. 503	89	122	87	65	76	88	113	74
Y	P.A.G. 436	89	115	84	71	69	88	113	84
Y	Hilligoss 84	87	116	84	70	75	89	105	71
Y	DeKalb 633	87	109	75	76	77	92	102	78
Y	Meacham's M-33Y-B	86	117	80	56	68	87	117	80
Y	Coker 15	86	125	76	65	76	86	111	64
Y	Schlessman SS115	85	112	76	72	71	87	104	73
Y	Schlessman SS118	84	112	73	60	72	85	110	77
Y	Princeton 8A	84	111	74	72	71	87	103	68
Y	Princeton 890A	84	111	76	68	66	89	101	75
Y	Schlessman SS100	74	95	67	65	67	74	95	55
Experimentals:									
W	T1118	106	147	101	69	85	100	148	90
W	T9111	102	153	95	67	68	103	136	94
W	T1105	102	148	99	58	82	101	132	95
W	T1112	101	149	99	65	72	98	137	90
Y	T0044	100	143	93	64	84	95	130	86
Y	T0048	96	131	89	67	86	98	120	82
Y	T1028	95	132	92	60	75	95	126	84
Y	T9051	93	131	73	66	70	102	137	75
	Average	93	127	86	68	77	93	120	82
	L.S.D. (.05)	—	9.2	10.6	9.6	16.5	8.9	11.5	11.0
	C.V. %	—	6.3	10.7	12.3	18.8	8.3	8.3	11.8

¹Lindside silt loam, (0% to 2% slopes).²Sequatchie silt loam, (0% to 2% slopes).³Hartsells loam eroded (2% to 5% slopes).⁴Vicksburg silt loam, (0% to 2% slopes).⁵Maury silt loam, (0% to 2% slopes).⁶Ennis silt loam, (0% to 2% slopes).⁷Collins silt loam, (0% to 2% slopes).

*Also included in tests of full-season hybrids.

Table 2. Corn: Characteristics of 36 Early-Maturing Hybrids
Tested at Seven Locations in 1962.

Color	Hybrids	State av.	Erect plants	Ears/ 100 plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
Commercially available:		Bu./A.	%	No.			In.	%
W	Dixie 29*	105	91	142	Good	Good	60	21.7
W	Pioneer 509W	99	88	121	Med.-Good	Med.-Good	52	19.0
Y	Pioneer 310	99	97	103	Good	Med.	50	18.7
Y	DeKalb 805	99	93	98	Med.-Good	Fair-Med.	44	17.5
W	Tenn. 501	99	86	132	Good	Med.-Good	53	19.5
Y	Stulls 111YA	98	86	130	Med.-Good	Med.-Good	65	21.7
W	DeKalb 925	98	83	108	Med.-Good	Med.-Good	58	20.2
Y	Tenn. 604	98	90	132	Med.-Good	Med.	55	13.2
W	P.A.G. 633W	98	86	128	Good	Good	55	20.0
W	Meacham's M-7	98	92	103	Med.-Good	Med.	51	19.3
Y	Pioneer 309A*	94	96	109	Med.-Good	Med.-Good	57	19.9
W	Stull 500W	93	80	104	Med.-Good	Med.-Good	53	19.5
W	Princeton 990	92	86	104	Med.	Fair-Med.	57	13.4
Y	Stull 100YA	92	92	106	Fair-Med.	Fair	58	18.4
Y	Funk G-702	90	90	104	Med.	Med.	54	18.9
Y	Hilligoss 9X3L	90	88	104	Fair-Med.	Fair	48	17.5
Y	Funk G-144	90	94	106	Med.	Fair-Med.	47	17.7
W	Tenn. 503	89	93	104	Med.-Good	Med.-Good	52	19.7
Y	P.A.G. 436	89	94	106	Med.-Good	Fair-Med.	50	18.2
Y	DeKalb 633	87	96	102	Med.-Good	Med.	48	17.9
Y	Hilligoss 84	87	90	102	Med.	Fair	52	18.4
Y	Meacham's M-33Y-B	86	87	103	Med.	Fair	54	17.9
Y	Coker 15	86	94	128	Good	Good	53	19.9
Y	Schlessman SS115	85	92	102	Med.	Fair-Med.	48	17.7
Y	Schlessman SS118	84	92	106	Fair	Poor-Fair	54	17.6
Y	Princeton 8-A	84	87	100	Med.	Fair-Med.	43	17.6
Y	Princeton 890A	84	92	102	Med.	Poor-Fair	48	17.4
Y	Schlessman SS100	74	90	102	Fair-Med.	Poor-Fair	40	16.2
Experimentals:								
W	T1118	106	90	145	Med.-Good	Med.	60	19.1
W	T9111	102	83	139	Good	Med.-Good	52	19.3
W	T1105	102	92	145	Good	Good	57	19.8
W	T1112	101	88	150	Good	Good	57	19.2
Y	T0044	100	92	123	Good	Med.-Good	50	18.8
Y	T0048	96	90	127	Med.	Fair-Med.	51	20.0
Y	T1028	95	74	120	Med.-Good	Med.	53	18.4
Y	T9051	93	73	112	Fair-Med.	Poor-Fair	56	19.0

*Also included in tests of full-season hybrids.

Table 3. Corn: Yield and Other Characteristics of Early-Maturing Hybrids Tested for 2 or 3 Years.

Color	Hybrid	3 Yr. av. 1960- 1962	2 Yr. av. 1961- 1962	Erect plants	Ears/ 100 plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
Commercially available:		Bu./A.	Bu./A.	%	No.			In.	%
W	Dixie 29*	115	113	80	149	Good	Good	58	21.3
W	DeKalb 925	106	105	75	116	Med.-Good	Med.-Good	54	19.2
W	P.A.G. 633W	106	105	83	138	Med.-Good	Med.-Good	53	19.3
W	Tenn. 501	106	105	80	135	Med.-Good	Med.-Good	52	19.4
Y	Tenn. 604	104	103	80	140	Med.-Good	Med.	53	18.0
W	Stull 500W	103	101	76	110	Med.-Good	Med.-Good	52	19.4
Y	Pioneer 309A* ..	102	102	91	114	Med.-Good	Med.-Good	55	20.4
W	Tenn. 503	102	99	91	114	Med.-Good	Med.-Good	51	20.0
Y	Funk G-702	101	97	87	109	Med.-Good	Fair-Med.	52	18.9
Y	Funk G-144	99	97	88	109	Med.	Fair-Med.	47	17.9
Y	DeKalb 805	—	106	93	98	Med.-Good	Fair-Med.	44	17.8
Y	Princeton 990	—	101	84	103	Med.	Fair-Med.	53	17.9
Y	Stull 100YA	—	100	86	106	Fair-Med.	Fair	55	18.4
Experimentals:									
W	T9111	112	111	78	148	Med.-Good	Good	51	18.9
Y	T9051	105	104	71	116	Fair-Med.	Fair	55	19.0
Y	T0044	—	107	84	135	Good	Med.	48	18.6
Y	T0048	—	105	82	132	Med.	Med.	48	19.9

*Also included in tests of full-season hybrids.

