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1980 Performance of Field Crop Varieties

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1980 PERFORMANCE OF FIELD CROP VARIETIES

DATA FOR 1980 WITH SUMMARIES OF RESULTS FROM PREVIOUS YEARS

CORN–GRAIN SORGHUM–SUMMER ANNUALS–OATS BARLEY–WHEAT–ALFALFA–SOYBEANS–TOBACCO

by

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RECOMMENDED CROP VARIETIES
Listed alphabetically

Corn Hybrids

Yellow—Early-Season—DeKalb XL72AA[1], Funk G-4507, FFR 707C , FFR 744C, McCurdy 84aa, McCurdy 7570, P.A.G. 314, Trojan TXS114, Zimmerman Z-24Y

Yellow—Medium-Season—Asgrow RX114, DeKalb XL72B, DeKalb XL72BB, DeKalb XL80, FFR 799C, Funk G-4520[1], Funk G-4776, Golden Acres T.E. 6995, N.K. PX79, P.A.G. SX17A, Pioneer brand 3369A, Pioneer brand 3184, Pioneer brand 3311, Princeton SX840, RA 1502

White—Medium-Season—DeKalb XL390B

Yellow—Full-Season, DeKalb XL394, Funk G-4848, N.K. PX723, McNair 300, Paymaster UC9792, Pioneer brand 3145, Pioneer brand 3147, Tenn 608[1] [2]

White—Full-Season—FFR 929W, Golden Harvest H-2660W, Princeton SX910, Zimmerman Z-11W, RA 2602W

Cotton

Coker 304, Delcot 277, Deltapine 55, Deltapine 61, Hancock, McNair 220, Stoneville 213, Stoneville 256, Stoneville 603

Oats

Fall-seeded—Coker 716, Cumberland

Wheat
Abe, Arthur, Coker 747, Doublecrop, Hart, McNair 1003, Pioneer brand S78, Pioneer brand S76

Barley
Henry, Maury[1], Surry, Volbar

Rye
Hiwassee

Alfalfa
Apollo, Arc, Gladiator, Saranac AR, Team, Vangard, Weevlcheck, Williamsburg

Red Clover
Kenland, Kenstar, Redland

Soybeans[4]
Maturity Group V—Bay, Bedford[6], Dare, Essex, Forrest[5], McNair 500, York

Maturity Group VI—Centennial[5], Coker 136, Lee 74, Pickett 71[5]

Maturity Group VII—Bragg[7]

Grain Sorghum
Bird Resistant—Acco BR-Y93, McNair 656BR, Pioneer brand B815, Savanna 5

Non-Bird Resistant—Funk G-522DR, GSA ML135, McNair 650, Acco R-1090, Acco R-1029A, Wilstar 1225, Wilstar 1330

Burley Tobacco
Burley 37, Burley 49, Burley 64, Ky. 14, Ky. 17, MS BU. 21 X Ky. 10, Va. 509

Dark-Fire Cured Tobacco
Broad Leaf Madole, Black Mammoth, DF-300, DF-911

Summer Annuals are recommended when allowed to grow to 20-40 inches high before cutting or grazing.

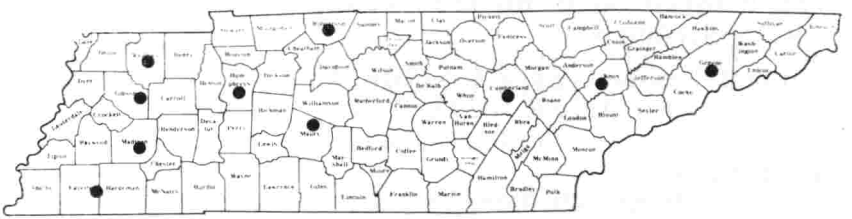
Sorghum x Sundangrass crosses—Acco S99, Drip O-Honey, FFR 66, Funk G-83F, Graze-N-Bale, Mor Su II, Sudax SX-17, Sunrise, Summergrazer, Sweet M, Sweet Sioux IV, and Wintergraze. Super

Chowmaker 235 is recommended when it is allowed to grow to 3-5 feet high up to pre-boot stage of growth.

Millets—Gahi-1, Millex 23, RA Millhy 99, Southgraze

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1 Present plans indicate that these varieties will not be recommended after this year.
2 Not recommended for grain production except under corn virus conditions.
3 Cotton results will be given in a later publication.
4 Varieties in Maturity Groups VI & VII are not recommended for the Crossville area (Cumberland Plateau).
5 Recommended where Race 3 soybean cyst nematodes are a problem.
6 Recommended where Race 4 soybean cyst nematodes are a problem.
7 Recommended for southern tier of counties in Middle and West Tennessee.



Locations of field crop variety tests in Tennessee, 1980.

The Recommended Corn Varieties for 1981 are as follows:

Maturity group	Grain color	Hybrid	Tolerance[1] to corn virus complex	Erect plants %	Yield[3] Bu/A
Early-Season	Yellow	Zimmerman Z-24Y	Low	94	126
		McCurdy 84aa	Low	91	124
		McCurdy MSX7570	Low	94	123
		Funk G-4507	Low	90	119
		FFR 744C	Low	92	117
		DeKalb XL72AA[2]	Low	94	116
		FFR 707C[2]	High	95	116
		Trojan TXS 114	Low	—	—
		P.A.G. 314	Low	—	—
Medium-Season	Yellow	Pioneer brand 3184	Medium	96	132
		DeKalb XL72BB	Med-High	95	132
		Pioneer brand 3311	Low	94	128
		Pioneer brand 3369A	Low	93	126
		DeKalb XL80	Low	91	126
		Asgrow RX114	Med-Low	92	126
		N. K. PX79	Med-Low	92	124
		Golden Acres T.E. 6995	Low	93	122
		RA 1502	Low	95	122
		Funk G-4520[2]	Low	95	121
		Funk G-4776	Med	98	119
		Princeton SX840	Low	94	119
		DeKalb XL72B[1]	High	93	117
		FFR 799C	Low	—	—
		P.A.G. SX17A	Medium	—	—
	White	DeKalb XL390B	Low	—	—
Full-Season	Yellow	Pioneer brand 3147	Med-High	90	145
		Funk G-4848	Medium	98	144
		DeKalb XL394	High	98	141
		Pioneer brand 3145	High	99	131
		N.K. PX723	Med-High	97	131
		Paymaster UC9792	Low	93	131
		McNair X-300	Low	96	125
		Tenn. 608[2] [4]			
	White	Princeton SX910	Med-High	87	136
		Zimmerman Z-11W	Med-High	85	134
		FFR 929W	Medium	96	131
		Golden Harvest H-2660W	Medium	93	128
		RA 2602W	Medium	85	126

1 Hybrids rated lower than medium-high are not recommended under heavy virus conditions (DeKalb XL72B recommended only under virus conditions).