Table 4. Corn: Yields of 30 Full-Season Hybrids Tested at Four Locations 1962.

Six Replications at Each Location

Color	Hybrid	State av.	Knoxville ¹	Fort Pillow ²	Jackson ³	Spring Hill ⁴
Commercially available:				Bushels per acre		
W	Riemers 305	88	112	53	81	106
W	Funk G-580	85	101	42	92	104
W	Funk G-795W	84	100	48	88	100
Y	Pioneer 309B	84	98	53	83	102
W	P.A.G. 653W	84	101	51	84	100
W	Dixie 77	84	95	59	83	98
Y	Funk G-710AA	81	88	51	90	94
Y	Dixie 22	81	90	55	78	100
W	Dixie 29*	81	87	48	88	99
W	Dixie 33	81	96	50	87	90
Y	McCurdy 999	80	88	51	87	94
Y	Ga. 104	80	105	52	72	92
Y	Embro 222TA	78	82	44	97	90
Y	Pioneer 309A*	78	92	44	82	96
Y	Funk G-711AA	77	88	48	81	92
Y	N.C. 288	76	92	54	75	83
W	Coker 616	76	82	54	73	95
Y	McNair 304A	76	87	48	79	89
Y	DeKalb C909	75	84	49	77	90
Y	DeKalb 1003	73	79	46	78	89
Y	Ga. 102	73	80	50	75	86
Y	DeKalb 898B	67	74	36	72	88
Y	P.A.G. 486	67	74	42	67	85
Y	P.A.G. 750	63	77	34	68	72
Experimentals:						
W	T9106	88	103	56	94	98
Y	T6003	86	105	45	96	97
W	T1104	85	105	49	87	99
Y	T9022	83	97	54	85	96
W	T9104	81	91	57	79	96
Y	T0004	78	88	47	86	91
Average		79	91	49	82	94
L.S.D. (.05)		—	11.1	10.8	13.1	10.5
C.V. %		—	10.6	19.3	13.9	9.8

¹Sequatchie silt loam, (0% to 2% slopes).

²Collins silt loam, (2% to 5% slopes).

³Vicksburg silt loam, (0% to 2% slopes).

⁴Maury silt loam, (0% to 2% slopes)

*Also included in test of early-maturing hybrids.

**Table 5. Corn: Characteristics of 30 Full-Season Hybrids
Tested at Four Locations 1962.**

Color	Hybrid	State av.	Erect plants	Ears/ 100 plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
Commercially available:		Bu./A.	%	No.			In.	%
W	Riemers 305	88	82	145	Good	Good-Exc.	61	20.8
W	Funk G-580	85	87	127	Good-Exc.	Good	50	20.0
W	Funk G-795W	84	84	140	Good	Good	53	21.0
Y	Pioneer 309B	84	86	112	Good	Good	50	20.8
W	P.A.G. 653W	84	84	128	Good-Exc.	Good	53	19.7
W	Dixie 77	84	86	120	Good-Exc.	Med.-Good	57	21.3
Y	Funk G-710AA	81	98	112	Good	Good	56	22.0
Y	Dixie 22	81	82	109	Good-Exc.	Med.-Good	62	21.1
W	Dixie 29*	81	87	112	Good	Good	55	22.3
W	Dixie 33	81	85	122	Good	Good	61	22.0
Y	McCurdy 999	80	82	102	Good	Med.-Good	52	18.4
Y	Ga. 104	80	76	104	Good	Good	62	21.0
Y	Embro 222TA	78	84	91	Good	Good	62	22.3
Y	Pioneer 309A*	78	88	103	Good-Exc.	Med.	52	20.9
Y	Funk G-711AA	77	84	100	Med.-Good	Med.	55	21.7
Y	N.C. 288	76	86	101	Good	Good	59	21.4
W	Coker 616	76	86	100	Good	Good	50	20.5
Y	McNair 304A	76	82	100	Good	Good	48	20.6
Y	DeKalb C909	75	84	98	Med.-Good	Med.-Good	54	19.0
Y	DeKalb 1003	73	84	101	Med.	Fair-Med.	53	20.0
Y	Ga. 102	73	83	103	Med.-Good	Good	52	20.4
Y	DeKalb 898B	67	84	94	Med.	Fair	54	19.0
Y	P.A.G. 486	67	86	108	Good	Med.-Good	51	21.2
Y	P.A.G. 750	63	83	113	Med.-Good	Good	58	22.1
Experimentals:								
W	T9106	88	87	127	Good-Exc.	Good	58	19.2
Y	T6003	86	80	126	Good-Exc.	Good-Exc.	59	21.5
W	T1104	85	80	122	Good	Good-Exc.	54	21.4
Y	T9022	83	91	112	Med.-Good	Fair-Med.	50	18.5
W	T9104	81	82	114	Good	Good	61	21.4
Y	T0004	78	90	110	Good	Med.	45	19.2

*Also included in test of early-maturing hybrids.

Table 6. Corn: Hybrids and Other Characteristics of Full-Season Hybrids Tested 2 or 3 Years.

Color	Hybrid	3 Yr. av. 1960- 1962	2 Yr. av. 1961- 1962	Erect plants	Ears/ 100 plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
Commercially available:		Bu./A.	Bu./A.	%	No.			In.	%
W	Dixie 29*	92	90	71	124	Good	Med.-Good	56	20.3
W	Dixie 77	90	90	66	124	Good	Med.-Good	54	20.0
W	Dixie 33	90	90	63	125	Med.	Med.-Good	61	19.4
Y	Pioneers 309B	90	88	77	114	Good	Med.-Good	49	19.7
Y	Dixie 22	89	90	63	118	Med.-Good	Med.-Good	61	19.9
Y	Funk G-710AA	88	88	74	116	Med.-Good	Med.-Good	57	20.7
Y	McCurdy 999	86	86	71	103	Med.-Good	Med.-Good	52	17.8
Y	N.C. 288	86	87	73	113	Good	Good-Exc.	62	20.9
Y	Pioneer 309*	84	84	79	102	Med.-Good	Med.-Good	51	19.1
Y	Funk G-711AA	83	84	69	104	Med.-Good	Med.	55	20.7
Y	Ga. 102	82	83	68	110	Med.-Good	Good	53	19.6
Y	P.A.G. 486	77	76	70	122	Good	Med.-Good	52	19.8
W	Riemers 305	—	93	70	148	Med.-Good	Good-Exc.	58	20.5
W	Coker 616	—	80	76	102	Good	Med.-Good	49	20.4
Experimentals:									
W	T9106	96	96	68	142	Good	Med.-Good	56	18.4
Y	T6003	95	94	69	135	Good	Good	60	20.4
W	T9104	—	92	70	127	Good	Good-Exc.	58	20.2

*Also included in test of early-maturing hybrids.

COTTON

The 1962 cotton variety tests were conducted in cooperation with the U. S. Department of Agriculture. Tests were conducted at four locations with six replications at each location. The Ames Plantation data are not reported in 1962 due to differential emergence of cotton seedlings between varieties and within varieties. Yield and other characteristics of the different varieties are presented in Tables 7 and 8. The upper half mean length, micronaire fineness readings, and fiber strength readings (T_1) are presented in tables 9 through 11. Upper half mean length is measured on the Fibrograph and is closely correlated with staple length.

The micronaire reading is a relative measure of the fineness of the fiber. Higher readings indicate coarse fiber and low readings indicate fine fiber.

The fiber strength (T_1) is measured on the Stelometer. Higher readings indicate fibers of greater strength and low readings indicate fiber of lesser strength.

Detailed laboratory analysis of the gin fiber properties of these cottons may be obtained on request from the Department of Agronomy, University of Tennessee.

Table 7. Cotton: Yields of Lint Per Acre of Varieties Tested in 1962.

Variety	State av.*	Fort Pillow ¹	Jackson ²	Knoxville ³
Commercially available:				
		Lint pounds per acre		
Auburn M	999	1151	847	782
Pope	946	1203	690	714
Stardel	946	1136	756	740
Stoneville 213	937	1100	774	719
Dixie King	932	1020	844	656
Stoneville 7A	918	1056	781	752
Carolina Queen	914	1092	737	724
DeKalb 108	912	1097	727	718
Coker 100A (WR)	902	1114	691	683
Rex	898	1030	765	726
DeKalb 220	894	1088	699	713
Auburn 56	884	1027	742	682
Delta Queen	869	1021	717	657
Deltapine Smooth Leaf	866	1041	692	627
Deltapine 15	863	1070	656	622
Acala 4-42	862	1029	695	579
Empire W.R. 61	856	953	758	680
Fox 4	848	1010	686	722
Cobal	824	967	680	650
Lankart 57	731	842	620	374
Stoneville 3202	—	1192	—	—
Delfos 9169	—	925	—	—
Plains	—	—	715	710
Experimentals:				
Tenn. 56-312	943	1100	786	734
Tenn. 56-210	882	1064	700	739
Mix 11-F	777	940	614	605
Mix 10-H	770	866	674	665
Average	882.2	1043.6	721.8	678.9
L.S.D. (.05)	—	169.0	88.6	67.9
C.V. %	—	14.2	8.7	8.8

*Knoxville data not included in state average.

¹Morganfield and Adler silt loam, (0% to 2% slopes).

²Loring silt loam, (0% to 2% slopes).

³Cumberland clay loam, eroded (5% to 8% slopes).

Table 8. Cotton: Average Yield and Other Characteristics of Varieties Tested for 2 or More Years.*

Variety	4-Yr. av. 1959-62	Lint Lb./A.		Percent lint	Bolls per lb.	Percent total yield at 1st picking	Percent total yield at 1st picking
		3-Yr. av. 1960-62	2-Yr. av. 1961-62	1959-62	1959-62	1959-62	1961-62
	Lb.	Lb.	Lb.	%	No.	%	%
Stardel	1046	1037	996	38.4	74	67	82
Pope	1045	1004	966	39.6	71	65	82
Dixie King	1019	991	983	37.2	56	67	78
Coker 100A (WR)	1010	954	920	37.8	68	59	67
Fox 4	1003	932	879	37.5	70	66	80
Auburn 56	1001	973	931	36.2	66	63	76
Stoneville 7**	990	995	933	39.0	71	63	74
Rex	983	938	921	37.4	62	69	83
Deltapine Smooth Leaf	965	943	894	39.3	74	62	72
Cobal	938	905	889	36.3	60	71	88
Deltapine 15	918	918	866	39.0	73	64	73
Empire W.R.***	915	894	876	37.2	55	70	82
DeKalb 108	—	992	965	36.2	61	—	78
Acala 4-42	—	923	881	37.9	57	—	73
Lankart 57	—	872	803	37.7	50	—	68
DeKalb 220	—	—	933	37.4	70	—	78
Delta Queen	—	—	888	36.9	74	—	74
Experimentals:							
Tenn. 56-312	—	—	1001	37.7	71	—	84
Tenn. 56-210	—	—	948	37.3	67	—	85
Mix 10-H	—	—	850	36.8	64	—	81
Mix 11-F	—	—	841	36.0	68	—	80

*Knoxville data not included in this table.

**Tested in 1962 as Stoneville 7A.

***Tested in 1962 as Empire W.R. 61.

Table 9. Cotton: Upper Half Mean (UHM) Fiber Length (in Inches) of Varieties Tested for 2 or More Years.

Variety	Average*	Jackson 1959-61	Fort Pillow 1959-60	Knoxville 1959-61
Coker 100A (WR)	1.18	1.20	1.15	1.16
Cobal	1.17	1.18	1.16	1.18
Deltapine Smooth Leaf	1.17	1.19	1.14	1.17
DeKalb 108**	1.16	1.17	1.15	1.16
Empire W.R.	1.16	1.16	1.15	1.15
Rex	1.15	1.15	1.14	1.16
Dixie King	1.15	1.16	1.12	1.13
Deltapine 15	1.15	1.15	1.15	1.13
Acala 4-42**	1.15	1.15	1.15	1.15
Stoneville 7	1.14	1.16	1.11	1.16
Auburn 56	1.14	1.15	1.14	1.13
Fox 4	1.14	1.15	1.13	1.15
Plains	1.14	1.15	1.13	1.11
Stardel	1.14	1.15	1.13	1.16
Lankart 57**	1.10	1.11	1.07	1.07
Pope	1.06	1.07	1.04	1.07

*Knoxville data not included in average.