2 Present plans indicate that this hybrid will not be recommended after this year.

3 The medium-season hybrids are 3 year averages (1977-79) and the full-season yields and lodging are adjusted 3 year averages using a hybrid common to both tests.

4 Not recommended for grain production under corn virus conditions.

Bird-resistant varieties

Acco BR-Y93—A medium-tall variety with a medium to open type head. It is medium in maturity. Anthracnose resistance with a yellow endosperm.

McNair 656BR—This variety is medium-tall and medium in maturity. It stands well and has been a consistent yielder in the variety trials. This variety has an open type head. Anthracnose resistant with a brown pericarp and yellow endosperm.

Pioneer brand B815—A variety which is tall with medium to open type heads. Resistant to downy mildew and anthracnose. Yellow endosperm.

Savanna 5—A tall variety with a tight head. Resistant to downy mildew and anthracnose. Brown pericarp and grain color.

Non-bird resistant varieties

Funk G-522DR—A medium-tall variety with a medium type head. Resistant to downy mildew and anthracnose. Bronze pericarp with hetero yellow endosperm.

GSA ML135—Is medium-tall with medium type head. The maturity of this variety is medium to late.

McNair 650—A variety which is medium-tall with a medium type head. This variety is medium to late in maturity. Resistant to anthracnose. Red pericarp with a yellow endosperm.

Acco R-1090—A variety which is medium-tall with medium to open type heads. This variety has been medium in maturity. Resistant to anthracnose. Red pericarp with a yellow endosperm.

Acco R-1029-A—An open type head variety which is medium-tall. Resistant to anthracnose. Red pericarp with a yellow endosperm.

Wilstar 1225—Is medium-tall with medium to open type head. Medium to late in maturity. Brown pericarp with a yellow endosperm.

Wilstar 1330—Is tall with medium to open type head. Medium to late in maturity. Bronze pericarp with a yellow endosperm. Reported to be resistant to anthracnose.

Bay—Bay matures (maturity group V)[1] about 4 days later than Essex. This variety is about 6 inches taller than Essex. Plants have purple flowers and gray pubescence. Seeds are yellow with a buff hila. Seed size are larger than Essex but smaller than York.

Bragg—A tall-growing, late-maturing variety (Maturity group II). It matures about 7 days later than Lee (Maturity Group VI). Bragg has white flowers and tawny pubescence. It has good seed-holding qualities. Bragg is recommended for the southern tier of counties in Middle and West Tennessee.

Centennial—Centennial matures (Maturity Group VI) about the same time as Pickett 71 (Maturity group VI). Plants are tall with tawny pubescence and purple flowers. Seeds are medium in size with a yellow seed coat and black hila. It has resistance to Races 1 and 3 of the soybean cyst nematodes, the root-knot nematode *(Meloidogyne incognita)*, the reniform nematode, and phytophthora rot. This variety seems to be too late for the Cumberland Plateau.

Coker 136—This variety matures a few days earlier than Lee 74 (Maturity group VI) and a few days later than Forrest (Maturity group V). Coker 136 has gray pubescence with purple flowers. It is similar to Forrest in plant height.

Dare—Dare matures (Maturity group V) about the same as York (Maturity group V). Plants have white flowers and gray pubescence. Seeds are yellow with light brown hilum. It has resistance to purple stain, bacterial pustule, wildfire, and target spot. It is also moderately resistant to phytophthora root-rot. Dare has good seed-holding characteristics but does not hold its seed as well as Lee. This variety tends to hold its leaves after maturity longer than some other varieties.

Essex—An early-maturing variety (Maturity group V) which is short and stands well. It has purple flowers, gray pubescence, and a tawny pod wall. Essex has a high yield potential under good moisture conditions, but it appears to be more sensitive to moisture stress than many of the other varieties evaluated. Essex has not performed well on heavy-textured soils. Essex is similar to Dare in seed size, quality, and shatter resistance.

[1]Varieties have been divided into 10 maturity groups, 00 through VIII. Varieties recommended in Tennessee are from Groups V, VI, and VIII. Group V is considered early to medium, Group VI late, and Group VII late to very late. The later these varieties of maturity Groups V, VI, and VII are planted, the less pronounced is the difference in date of maturity among varieties.

Forrest—Forrest (Maturity group V) is a selection from the cross Dyer X Bragg. Its growth characteristics resemble Bragg (Maturity group VII) but plants mature about 3 weeks earlier. Forrest (Maturity group V) is a few days later in maturity than Dare (Maturity group V). This variety is resistant to root-knot and soybean cyst nematode Race 3. Forrest also had good resistance to bacterial pustule, wildfire, target spot, and is moderately resistant to phytophthora rot. Forrest has white flowers and tawny pubescence. Seeds are yellow with a black hilum. The ideal pH range for Forrest is 6 to 6.5. This variety has performed poorly on some soils at a pH of 7 or above.

Lee 74—Lee 74 has resistance to the common foliar disease—bacterial pustule, wildfire, and target spot—similar to Lee 68. This variety has purple flowers, tawny pubescence, and yellow seed with a black hilum similar to Lee 68. This variety is in Maturity group VI. Lee 74 is resistant to root-knot nematode, whereas Lee 68 is not.

McNair 500—A Maturity group V soybean which is a few inches shorter than Forrest. McNair 500 has resistance to phytophthora root-rot, bacterial pustule, and frogeye. It has purple flowers, brown pubescence, tan pod wall, and yellow seed with a light-brown hilum.

Pickett 71—This variety resembles Pickett in plant and seed characteristics. Pickett 71 is resistant to phytophthora rot as well as being resistant to Race 3 soybean cyst nematode. It also has resistance to bacterial pustule, wildfire, and target spot. Pickett 71 has performed similarly to Pickett in the State Variety Trials. Pickett and Pickett 71 are in Maturity group VI.

York—York matures at about the same time as Dare (Maturity group V) and is about 10 days later than Hill. Seeds of York are slightly off-round with a buff hilum and yellow seed coat. York has purple flowers and gray pubescence. York has good seed-holding qualities but not as good as Lee. York has very good resistance to lodging and has yielded well in the State Variety Test.

OATS

Fall-Seeded

Coker 716—A new release from Coker and is slightly superior to Coker 66-22 in winterhardiness, yield, test weight, and lodging resistance. However, it will not stand as well as Cumberland. Coker 716 has been evaluated in previous years as Coker 70-16. This variety is reported to have excellent resistance to soil-borne mosaic. It has yielded well in the state variety trials for several years.