**Two years data only.

Table 10. Cotton: Fiber Fineness of Varieties Tested for 2 or More Years. (Micronaire Reading).

Variety	Average*	Jackson 1959-61	Fort Pillow 1959-60	Knoxville 1959-61
Lankart 57**	4.92	4.71	5.12	3.90
Fox	4.72	4.46	4.65	4.00
Stoneville 7	4.64	4.58	4.70	4.10
Deltapine Smooth Leaf	4.50	4.28	4.72	4.25
Stardel	4.44	4.35	4.53	4.14
Dixie King	4.34	4.27	4.40	4.09
Deltapine 15	4.34	4.19	4.49	4.03
Auburn 56	4.22	4.06	4.39	4.09
Coker 100A (WR)	4.22	4.12	4.31	4.08
DeKalb 108**	4.22	3.98	4.46	4.07
Pope	4.14	4.04	4.24	4.23
Cobal	4.10	4.01	4.18	4.00
Acala 4-42**	4.07	3.75	4.39	3.70
Rex	4.04	3.82	4.27	3.90
Plains	4.03	3.85	4.21	4.02
Empire W.R.	3.90	3.76	4.04	3.72

*Knoxville data not included in average.

**Two years data only.

Table 11. Cotton: Fiber Strength, T_1 , as Measured on the Stelometer of Varieties Tested for 2 or More Years.

Variety	Average*	Jackson 1959-61	Fort Pillow 1959-60	Knoxville 1959-61
Acala 4-42**	2.35	2.31	2.39	2.17
DeKalb 108**	1.96	1.88	2.04	1.84
Stardel	1.88	1.95	1.82	2.01
Deltapine 15	1.88	1.91	1.84	1.83
Cobal	1.86	1.90	1.82	1.81
Fox 4	1.86	1.87	1.84	1.91
Deltapine Smooth Leaf	1.84	1.89	1.80	1.85
Dixie King	1.83	1.82	1.84	1.73
Empire W. R.	1.82	1.84	1.80	1.79
Pope	1.80	1.87	1.73	1.88
Coker 100A (WR)	1.75	1.72	1.78	1.73
Auburn 56	1.74	1.75	1.72	1.75
Stoneville 7	1.73	1.78	1.68	1.79
Plains	1.70	1.73	1.68	1.76
Rex	1.69	1.76	1.62	1.66
Lankart 57**	1.64	1.60	1.69	1.51

*Knoxville data not included in average.

**Two years data only.

FALL-SEEDED SMALL GRAIN

Generally good yields of small grain were obtained over the state in 1962. The oat and barley variety test data at Greeneville are not reported in 1962 due to heavy infestation by the disease Barley Yellow Dwarf.

Fall-seeded small grain data are presented in tables 12 through 17. For a number of years farmers in the Springfield area have been growing Hard Red winter wheat. So from 1956 through 1959 a variety test was conducted to measure the performance of some of the better Hard Red winter wheat varieties being sold in the Springfield area. The results are presented in Table 14. It can be seen from this table that the best Hard Red winter wheat variety did not outyield the Soft Red winter wheat variety Seneca.

A summary of the disease injury of small grain has been prepared by H. E. Reed, Department of Plant Pathology, Agricultural Experiment Station, Knoxville. These data were collected at six of the experiment stations where small grain tests were conducted in 1962.

**Table 12. Fall-Seeded Oats: Yield Summary of Varieties Tested.
Four Replications at Each Location**

Variety	State av. 1960-62	State av. 1962	Knox- ville 1962 ¹	Spring- field 1962 ²	Jack- son 1962 ³	Spring Hill 1962 ⁴	Cross- ville 1962 ⁵
Commercially available:	Yields in bushels per acre						
Blount	82	63	55	70	70	65	56
LeConte	78	59	43	62	68	62	59
Forkeddeer	76	60	41	70	78	59	53
Victorgrain 48-93	69	44	56	51	30	52	31
Experimentals:							
Tenn. 60-32	—	68	49	77	88	71	53
Tenn. 60-28	—	64	42	72	82	69	55
Tenn. 59-19	—	63	49	68	73	66	57
Tenn. 59-20	—	61	48	69	70	67	53
Tenn. 59-6	—	60	50	65	59	66	60
Tenn. 60-20	—	55	45	63	57	65	45
Average	76	60	48	67	67	64	52
L.S.D. (.05)	—	—	3.5	4.9	9.2	10.0	7.3
C.V. %	—	—	5.1	5.1	9.4	10.8	9.5

¹Cumberland silt loam, eroded (2% to 5% slopes).

²Dickson silt loam, eroded (2% to 5% slopes).

³Almo silt loam (0% to 2% slopes).

⁴Maury silt loam, eroded (2% to 5% slopes).

⁵Hartsells loam, eroded (2% to 5% slopes).

Table 12A. Fall-Seeded Oats: Characteristics of Varieties.

Variety	Winter hardiness	Standing ability	Relative maturity	Plant ht. in inches
Blount	Good	Good	Med.-Late	35
LeConte	Good	Good	Late	40
Forkeddeer	Good	Poor	Med.	38
Victorgrain 48-93	Fair	Good	Early	40

**Table 13. Wheat: Yield Summary of Varieties Tested.
Four Replications at Each Location**

Variety	State av. 1960-62	State av. 1962	Knox- ville 1962 ¹	Spring- field 1962 ²	Jack- son 1962 ³	Spring Hill 1962 ⁴	Cross- ville 1962 ⁵
Commercially available:	Yields in bushels per acre						
Monon	51	38	30	41	47	40	30
Knox	50	36	32	36	44	38	30
Seneca	49	43	29	46	42	43	53
Dual	46	34	26	32	38	38	35
Avon	—	37	26	38	41	40	41
Ace	—	36	27	38	35	37	43
Redcoat	—	30	25	33	32	34	26
Triumph*	—	—	—	26	—	—	—
Experimentals:							
Tenn. 60-23	—	39	29	43	40	39	43
Tenn. 60-123-2-3	—	38	30	44	38	39	42
Tenn. 60-18	—	36	28	38	38	35	43
Tenn. 60-1	—	31	25	32	33	36	30
Average	49	36	28	37	39	38	38
L.S.D. (.05)	—	—	4.3	4.1	3.9	3.5	5.2
C.V. %	—	—	10.6	7.6	6.9	6.4	9.4

¹Cumberland silt loam, eroded (2% to 5% slopes).

²Dickson silt loam, eroded (2% to 5% slopes).

³Memphis silt loam (0% to 2% slopes).

⁴Maury silt loam, eroded (2% to 5% slopes).

⁵Hartsells loam, eroded (2% to 5% slopes).

*Hard red winter wheat included for comparison.

Table 13A. Wheat: Characteristics of Varieties.

Variety	Winter hardiness	Standing ability	Relative maturity	Plant ht. in inches
Monon*	Good	Good	V. Early	40
Knox*	Good	Fair	V. Early	43
Seneca	Good	Fair-Good	Med.-Late	46
Dual	Good	Good	Late	44
Avon	Good	Good	Late	46
Ace	Good	Good	Med.	45
Redcoat	Good	Good	Late	41

*May be subject to spring freezes.

Table 14. Hard Red Winter Wheat: Average Yield of Varieties Grown on the Highland Rim Experiment Station, Springfield, Tennessee, 1956-1959.

Variety	Av. 1956-59	1956	1957	1958	1959
Yield in bushels per acre					
Seneca*	50	70	39	44	45
Triumph	45	54	37	38	51
Wichita	42	58	36	39	33
Concho	38	62	34	34	23
Comanche	35	54	26	26	33
Pawnee	—	—	27	35	22
Average	42	59	33	36	35
L.S.D. (.05)	—	6.1	3.9	4.5	3.7
C.V. %	—	6.6	7.7	8.3	5.9

*Soft red winter wheat included for comparison.

Table 15. Soft Red Winter Wheat: Average Yield of Varieties Grown on the Highland Rim Experiment Station, Springfield, Tennessee 1960 through 1962.

Variety	Av. 1960-62	1960	1961	1962
Yields in bushels per acre				
Monon	56	68	58	41
Seneca	55	66	53	46
Knox	55	73	55	36
Dual	48	60	53	32
Triumph*	42	47	52	26
Vermillion	—	71	—	—
LaPorte	—	61	—	—
Avon	—	—	51	38
Redcoat	—	—	44	33
Ace	—	—	—	38
Experimentals:				
Tenn. 59-7	—	69	—	—
Tenn. 59-17	—	67	—	—
Tenn. 59-3	—	66	—	—
Tenn. 59-26	—	56	—	—
Tenn. 60-3	—	—	61	—
Tenn. 60-6	—	—	61	—
Tenn. 59-9	—	—	50	—
Tenn. 60-123-2-3	—	—	—	44
Tenn. 60-23	—	—	—	43
Tenn. 60-18	—	—	—	38
Tenn. 60-1	—	—	—	32
Average	51	64	54	37
L.S.D. (.05)	—	5.4	4.3	4.1
C.V. %	—	5.9	5.5	7.6

*Hard red winter wheat included for comparison.

**Table 16. Barley: Yield Summary of Varieties Tested.
Four Replications at Each Location**

Variety	State av. 1960-62	State av. 1962	Knox- ville 1962 ¹	Spring- field 1962 ²	Jack- son 1962 ³	Spring Hill 1962 ⁴	Cross- ville 1962 ⁵
Commercially available:			Yields in bushels per acre				
Dayton	73	61	40	67	69	74	56
Hudson	69	55	41	52	57	68	56
Holston	68	50	36	40	51	65	58
Kenbar	68	59	44	59	58	72	64
Ga - Jet	—	48	38	50	57	63	35
Experimentals:							
Tenn. 60-34	—	58	48	54	61	71	53
Tenn. 59-15	—	57	38	47	69	77	53
Tenn. 60-19	—	55	43	43	66	69	55
Tenn. 60-168-2-3	—	54	44	52	68	61	43
Tenn. 60-38	—	52	42	52	69	59	40
Ky. 51-5752R	—	51	38	51	44	65	57
Average	70	55	41	52	61	68	52
L.S.D. (.05)	—	—	5.5	5.4	9.1	6.2	9.6
C.V. %	—	—	9.2	7.4	10.3	6.4	12.8

¹Cumberland silt loam, eroded (2% to 5% slopes).

²Dickson silt loam, eroded (2% to 5% slopes).

³Almo silt loam (0% to 2% slopes).

⁴Maury silt loam, eroded (2% to 5% slopes).

⁵Hartsells loam, eroded (2% to 5% slopes).

Table 16A. Barley: Characteristics of Varieties.

Variety	Winter hardiness	Standing ability	Relative maturity	Plant ht. in inches	Awn or beard character
Dayton	Good	Good	Early	35	Semi-rough
Hudson	Good	Fair	Late	36	Rough
Holston	Good	Good	Late	36	Semi-smooth
Kenbar	Good	Poor	Early	37	Semi-smooth
Ga-Jet	Fair	Fair	Early	35	Awnless

Table 17. Susceptibility of Small Grains to Diseases* Under Natural Field Conditions at Six Locations, May 28 and 29, 1962.

Variety	Jack- son	Spring- field	Greene- ville	Spring Hill	Cross- ville	Knox- ville
Wheat						
	Leaf Rust					
Dual	—	T	2	0	0	2
Knox	T	T	1	1	0	1
Seneca	3	1	4	1	1	3
Redcoat	0	T	T	0	T	T
Ace	T	T	T	T	0	1
Monon	0	T	1	0	0	T
Avon	1	T	4	1	0	4
T-60-23	T	T	2	T	0	3
T-60-123-23	0	0	3	0	0	2
T-60-1	T	0	1	0	0	1
T-60-18	T	T	1	0	0	T
Barley						
	Leaf Rust					
Ga-Jet	4	4	—	1	3	—
Dayton	3	4	—	T	2	—
Kenbar	—	2	—	0	1	—
Holston	2	4	—	T	1	—
Hudson	2	4	—	T	2	—
Ky. 51-5752-R	1	4	—	1	2	—
T-60-38	4	4	—	T	2	—
T-59-15	3	4	—	1	2	—
T-60-34	3	4	—	T	3	—
T-60-19	2	3	—	0	1	—
T-60-168-2	3	4	—	1	3	—
Oats						
	Crown Rust					
Blount	1	T	T	0	0	1
LeConte	2	T	1	T	0	1
Victorgrain 48-93	1	T	0	T	0	1
Forkedeer	T	T	1	2	T	T
T-59-19	T	T	T	T	0	1
T-59-20	T	T	T	T	0	2
T-59-6	1	3	T	T	0	1
T-60-28	T	T	1	1	0	2
T-60-20	T	1	T	T	0	2
T-60-32	2	T	1	0	0	2

*Leaf rust ratings on all cereals were based on Cobb's modified scale ranging from 0, in which no disease symptoms were apparent, to 6 in which the entire leaf surface was covered with rust. The letter "T" (Trace) was used to indicate that a few localized spots of the disease were found giving a rating of less than 1, or that less than 5% of the leaf surface was covered with the disease. A dash (—) was used to indicate that, for some reason, no disease rating was obtained.