Cumberland—A short, stiff-strawed variety of medium-late maturity. It is slightly more winter-hardy than Blount. Cumberland has good lodging resistance.

RYE

Hiwassee—A medium-tall, medium-late maturity, broadleaved variety. Hiwassee is not as uniform in plant growth in the seedling stage as Balbo, but in the mature stage is more uniform than Balbo. Heads and seeds are larger than Balbo. This variety has good lodging resistance for rye. Because Hiwassee is a tetraploid, some sterility may occur when grown near common (diploid) rye varieties of the same maturity.

BARLEY

Henry—An awnleted variety released from Virginia Agricultural Experiment Station in 1975. Henry heads about the same time as Volbar but matures about a week earlier. Henry and Surry are very similar in maturity and test weight. Henry has averaged a few inches more in plant height than Surry. Henry is reported to be resistant to powdery mildew, leaf rust, and scald.

Maury—An awnleted variety released from Virginia Agricultural Experiment Station. This variety heads about the same time as Volbar but matures about a week earlier. This variety stands well with a medium plant height.

Surry—An awnleted variety released from Virginia Agricultural Experiment Station in 1975. Surry heads about the same time as Volbar but matures about a week earlier. Surry has been an inch or two shorter than Henry in the State Variety Test. It is reported to be resistant to powdery mildew, intermediate in resistance to leaf rust, and has the Harrison resistance to scald.

Volbar—A winter-hardy, six-rowed, tall, rough-awned variety with maturity similar to Harrison and Jefferson. Volbar has yielded well in the state variety test and has resisted lodging. Volbar has slight tolerance to Barley Yellow Dwarf Virus disease.

SOFT RED WINTER WHEAT

Abe—This variety is similar in appearance to Arthur. Abe may be distinguished from Arthur 71 and Arthur by its blue-green foliage from young plants in the boot state and by its longer awnlets. Abe has the same resistance to stem rust, powdery mildew, loose smut, and soil-borne mosaic similar to Arthur.

Arthur—A very early, winter-hardy, soft red winter variety with good straw strength. Arthur has good test weight and is resistant to certain races of powdery mildew, and moderately resistant to leaf rust, and loose smut. Arthur has been relatively free of disease for the past 2 years in the State Variety Test. Arthur is resistant to most races of Hessian Fly. However, Arthur, like Harrison barley, is sensitive to acid soil (low pH) and for best performance it should not be grown under these conditions.

Coker 747—An early, white chaff variety with good winterhardiness and resistance to lodging. This variety is a few inches shorter with slightly stiffer straw than Arthur. It is resistant to soil-borne mosaic, moderately resistant to leaf rust, stem rust, and powdery mildew.

Doublecrop—An early, winter-hardy, white chaff variety. It is similar to Arthur in characteristics and disease resistance, except that it matures a few days earlier and has a slightly higher leaf rust resistance.

Hart—An early awned variety released jointly by Missouri and Pennsylvania Agricultural Experiment Station in 1976. Hart is similar to Stoddard in vegetative growth habit and winterhardiness. The straw is medium-short, stiff, and light in color. A primary identification character of Hart is its awn; most other soft red winter wheat varieties grown are awnless or awnletted. It is susceptible to powdery mildew.

McNair 1003—This variety is medium in height with a dark green foliar color in its early growth stage with a blue cast at maturity. McNair 1003 has matured similar to Arthur in the State Variety Test. It has resistance to powdery mildew, soil-borne mosaic, and race E of Hessian Fly. It has produced high yields in the tests but has been a little more erratic than some other varieties in yield performance.

S76—An awned variety developed by Pioneer Hi-Bred International, Inc. S76 is a few days later in maturity than Arthur. In the variety test is has been 2 or 3 inches shorter than Arthur. It is susceptible to powdery mildew.

S78—An awned variety developed by Pioneer Hi-Bred International, Inc. S78 is similar in appearance to S76 except it is slightly shorter and matures a day or two earlier than S76. It is reported to be resistant to most races of Hessian Fly. It is also reported to be susceptible to loose smut, powdery mildew, and stem rust. S78 has been susceptible to powdery mildew in the variety test.

Apollo—A winter-hardy cultivar with good recovery ability. Apollo has high resistance to phytophthora root-rot. This disease is worse on poorly drained soil and in most cases alfalfa would not be grown on these soils. However, alfalfa can be grown on poorly drained soil (such as Henry) if the surface water is controlled. Alfalfa can't tolerate flooding for any period of time. Apollo has high resistance to bacterial wilt but this disease has not been a problem in Tennessee.

Arc—A vigorous-growing alfalfa cultivar with high resistance to anthracnose and pea aphid with moderate resistance to the alfalfa weevil and bacterial wilt. Bacterial wilt has not been a problem in Tennessee. The weevil resistance is not enough to eliminate the need for weevil control measures by growers.

Gladiator—This variety was developed by Northrup, King & Co. and is wilt resistant and has some tolerance to alfalfa weevil and anthracnose. It has yielded well in the state variety trials for a number of years.

Saranac AR—This variety was developed at Cornell and is wilt- and anthracnose-resistant. The growth habit of this variety is the same as for Saranac. Seed supply may be limited in Tennessee.

Team—This variety has some resistance to the alfalfa weevil. This resistance is not enough to eliminate the need for weevil control measures by growers. Team also is reported to have resistance to anthracnose, stemphylium leaf spot, and common leaf spot. None of these diseases has been observed on this variety in Tennessee. This variety is available in the seed trade in Tennessee.

Vangard—Vangard was evaluated in the past as Victor. Vangard has high resistance to anthracnose and good resistance to bacterial wilt. This variety has some tolerance to leaf hopper yellowing. This variety has performed well in the state variety trials.

Weevlchek—This variety has some resistance to the alfalfa weevil, but this resistance is not great enough to eliminate the need for weevil control measures by growers. Weevlchek does not grow as vigorous as most of the other varieties evaluated. Seed of this variety should be available in the seed trade in Tennessee.

Williamsburg—This variety was removed from the recommended list several years ago due to the lack of a seed source in Tennessee. Seed of this variety can once again be bought in Tennessee; therefore, it was placed back on the recommended list. Williamsburg has performed well all across the state in the variety trials.

RED CLOVER

Kenland—Kenland is a variety resistant to southern anthracnose and tolerant to powdery mildew. It is a synthetic variety made by combining several strains from Kentucky, Tennessee, Virginia, North Carolina, and Missouri.