ALFALFA

Results summarized here are from tests seeded in 1960 at all locations except Jackson and Knoxville. One test at Knoxville was seeded in 1960 and another in 1961. Results from both tests are reported in 1962. The Jackson test was seeded in 1958 and a 4-year summary is presented in Table 20. The other alfalfa data are presented in tables 18 and 19.

Table 18. Alfalfa: Summary of Yields at Five Locations for 1962.

Variety	Knox- [*] ville ¹	Knox- ^{**} ville ²	Cross- ville ³	Spring- field ⁴	Greene- ville ⁵	Jack- son ⁶
Tons of air-dry hay per acre						
Williamsburg	2.67	4.60	2.90	3.61	3.05	4.29
Buffalo	2.02	4.39	2.56	3.02	3.07	3.91
Socheville	3.47	5.02	2.29	3.60	2.62	0.00
DuPuits	2.84	4.80	2.14	3.60	2.68	0.00
Narragansett	2.62	4.21	2.04	3.25	2.80	0.00
P.A.G. FD-100	3.42	4.32	2.00	3.51	2.67	—
Vernal	2.74	3.86	2.19	3.01	—	0.00
Maliani	2.02	3.62	—	3.25	2.57	—
Lahontan	—	3.27	1.94	3.10	—	4.32
Orchies	3.10	—	—	3.32	2.78	—
Zia	—	3.27	1.88	2.77	—	—
Ranger	3.28	3.95	—	—	—	—
Rhizoma	2.98	3.68	—	—	—	—
Culver	2.60	—	—	—	2.98	—
Atlantic	—	—	—	—	—	3.32
Nomad	—	—	—	—	—	0.00
Teton	—	—	—	—	—	0.00
Experimentals						
N.C. Syn. F(56) 1	3.22	5.14	—	—	—	—
N.C. Syn. G(57) 3	2.89	5.11	—	—	—	—
N.C. Syn. G(57) 2	2.94	4.66	—	—	—	—
N.C. Syn. E(58)	—	4.46	—	—	—	—
Stoneville P.C.	3.09	—	—	—	—	—
Average	2.87	4.27	2.22	3.28	2.80	3.96
L.S.D. (.05)	0.86	0.57	0.58	0.43	0.17	0.79
C.V. %	21.1	9.4	18.0	9.1	4.2	14.2

*Seeded in Fall of 1961.

**Seeded in Fall of 1960.

¹Alcoa silt loam (2% to 5% slopes).

²Cumberland loam (2% to 5% slopes).

³Hartsells loam (2% to 5% slopes).

⁴Bewleyville silty clay loam (2% to 5% slopes), severely eroded.

⁵Cumberland silt loam (2% to 5% slopes), eroded.

⁶Memphis silt loam (0% to 2% slopes).

Table 19. Alfalfa: Summary of Yields at Three Locations for 1961 and 1962.

Variety	2-Year Av. 1961-62	Knoxville		Crossville		Springfield	
		1961	1962	1961	1962	1961	1962
Tons of air-dry hay per acre							
Williamsburg	3.53	2.88	4.60	4.73	2.90	2.48	3.61
DuPuits	3.40	2.90	4.80	4.48	2.14	2.48	3.60
Socheville	3.40	3.10	5.02	3.88	2.29	2.50	3.60
P.A.G. FD-100	3.30	3.24	4.32	4.19	2.00	2.52	3.51
Buffalo	3.23	3.10	4.39	4.26	2.56	2.05	3.02
Narragansett	3.16	3.22	4.21	4.12	2.04	2.11	3.25
Vernal	2.79	2.40	3.86	3.36	2.19	1.94	3.01
Lahontan	2.29	2.52	3.27	0.94	1.94	1.99	3.10
Zia	2.13	1.97	3.27	1.00	1.88	1.91	2.77
Maliani	—	2.71	3.62	—	—	2.15	3.25
Orchies	—	—	—	—	—	2.30	3.32
Rhizoma	—	3.14	3.68	—	—	—	—
Ranger	—	2.44	3.95	—	—	—	—
Experimentals:							
N.C. Syn F(56) 1	—	2.82	5.14	—	—	—	—
N.C. Syn. G(57) 3	—	3.46	5.11	—	—	—	—
N.C. Syn. G(57) 2	—	2.96	4.66	—	—	—	—
N.C. Syn. E(58)	—	2.87	4.46	—	—	—	—
Average	3.02	2.86	4.27	3.44	2.22	2.22	3.28
L.S.D. (.05)	—	0.67	0.57	0.67	0.58	0.30	0.43
C.V. %	—	16.4	9.4	13.4	18.0	9.2	9.1

Table 20. Alfalfa: Summary of Yields at Jackson for 1959-62.

	4-Yr. av.	Jackson			
Average	1959-62	1959	1960	1961	1962
Tons of air-dry hay per acre*					
Williamsburg	5.55	5.79	5.69	6.43	4.79
Buffalo	5.50	5.75	5.78	6.55	3.91
Atlantic	5.05	5.54	5.34	6.00	3.32
Lahontan	4.94	4.89	5.14	5.41	4.32
Vernal	4.22	5.58	5.18	6.14	0.00
DuPuits	3.84	5.80	5.13	4.44	0.00
Socheville	3.82	5.88	5.06	4.36	0.00
Narragansett	3.76	5.52	4.96	4.55	0.00
Nomad	0.84	3.36	0.00	0.00	0.00
Teton	0.42	1.67	0.00	0.00	0.00
Average	3.79	4.78	5.28	5.48	3.96
L.S.D. (.05)	—	0.41	0.51	0.63	0.79
C.V. %	—	5.7	8.2	7.8	14.2

*Zero yield was due to stand failure.

SOYBEANS

Soybean varieties were tested at three locations in 1962. The Spring Hill and Martin data are not reported in 1962 due to inadequate stand and other adverse factors. Data are presented for irrigated and non-irrigated soybean tests at Jackson in 1962.