Kenstar—Related synthetics have been evaluated in Tennessee for several years. These synthetics were Ky Syn A-1, and A-2. Kenstar was carried as an experimental Ky Syn A-3. A-1 consisted of 20 clones, A-2 of 30 clones, and Kenstar contained 10 of the superior clones common to both A-1 and A-2. Kenstar is similar to Kenland in resistance to anthracnose, powdery mildew, and general morphological appearance. In forage yields, these synthetics (Kenstar) have persisted for 3 years in many tests when Kenland persisted for only 1 or 2 years.

Redland—Redland was evaluated as Illinois No. 2 for many years in the State Variety Trials. Redland has performed better than Kenland certified, but slightly less than Kenstar.

BURLEY TOBACCO

Burley 37—An upright-leaf variety which has medium-high resistance to black shank, high resistance to wildfire, and low resistance to black root rot and medium resistance to fusarium wilt.

Burley 49—An upright-leaf variety which has medium-high resistance to black shank, high resistance to black root rot, wildfire, mosaic, and medium resistance to fusarium wilt. This variety is recommended on farms where black shank and black root rot are causing problems.

Burley 64—A closely-spaced, upright-leaf, late-flowering variety which has medium-high resistance to black shank, high resistance to black root rot, wildfire, mosaic, and medium resistance to fusarium wilt. The variety is recommended on farms where black shank and black root rot are causing problems.

Ky. 14—A high-yielded variety which has medium-high resistance to black root rot, fusarium wilt, and high resistance to wildfire and mosaic. It has also shown some resistance to Tobacco Vein Mottling Virus (TVMV). Ky. 14 is similar to Va. 509 in number of days to flowering, plant height, and leaf number per plant.

Ky. 17—A stand-up variety which produces reasonable yields of high quality leaf. It has medium-high resistance to black shank and high resistance to black root rot, mosaic, fusarium wilt, and wildfire.

MS Bu. 21 X Ky. 10—A semi-drooping leaf hybrid which has high resistance to wildfire and mosaic and low resistance to black root rot. It does not have any resistance to black shank. This hybrid yields about the same as Ky. 10, but more than Burley 21. It is better in quality than Ky. 10, but not as good as Burley 21.

Va. 509—An upright-leaf variety which has medium resistance to black shank, high resistance to wildfire, low resistance to black root rot, and medium resistance to fusarium wilt. It was selected from a cross of Burley 37 X Burley 21. The general characteristics are intermediate between those of Burley 21 and Burley 37.

DARK FIRE-CURED TOBACCO

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

Black Mammoth—Leaf is somewhat darker and broader than Madole. Usually it does not droop quite as much as Madole. Susceptible to mosaic and wildfire.

DF-300—A variety moderately resistant to black shank, was developed and released in 1967 by the UT Agricultural Experiment Station. It is a broad-leaved, open-growing tobacco, lighter green in color than Madole with plant growth similar to Madole. The cured tobacco is usually lighter brown in color than Madole. It is best adapted to the production of wrapping tobacco, but is capable of producing cutting or snuff tobacco.

DF-911—A multiple disease resistant dark fire-cured variety, was released in 1976 by the University of Tennessee Agricultural Experiment Station. This variety is resistant to black root rot, mosaic, and wildfire but not to black shank. It compared very favorably with Madole in growth, yield, and quality but DF-911 is slightly darker in color. Its growth habit and appearance is perhaps a little more open than Madole—especially at maturity—and the leaf attachment is more upright.

1980

PERFORMANCE

OF FIELD CROP VARIETIES

Corn—Grain Sorghum—Summer Annuals—Oats
Barley—Wheat—Alfalfa—Soybeans—Tobacco

DATA FOR 1980 WITH SUMMARIES OF RESULTS FROM PREVIOUS YEARS

INTRODUCTION

The purpose of the project, "Field Crop Variety Evaluation," 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 specialist from the research, resident instruction, and extension staffs of the University of Tennessee Institute 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 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 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 adaption 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 1980 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. This value is a measure of the variability found within each experiment. At each location where tests were conducted in 1980, the soil types are reported at the end of the table.

CORN

The 1980 medium-season state corn hybrid tests were conducted at seven locations, and full-season and early-maturing at four locations. Twenty-four new hybrids were evaluated at Knoxville. The tests at Ames Plantation, Jackson, and Milan were harvested with a picker-sheller. All other tests were harvested by hand. The test at Waverly under virus conditions was not harvested due to the severe drought and stand problems at this location in 1980.

Hybrid yields were very low at Spring Hill, Jackson, and Ames Plantation due to dry weather during the growing season. All locations were affected by the drought to some degree. The corn yields at Springfield were good due to the corn being grown on a soil with a high water supplying capacity. The tests at Knoxville were irrigated twice during silking and tasseling. The test at Crossville was irrigated once when the corn was about 2 feet high. Without irrigation at these two locations, the hybrid yields would have been very low.

All tests were over-planted and thinned to 19,000 plants per acre. The tests were fertilized with 150 pounds of nitrogen and phosphorus and potassium according to soil test. The plot size for hand-harvested plots was two rows 11 to 30 feet long and the plot size for the mechanically harvested plots was two rows 25 to 30 feet in length.

The leading hybrids in 1980 in the medium-season test were Pioneer brand 3147 (a full-season hybrid included as a check), Pioneer brand 3320, McCurdy 7978, McCurdy 8150, Pioneer brand 3369A, DeKalb XL74A, and DeKalb XL72BB. The leading hybrids at Crossville were Pioneer brand 3320, DeKalb XL72A, Asgrow RX909, Pioneer brand 3147, and McCurdy 8150.

The leading hybrids in the full-season test, excluding the Spring Hill data due to a very high C.V., were Pioneer brand 3147, Pioneer brand 3160, and USS 2315. All yields for the full-season test were low except for Knoxville where the test was irrigated twice.

The leading early-maturing hybrids for 1980 were McCurdy 7440, O's Gold SX3344, McCurdy 84AA, P.A.G. SX333, and Zimmerman Z-24Y.

The grain of hybrids grown at Knoxville and Milan were analyzed for crude protein by the UT forage testing laboratory in Nashville. All grain was dried to 11 to 12 percent moisture before testing for protein.

The hybrids in the medium-season test with the highest grain crude protein were T-R 2020W, T-R 2051W (Experimentals), DeKalb XL390B, Funk G-4525A, Asgrow RX962W, and Asgrow RX112. The full-season hybrids with the highest grain crude protein were N.K. PX95, Asgrow 140A, DeKalb EX.9696, RA 2602W, Zimmerman Z-11W, and Golden Harvest H-2660W. In the early maturing group DeKalb XL55A, N.K. PX664, FFR 717C, and RA 1502 hybrids produced grain with the highest crude protein.