The irrigated soybean test data at Jackson in 1962 were furnished by W. L. Parks, Professor of Agronomy, U. T. Experiment Station, Knoxville.

Data are presented in Table 21.

Table 21. Soybeans: Yield Summary of Varieties Tested.

Variety	Average 1961-62	Jackson 1961 ¹	Spring Hill 1961 ²	Jackson 1962 ³	Jackson Irrigated 1962 ⁴	Approximate date of maturity
Lee	35	30	27	37	47	Oct. 25
Hood	34	32	34	32	39	Oct. 15
Ogden	34	30	32	26	48	Oct. 15
Hill	32	37	31	20	41	Sept. 26
Dorman	31	35	32	15	40	Sept. 28
Hale 3	27	30	—	—	—	—
Hale 7	23	24	—	—	—	—
Rebel	—	—	28	28	34	—
Average	30.8	30.7	30.1	26.4	41.5	
L.S.D. (.05)	—	4.9	2.4	5.3	8.7	—
C.V. %	—	12.2	6.2	11.0	11.4	

¹Grenada silt loam (0% to 2% slopes).

²Maury silt loam, eroded (2% to 5% slopes).

³Memphis silt loam (0% to 2% slopes).

⁴Memphis silt loam (0% to 2% slopes).

Table 21A. Soybeans: Seed Characteristics of Varieties.

Variety	Seed color	Hilum color	Flower color	Pubescence	Seed quality	Resistance to shattering
Hill	Yellow	Light brown	White	Tawny	Good	Good
Dorman	Yellow	Buff	White	Gray	Good	Medium
Hood	Yellow	Buff	Purple	Gray	Good	Medium
Ogden	Olive-green	Brownish-black	Purple	Gray	Good	Fair
Lee	Yellow	Black	Purple	Tawny	Good	Good

GRAIN SORGHUM

The grain sorghum tests reported were conducted at Springfield and Jackson. The low yields at Jackson were due to the late summer drought.

Data are presented in Tables 22 and 22A.

Table 22. Grain Sorghum: Yields of Varieties Tested in 1961 and 1962.

Variety	State 2-Yr. av. 1961-62	State av. 1962	Spring- field ¹ 1962	Jack- son ² 1962	Spring Hill ³ 1961	Spring- field ⁴ 1961
Bushels per acre						
Frontier 400C	81	75	112	38	54	119
R.S. 610	76	74	110	37	47	108
McCurdy 70	74	70	110	30	54	101
Frontier 410C	72	68	94	42	54	99
DeKalb F-63	68	61	101	20	41	109
DeKalb E-56A	64	58	85	32	47	95
Texas 601	63	55	80	30	42	100
Texas 620	62	55	85	24	42	96
N.K. 283	54	62	116	8	00	94
Martin	54	50	71	28	40	75
N.K. 220	—	71	93	48	—	—
P.A.G. 515S	—	70	106	34	—	—
P.A.G. 430	—	68	95	42	—	—
Lindsey 744	—	67	98	36	—	—
McCurdy 62	—	65	97	33	—	—
Commanche	—	63	93	34	—	—
Lindsey 755	—	63	101	25	—	—
DeKalb C-45	—	60	91	29	—	—
Ute	—	59	84	34	—	—
P.A.G. 410	—	57	83	31	—	—
P.A.G. 425S	—	—	—	—	53	94
P.A.G. 405S	—	—	—	—	47	94
McCurdy 77	—	—	—	—	46	80
Red Rader A	—	—	—	—	46	74
N.K. 310	—	—	—	—	00	118
Average	66.8	63.6	95.4	31.8	40.9	97.0
L.S.D. (.05)	—	—	10.9	8.7	N.S.	10.2
C.V. %	—	—	9.1	21.7	—	8.3

¹Ennis silt loam, local alluvium phase.²Hatchie loam, (2% to 5% slopes).³Godwin silt loam, over wash phase (2% to 5% slopes).⁴Ennis silt loam, local alluvium phase.

**Table 22A. Grain Sorghum: Characteristics of Varieties
Tested 2 or More Years.**

Variety	Plant height	Lodg- ing	Head type	Maturity
	In.	%		
Frontier 400C	54	30	Tight	Med.
R. S. 610	48	36	Tight	Med.
McCurdy 70	56	28	Tight	Early
Frontier 410C	52	13	Tight	Med.
DeKalb F-63	52	17	Med.	Med.
DeKalb E-56A	50	11	Open	Early
Texas 601	52	22	Med.	Med.
Texas 620	54	7	Med.	Med.
N. K. 283	46	0	Open	Late
Martin	48	3	Tight	Med.

TOBACCO

Data for burley tobacco were furnished by L. J. Hoffbeck, Assistant Professor of Agronomy (cooperative with the USDA), and J. Hugh Felts, Superintendent, Tobacco Experiment Station.

Since the 1962 variety results were not yet available, the data included in the bulletin are for 1961 and previous years. The burley varieties were tested at four locations and the dark-fired and dark air-cured tobacco at one location only.

Data are presented in Tables 23 through 28.

Table 23. Burley Tobacco: Average Yield for 1961.

Variety	State average	Spring Hill	Spring- field	Grainger Co.	Greene- ville
Yield in pounds per acre					
Ky. 12	2327	2153	2225	2734	2194
Ky. 10	2262	2315	2150	2504	2080
Burley 1	2246	2088	2369	2606	1920
Va. B-29	2180	2224	2454	2367	1676
Burley 21	2113	2102	2244	2275	1831
Ky. 16	2006	1826	2355	2302	1542
Ky. 35	1999	1927	1984	2283	1803
Burley 37	1953	1967	1973	2233	1637
Burley 11A	1691	1826	2003	1698	1237
Average	2086	2048	2195	2333	1769
L.S.D. (.05)	102	185	259	240	139

Table 24. Burley Tobacco: Acre Value for 1961.