One hundred and twenty-four hybrids were rated for virus tolerance. These data were furnished by D. R. West and H. C. Kincer of the Tennessee Agricultural Experiment Station at Knoxville. A scale ranging from 1 through 9 was used to rate these varieties where the virus disease occurred in previous years.

Individual plants were evaluated on the basis of the following severity grades:

1 = no apparent symptoms.

2 = top 2 or 3 leaves mottled, no stunting.

3 = entire plant above the ear mottled and/or discolored; no evident stunting.

4 = chlorosis and/or discoloration above the ear; some stunting.

5 = plant above the ear discolored; plants stunted and ear reduced in size.

6 = upper 3/4 of plant chlorotic and/or discolored; plants stunted and ear reduced in size.

7 = entire plant discolored and stunted; no ear produced.

8 = entire plant discolored and stunted; no ear produced.

9 = plant completely collapsed; no ear.

A severity for each entry was determined by multiplying the number of plants in each rating by the rating value, and the sum of these products was divided by the total number of plants. The percentage of diseased plants and the severity index for the diseased plants are shown in the tables in addition to the mean severity index for all plants. In interpreting the reaction to virus of any particular entry, the important data are the percentage of diseased plants and their severity index.

Table 1. Corn: Yield of 40 medium-season hybrids evaluated at five locations in 1980.

Color	Cross	Hybrid	Avg.[1]	Greene-ville[2]	Knox-ville[3]	Spring-field[4]	Milan[5]	Spring Hill[6]
			Bushels per acre					
y	2X	Pioneer brand 3147	117	90	121	155	101	44
y	3X	Pioneer brand 3320	111	85	122	131	106	43
y	2X	McCurdy 7978	109	81	106	132	117	42
y	2X	McCurdy 8150	109	80	107	134	115	54
y	2X	Pioneer brand 3369A	109	78	114	131	112	48
y	M2X	DeKalb XL74A	108	85	116	128	104	45
y	3X	DeKalb XL72BB	107	82	113	118	117	34
w	3X	T-R 2051W[7]	107	81	114	137	97	25
y	2X	Paymaster UC8951	106	84	105	122	114	43
w	2X	Asgrow RX962W	104	71	117	148	82	22
y	2X	Zimmerman Z-22Y	104	75	106	122	112	41
y	3X	Trojan TXS 115A	102	83	99	127	101	50
y	2X	Coker 19	102	77	96	134	103	47
y	2X	O's Gold SX5509	102	68	106	126	109	50
y	2X	T.E. 6995	102	72	103	124	107	45
y	2X	Aztec SX640	101	67	93	133	113	56
y	2X	Asgrow RX909	101	78	100	121	104	42
y	SP3X	Funk G-4657	100	73	111	115	103	46
y	2X	RA 1502	100	74	104	124	98	56
y	3X	Golden Harvest 2745	100	78	102	114	104	46
y	2X	DeKalb XL71	100	70	106	128	94	48
w	3X	DeKalb XL390B	99	56	104	152	84	38
y	2X	Aztec SX644	99	67	97	124	109	62
y	2X	Pioneer brand 3184	99	80	104	126	87	48
y	2X	Pioneer brand X7448	99	76	102	120	96	52
y	2X	DeKalb XL72B	98	73	106	120	95	43
y	2X	N.K. PX79	97	66	101	134	88	20
y	2X	Princeton SX840	97	72	96	122	100	35
y	2X	DeKalb XL80	97	76	112	124	75	35
w	3X	T-R 2020W[7]	97	71	106	126	84	35
y	2X	O's Gold SX5255	96	76	106	117	86	38
y	2X	RA 1604	96	71	104	112	97	40
y	3X	FFR 799C	96	69	84	125	105	47
y	M2X	Funk G-4606	95	70	95	124	92	37
y	2X	O's Gold SX5353	96	74	99	120	89	51
y	2X	P.A.G. SX373	96	66	102	119	95	28
y	3X	Asgrow RX112	94	75	105	110	86	39
y	2X	T.E. 6945	93	66	92	117	95	35
y	2X	Funk G-4525A	93	76	102	104	89	32
y	2X	RA 1504	91	66	95	116	86	61
L.S.D. (.05)			11.6	12.8	17.2	19.0	18.5	13.4
C.V. %			16.4	12.2	11.7	10.8	13.4	22.7
Avg.			101	75	104	125	99	43

[1] Spring Hill not included in average due to high C.V.
[2] Hermitage silt loam (2% to 5% slopes).
[3] Sequatchie loam (2% to 5% slopes).
[4] Huntington silt loam local alluvium (2% to 5% slopes).
[5] Collins silt loam (2% to 5% slopes).
[6] Maury silt loam (2% to 5% slopes).
[7] Experimental.

Table 2. Corn: Yields and other characteristics of 40 medium-season hybrids evaluated at four locations in 1980

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	Pioneer brand 3147	117	86	4.0	3.7	53	18.3
y	2X	Pioneer brand 3320	111	100	2.7	2.8	45	18.2
y	2X	McCurdy 7978	109	98	3.0	2.7	50	18.1
y	2X	McCurdy 8150	109	98	2.8	2.0	54	19.1
y	2X	Pioneer brand 3369A	109	99	2.7	3.8	46	16.4
y	M2X	DeKalb XL74A	108	99	4.7	4.0	50	18.4
y	3X	DeKalb XL72BB	107	98	4.0	3.5	48	19.3
w	3X	T-R 2051W[2]	107	94	2.8	2.3	55	20.4
y	2X	Paymaster UC8951	106	94	3.3	3.0	49	18.8
w	2X	Asgrow RX962W	104	89	3.2	2.3	56	20.6
y	2X	Zimmerman Z-22Y	104	95	3.7	2.3	46	18.1
y	2X	Trojan TXS 115A	102	95	4.3	2.8	47	16.0
y	2X	Coker 19	102	96	4.7	3.2	46	15.9
y	2X	O's Gold SX5509	102	96	4.5	2.7	47	19.2
y	2X	T.E. 6995	102	94	4.5	3.7	45	15.6
y	2X	Aztec SX640	101	91	3.3	3.7	49	17.6
y	2X	Asgrow RX909	101	94	4.2	2.3	44	17.6
y	SP3X	Funk G-4657	100	95	5.0	3.2	48	16.9
y	2X	RA 1502	100	95	3.3	2.8	45	18.2
y	3X	Golden Harvest 2745	100	90	2.3	2.7	51	18.6
y	2X	DeKalb XL71	100	95	3.3	3.7	45	18.2
w	3X	DeKalb XL390B	99	91	5.0	2.5	55	18.7
y	2X	Aztec SX644	99	93	3.0	3.5	46	18.0
y	2X	Pioneer brand 3184	99	100	2.7	2.8	45	18.8
y	2X	Pioneer brand X7448	99	99	4.0	3.3	48	17.0
y	2X	DeKalb XL72B	98	96	4.5	3.5	40	17.2
y	2X	N.K. PX79	97	98	5.3	4.0	47	14.9
y	2X	Princeton SX840	97	98	4.2	3.3	49	18.8
y	2X	DeKalb XL80	97	98	2.8	2.3	44	18.7
w	3X	T-R 2020W[2]	97	86	3.2	2.7	51	21.6
y	2X	O's Gold SX5255	96	95	5.5	3.2	47	15.2
y	2X	RA 1604	96	96	4.5	3.0	47	19.3
y	3X	FFR 799C	96	93	4.7	3.3	46	16.5
y	M2X	Funk G-4606	95	95	4.7	4.2	44	16.2
y	2X	O's Gold SX5353	96	94	4.8	2.8	46	15.8
y	2X	P.A.G. SX373	96	95	3.3	3.0	48	18.2
y	3X	Asgrow RX112	94	95	2.7	2.5	47	19.2
y	2X	T.E. 6945	93	95	4.2	4.3	44	15.2
y	2X	Funk G-4525A	93	97	3.7	2.8	42	14.8
y	2X	RA 1504	91	97	5.5	3.2	47	14.0
L.S.D. (.05)			11.6	–	–	–	–	–
C.V. %			16.4	–	–	–	–	–
Avg.			101					

[1] Rating was based on a scale of 1 through 9 with 1 being excellent and 9 poor.
[2] Experimental.

Table 3. Corn: Yield and other characteristics of 40 medium-season hybrids evaluated at Crossville in 1980 [1] [2]

Color	Cross	Hybrid	Yield	Quality	Grain moisture at harvest
			Bu/A	Rating	%
y	2X	Pioneer brand 3320	115	2.0	21.5
y	M2X	DeKalb XL74A	104	6.0	23.6
y	2X	Asgrow RX909	103	5.0	21.6
y	2X	Pioneer brand 3147	102	4.0	28.6
y	2X	McCurdy 8150	102	2.5	24.3
y	2X	RA 1502	96	4.5	21.8
y	3X	Asgrow RX112	94	3.5	25.4
y	3X	DeKalb XL72BB	94	3.5	27.8
y	2X	Aztec SX644	94	4.5	21.6
y	2X	Pioneer brand 3184	94	3.5	26.3
y	2X	Princeton SX840	93	4.5	27.7
y	2X	O's Gold SX5509	93	6.0	26.0
y	2X	Zimmerman Z-22Y	93	4.0	21.0
y	2X	Paymaster UC8951	93	4.0	24.4
y	3X	Golden Harvest 2745	93	3.5	26.0
y	2X	McCurdy 7978	92	4.5	23.4
y	2X	O's Gold SX5353	90	3.5	21.4
y	2X	Aztec SX640	90	4.0	23.6
y	2X	RA 1504	89	4.5	21.2
y	2X	Pioneer brand 3369A	88	5.5	20.6
y	2X	P.A.G. SX373	87	5.5	26.6
y	2X	T.E. 6945	86	3.5	20.0
y	2X	Funk G-4525A	85	4.0	18.6
y	2X	DeKalb XL80	85	4.0	25.6
y	2X	Trojan TXS 115A	85	4.5	20.9
w	3X	DeKalb XL390B	84	4.0	29.4
y	2X	RA 1604	84	3.5	28.0
w	3X	T-R 2051W[3]	83	3.0	27.4
y	M2X	Funk G-4606	83	3.5	23.4
y	2X	DeKalb XL72B	81	4.5	23.4
y	3X	FFR 799C	81	4.5	22.2
y	2X	O's Gold SX5255	80	4.5	22.1
y	2X	Pioneer brand X7448	80	6.0	22.2
y	2X	DeKalb XL71	79	4.0	24.6
y	2X	Coker 19	79	5.0	21.4
y	2X	T.E. 6995	79	4.5	19.8
w	2X	Asgrow RX962W	78	4.5	28.6
y	2X	N. K. PX79	77	4.0	23.2
y	SP3X	Funk G-4657	77	5.5	24.9
w	3X	T-R 2020W[3]	68	4.0	33.5
L.S.D. (.05)			17.0	–	–
C.V. %			13.8	–	–
Avg.			88	–	–

[1] Hartsells loam (2% to 5% slopes. Irrigated when corn was about 24 inches high.
[2] Husk cover rating and ear height measurements were not taken because these characteristics were affected too much by the severe drought.
[3] Experimental

Table 4. Corn: Yields and other characteristics of medium-season hybrids evaluated at Martin in 1980 [1]

Hybrid	Yield	Erect plants	Ear height	Grain moisture at harvest
	Bu/A	%	in.	%
O's Gold SX5255	122	84	52	14.6
Pioneer brand 3147	118	67	54	17.1
DeKalb XL71	114	76	52	15.1
RA 1604	113	80	46	15.7
FFR 799C	113	89	51	14.3
Aztec SX644	112	80	48	15.0
T-E 6995	112	80	50	15.8
O's Gold SX5353	111	83	50	14.0
DeKalb XL74A	110	73	51	14.8
Asgrow RX962W	110	72	62	15.6
McCurdy 7978	110	87	50	14.4
Trojan TXS115A	110	84	46	14.6
Pioneer brand 3369A	109	63	52	17.1
McCurdy 8150	107	83	56	15.5
Coker 19	107	79	50	14.8
DeKalb XL72B	106	94	45	15.6
Asgrow RX909	106	88	46	15.4
Pioneer brand 3320	106	80	52	15.6
Paymaster UC8951	104	77	52	16.6
RA 1502	104	88	47	17.0
Golden Harvest 2745	103	78	55	16.0
Pioneer brand X7448	102	93	49	15.2
Funk G-4657	99	84	48	16.5
DeKalb XL72BB	98	85	54	15.0
T-R 2051W	98	82	54	14.9
Aztec SX640	98	68	50	15.2
T-R 2020W	97	61	54	16.0
O's Gold SX5509	96	88	47	15.1
Zimmerman Z-22Y	96	89	44	15.2
Pioneer brand 3184	96	93	49	15.4
RA 1504	92	79	47	14.9
P.A.G. SX373	91	91	50	14.7
DeKalb XL390B	90	53	62	16.2
DeKalb XL80	90	77	44	15.8
Funk G-4606	90	80	44	14.5
N.K. PX79	86	86	48	15.4
Asgrow RX112	84	68	52	15.4
Princeton SX840	83	94	46	15.6
T.E. 6945	83	78	42	15.7
Funk G-4525A	80	78	49	14.6
L.S.D. (.05)	N.S.	—	—	—
C.V. %	18.0	—	—	—

[1] Collins silt loam (0% to 2% slopes).