Variety	State average	Spring Hill	Spring-field	Grainger Co.	Greene-ville
Dollars per acre					
Ky. 12	1540	1439	1493	1742	1485
Ky. 10	1505	1534	1454	1614	1416
Burley 1	1504	1389	1628	1693	1305
Va. B-29	1439	1462	1676	1492	1125
Burley 21	1422	1420	1533	1487	1247
Ky. 16	1340	1221	1611	1482	1045
Ky. 35	1319	1273	1322	1452	1228
Burley 37	1311	1333	1327	1459	1126
Burley 11A	1142	1237	1368	1113	849
Average	1391	1367	1490	1504	1203
L.S.D. (.05)	72	128	188	169	93

Table 25. Burley Tobacco: Average Yield for Years 1955-61

Variety	Years Tested	State av.	Spring Hill	Spring-field	Greene-ville	Grainger Co.
Pounds per acre						
Burley 1	1955-61	2163	2000	2325	1907	2420
Va. B-29	1955-61	2098	1985	2246	1882	2280
Burley 21	1955-61	2091	1993	2221	1886	2266
Ky. 16	1955-61	2030	1833	2207	1828	2252
Ky. 35	1955-61	1974	1752	2159	1810	2176
Burley 11A	1955-61	1796	1663	1979	1586	1955
Burley 2	1955-60*	2057	1936	2221	1790	2281
Ky. 41A	1955-59	1939	1768	2131	1710	2151
Burley 11B	1955-59	1784	1588	1958	1590	2001
Ky. 58	1955-56	1986	1743	2128	1878	2195
Ky. 61	1957-58	1985	1633	2195	1862	2251
Ky. 9	1959-60	2160	1975	2316	2002	2347
Ky. 10	1960-61	2199	2153	2148	2089	2407
Burley 37	1960-61	1973	1794	2018	1876	2205
Average		2017	1844	2161	1835	2228

*Data were adjusted for lines tested less than 7 years in an attempt to make all values comparable.

Table 26. Burley Tobacco: Acre Value for Years 1955-61

Variety	Years Tested	State av.	Spring Hill	Spring-field	Greene-ville	Grainger Co.
Dollars per acre						
Burley 1	1955-61	1407	1285	1544	1243	1554
Burley 21	1955-61	1358	1284	1463	1229	1456
Va. B-29	1955-61	1349	1276	1470	1215	1435
Ky. 16	1955-61	1313	1171	1450	1201	1429
Ky. 35	1955-61	1271	1114	1408	1178	1385
Burley 11A	1955-61	1163	1063	1298	1037	1256
Burley 2	1955-60*	1333	1254	1458	1169	1452
Ky. 41A	1955-59	1241	1121	1390	1111	1343
Burley 11B	1955-59	1166	1021	1293	1054	1295
Ky. 58	1955-56	1275	1107	1397	1212	1386
Ky. 61	1957-58	1263	999	1426	1206	1423
Ky. 9	1959-60	1367	1279	1515	1194	1483
Ky. 10	1960-61	1405	1384	1405	1296	1536
Burley 37	1960-61	1280	1165	1319	1218	1420
Average		1299	1180	1417	1183	1413

*Data were adjusted for lines tested less than 7 years in an attempt to make all values comparable.

Table 27. Dark Fire-Cured Tobacco: Average Yield and Acre Value of Varieties Grown on the Highland Rim Experiment Station, Springfield, Tennessee from 1959 through 1961.

Variety	Acre Yield				Acre Value*			
	1959-61	1959 ¹	1960 ²	1961 ³	1959-61	1959	1960	1961
Pounds per acre					Dollars per acre			
Broad Leaf Madole	2165	2512	2238	1745	893	911	1063	704
Black Mammoth	2132	2590	2118	1687	867	941	993	667
Va. 312	2014	2113	2092	1838	838	767	1004	744
DF-516	2100	2517	1900	1882	804	926	817	669
Little Stalk Black Mammoth	2053	2441	1798	1919	804	859	829	723
Ky. 152	—	—	2017	1671	—	—	952	664
Ky. 151	—	2054	1949	—	—	771	941	—
Ozark	—	2602	—	—	—	1056	—	—
Narrow Leaf Madole	—	2515	—	—	—	887	—	—
Ky. 157	—	—	—	1693	—	—	—	688
Ky. 156	—	—	—	1585	—	—	—	606
Ky. 155	—	—	—	1408	—	—	—	536

Table 27.—(Continued)

Variety	Acre Yield				Acre Value*			
	1959-61	1959 ¹	1960 ²	1961 ³	1959-61	1959	1960	1961
	Pounds per acre				Dollars per acre			
Experimentals:								
Line 54	—	2608	—	—	—	1044	—	—
Line 29	—	—	2026	—	—	—	868	—
Line 303	—	—	1958	—	—	—	772	—
Line 308	—	—	—	1554	—	—	—	634
Line 31	—	—	—	1566	—	—	—	594
Line 12	—	—	—	1431	—	—	—	588
Average		2439	2011	1665		907	915	651
L.S.D. (.05)		308	94	209		95	72	97
C.V. %		10.0	4.0	10.8		9.0	6.7	12.8

*These values are based on the average value for the various grades on all type 22 markets, during the 5-year period, 1954-58.

¹Sango silt loam, (2% to 5% slopes).

²Sango silt loam, (2% to 5% slopes).

³Sango silt loam, (2% to 5% slopes).

Table 28. Dark Air-Cured Tobacco: Average Yield and Acre Value of Varieties Grown on the Highland Rim Experiment Station, Springfield, Tennessee from 1959 through 1961.

Variety	Acre Yield				Acre Value*			
	1959-61	1959 ¹	1960 ²	1961 ³	1959-61	1959	1960	1961
	Pounds per acre				Dollars per acre			
Va. Imp. Str. 2	1698	1667	1669	1757	684	684	703	666
Johns	1748	1759	1682	1802	672	640	708	668
Va. Imp. Str. 3	1646	1661	1608	1668	667	678	691	631
Narrow Leaf One Sucker	1640	1728	1503	1690	658	684	636	654
Ky. 160	1667	1666	1639	1697	652	639	662	655
Va. Sleek Stalk Str. 1	1467	1445	1451	1501	566	555	593	549
Ky. 163	—	—	—	1651	—	—	—	623
Ky. 164	—	—	—	1538	—	—	—	582
Experimentals:								
Line 215	—	2015	2167	—	—	778	836	—
Line 210	—	1919	1972	—	—	705	791	—
Average	—	1732	1711	1664	—	670	702	628
L.S.D. (.05)	—	88	126	103	—	48	53	50
C.V. %	—	4.4	6.3	5.3	—	6.1	6.4	6.8

*These values are based on the average value for the various grades on all type 35 markets, during the 5-year period, 1954-58.

¹Sango silt loam, overwash phase (2% to 5% slopes) and Bewleyville silty clay loam, eroded (5% to 12% slopes).

²Dickson silt loam, (2% to 5% slopes).

³Sango silt loam, (2% to 5% slopes).

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