Table 5. Corn: Yield of 21 medium-season hybrids evaluated at four locations for 2 years (1979-80)

Color	Cross	Hybrid	Avg.	Greene-ville	Knox-ville	Spring-field	Spring Hill
					Bushels per acre		
y	2X	Pioneer brand 3147	131	129	143	164	87
w	2X	Asgrow RX962W	122	119	136	160	74
w	3X	DeKalb XL390B	120	119	130	161	70
y	2X	Pioneer brand 3184	118	125	125	136	85
y	3X	DeKalb XL72BB	117	121	131	141	74
y	2X	McCurdy 7978	114	115	123	135	82
y	2X	DeKalb XL80	112	121	123	130	74
y	2X	Pioneer brand 3369A	110	118	120	133	71
y	2X	O's Gold SX5509	110	121	117	136	66
y	2X	RA 1502	107	109	122	127	71
y	2X	Zimmerman Z-22Y	106	104	117	138	65
y	2X	O's Gold SX5353	105	113	117	128	64
y	2X	N.K. PX79	104	103	115	136	61
y	2X	T.E. 6995	103	104	114	134	62
y	2X	DeKalb XL72B	103	102	114	123	74
y	2X	Coker 19	103	105	110	133	64
y	SP3X	Funk G-4657	102	106	119	118	65
y	3X	FFR 799C	102	104	107	133	64
y	2X	T.E. 6945	101	100	110	121	74
y	M2X	Funk G-4606	100	104	110	131	53
y	2X	Princeton SX840	98	107	102	136	46

Table 6. Corn: Yields and other characteristics of 21 medium-season hybrids evaluated at four locations for 2 years (1979-80)

Color	Cross	Hybrid	Avg.	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	Pioneer brand 3147	131	89	4.1	4.2	56	22.5
w	2X	Asgrow RX962W	122	90	3.0	2.2	60	23.4
w	3X	DeKalb XL390B	120	91	4.4	2.6	60	22.1
y	2X	Pioneer brand 3184	118	98	2.8	4.1	49	21.6
y	3X	DeKalb XL72BB	117	98	4.2	4.2	53	22.0
y	2X	McCurdy 7978	114	98	3.0	2.8	56	20.6
y	2X	DeKalb XL80	112	94	2.6	2.6	48	21.6
y	2X	Pioneer brand 3369A	110	96	2.8	4.4	49	19.6
y	2X	O's Gold SX5509	110	93	4.1	3.3	51	22.1
y	2X	RA 1502	107	96	3.4	3.1	50	20.8
y	2X	Zimmerman Z-22Y	106	94	3.6	3.1	49	21.0
y	2X	O's Gold SX5353	105	94	4.2	3.5	50	19.0
y	2X	N.K. PX79	104	97	4.8	3.9	51	18.6
y	2X	T.E. 6995	103	94	4.2	4.0	51	18.7
y	2X	DeKalb XL72B	103	95	4.0	4.2	44	20.6
y	2X	Coker 19	103	93	4.4	3.6	48	18.9
y	SP3X	Funk G-4657	102	94	4.5	3.5	50	20.0
y	3X	FFR 799C	102	94	4.4	4.0	50	20.0
y	2X	T.E. 6945	101	95	4.2	4.6	47	18.8
y	M2X	Funk G-4606	100	94	4.4	4.4	50	19.6
y	2X	Princeton SX840	98	96	4.3	3.6	53	21.8

[1] Rating based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 7. Corn: Yields and other characteristics of medium-season hybrids evaluated for 3 years (1978-80)

Color	Cross	Hybrid	1978-80 Avg.	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	Pioneer brand 3147	139	92	4.2	4.3	56	21.9
y	3X	DeKalb XL72BB	125	98	3.8	4.1	54	20.8
y	2X	Pioneer brand 3184	124	98	2.9	4.1	50	20.9
y	2X	Pioneer brand 3369A	122	96	2.9	4.4	50	18.7
y	2X	DeKalb XL80	119	94	2.7	2.7	48	20.9
y	2X	RA 1502	116	97	3.2	3.3	50	20.4
y	2X	T.E. 6995	114	95	3.9	3.8	52	18.2
y	2X	N.K. PX79	114	97	4.4	3.9	52	18.0
y	2X	DeKalb XL72B	113	97	4.0	4.3	45	19.7
y	2X	Princeton SX840	110	97	4.2	3.7	53	21.1

[1] Rating was based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 8. Yields of 40 full-season hybrids evaluated at four locations in 1980

Color	Cross	Hybrid	Avg.[1]	Knox-[2] ville	Ames[3] Plantation	4 5 Jackson	Spring[6] Hill
				Bushels per acre			
y	M2X	Pioneer brand 3147	87	131	64	66	51
y	M2X	Pioneer brand 3160	86	136	46	80	33
y	M2X	USS 2315	81	116	61	61	20
y	M2X	Funk G-4740	78	127	44	65	46
w	M2X	RA 2602W	75	132	39	50	19
y	2X	McCurdy 8230	75	111	46	70	39
y	2X	McCurdy 67-14	74	127	27	65	27
w	2X	Zimmerman Z-11W	72	124	34	51	11
y	2X	Paymaster UC9792	72	108	44	64	31
y	2X	Coker 22	71	110	47	60	17
w	2X	Princeton SX910	71	116	31	60	12
w	2X	Zimmerman Z-52W	70	121	34	54	9
w	M2X	Funk G-4747-1	70	128	44	42	13
y	3X	DeKalb XL394	70	124	42	40	19
y	2X	USS 2020	70	120	31	60	25
w	3X	T-R 2010W[7]	69	122	35	52	26
y	M2X	Funk G-4848-2	69	118	45	43	19
w	SP2X	Princeton SP936	68	114	29	59	10
w	2X	P.A.G. SX70W	67	110	40	50	15
y	3X	Asgrow RX140A	67	109	31	59	7
y	3X	N.K. PX723	66	112	28	56	19
y	2X	Princeton SX870	66	106	34	60	17
y	3X	Golden Harvest H-2750A	66	113	24	61	12
y	2X	Golden Harvest H-2775A	66	109	25	63	9
w	3X	RA 3605W	65	117	20	50	5
y	3X	Pioneer brand 3145	65	109	39	48	31
y	2X	N.K. PX87	65	113	30	44	22
y	M2X	FFR 955C	65	120	28	44	9
y	M2X	Pioneer brand 3179	64	114	32	47	24
y	4X	T-7006[7]	64	108	33	44	12
y	2X	FFR 915C	64	113	26	58	22
w	3X	FFR 929C	64	116	33	42	12
w	2X	Golden Harvest H-2660W	63	115	29	45	13
y	M2X	Funk G-4787W	63	100	38	42	2
y	3X	N.K. PX707	63	95	38	55	14
y	3X	DeKalb XL82	62	103	34	46	17
y	3X	DeKalb Ex.9696	61	117	29	36	11
y	2X	T.E. 6995A	56	101	26	41	20
w	2X	Pioneer brand 519	54	102	26	35	13
y	2X	N.K. PX95	50	93	21	35	2
L.S.D. (.05)			12.8	16.9	14.3	17.8	14.2
C.V. %			23.3	10.6	29.1	27.2	54.9
Avg.			67.8	114.4	35.1	52.7	18.5

1 Spring Hill data not included in average due to high C.V. and low yields.
2 Sequatchie loam (2% to 5% slopes); Irrigated twice.
3 Memphis silt loam (2% to 5% slopes).
4 Memphis silt loam (0% to 2% slopes).
5 Jackson yields based on 5 replications but when average was calculated only four replications were used.
6 Maury silt loam (2% to 5% slopes).
7 An experimental.

Table 9. Yields and other characteristics of full-season hybrids evaluated at four locations in 1980

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	M2X	Pioneer brand 3147	87	97	4.5	2.5	54	24.2
y	M2X	Pioneer brand 3160	86	100	2.5	1.8	54	23.7
y	M2X	USS 2315	81	99	3.0	2.0	52	23.3
y	M2X	Funk G-4740	78	99	3.0	3.2	46	23.7
w	M2X	RA 2602W	75	97	3.0	1.8	58	25.2
y	2X	McCurdy 8230	75	96	2.5	2.5	55	26.6
y	2X	McCurdy 67-14	74	98	2.5	2.2	48	25.5
w	2X	Zimmerman Z-11W	72	97	3.0	2.0	60	25.5
y	2X	Paymaster UC9792	72	94	2.0	1.8	52	24.0
y	2X	Coker 22	71	96	4.0	3.0	48	23.2
w	2X	Princeton SX910	71	96	3.0	2.0	58	24.9
w	2X	Zimmerman Z-52W	70	98	3.0	3.0	56	25.7
w	M2X	Funk G-4747-1	70	97	3.0	2.2	56	25.5
y	3X	DeKalb XL394	70	98	3.5	2.8	58	23.8
y	2X	USS 2020	70	96	4.0	2.2	49	22.8
w	3X	T-R 2010W	69	97	2.5	1.8	54	23.7
y	M2X	Funk G-4848-2	69	99	3.0	2.2	46	24.5
w	SP2X	Princeton SP936	68	97	2.5	2.5	60	25.6
w	2X	P.A.G. SX70W	67	91	3.0	2.5	54	23.7
y	3X	Asgrow RX140A	67	98	2.5	1.8	56	25.8
y	3X	N.K. PX723	66	95	3.5	2.8	54	23.9
y	2X	Princeton SX870	66	96	4.5	2.0	47	23.6
y	3X	Golden Harvest H-2750A	66	96	3.5	2.2	51	23.4
y	2X	Golden Harvest H-2775A	66	96	2.5	2.0	48	24.5
w	3X	RA 3605W	65	96	4.0	2.8	60	25.0
y	3X	Pioneer brand 3145	65	98	3.0	2.2	52	25.0
y	2X	N.K. PX87	65	97	5.0	2.8	49	23.0
y	M2X	FFR 955C	65	96	3.0	2.2	52	24.9
y	M2X	Pioneer brand 3179	64	97	4.0	2.8	50	24.2
y	4X	T-7006	64	94	2.5	1.8	56	24.0
y	2X	FFR 915C	64	95	3.0	2.2	50	24.2
w	3X	FFR 929W	64	97	3.5	2.2	54	24.3
w	2X	Golden Harvest H-2660W	63	94	3.5	2.2	56	25.0
y	M2X	Funk G-4787W	63	98	4.5	2.5	52	24.9
y	3X	N.K. PX707	63	96	4.5	2.5	52	22.3
y	3X	DeKalb XL82	62	96	4.5	2.5	53	24.0
y	3X	DeKalb Ex.9696	61	97	4.0	2.2	56	27.8
y	2X	T.E. 6995A	56	98	5.0	3.2	48	19.4
w	2X	Pioneer brand 519	54	97	2.5	2.5	56	21.1
y	2X	N.K. PX95	50	98	5.5	2.5	56	24.8
L.S.D. (.05)			12.8	–	–	–	–	–
C.V. %			23.3	–	–	–	–	–

[1] Rating based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 10. Corn: Yield of full-season hybrids evaluated at four locations for 2 years (1979-80)

Color	Cross	Hybrid	Avg.	Knox-ville	Spring Hill	Ames Plantation	Jackson
					Bushels per acre		
y	M2X	Pioneer brand 3147	105	145	93	93	91
y	M2X	Funk G-4740	98	132	87	78	95
y	3X	DeKalb XL394	95	140	72	89	79
y	M2X	Pioneer brand 3179	93	134	77	76	84
y	2X	Paymaster UC9792	93	127	76	79	88
w	M2X	RA 2602W	93	145	70	74	82
w	2X	Princeton SX910	92	134	74	74	87
y	2X	McCurdy 67-14	91	144	67	66	86
y	3X	Pioneer brand 3145	90	128	75	76	84
w	2X	Zimmerman Z-11W	88	136	65	76	74
w	2X	Golden Harvest H-2660W	87	132	70	73	74
y	2X	Golden Harvest H-2775A	87	129	53	75	91
y	3X	N.K. PX723	87	125	67	71	85
y	2X	Coker 22	85	127	41	86	85
y	M2X	FFR 955C	85	134	60	69	78
y	2X	FFR 915C	84	126	55	68	85
w	3X	FFR 929W	83	131	59	68	76
y	3X	Asgrow RX140A	83	131	48	68	84
y	3X	Golden Harvest H-2750A	79	123	49	61	84
y	2X	T.E. 6995A	79	110	60	69	78
w	2X	P.A.G. SX70W	75	113	52	66	70
y	2X	N.K. PX95	73	115	40	63	75

Table 11. Corn: Yield and other characteristics of full-season hybrids evaluated at four locations for 2 years (1979-80)

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	M2X	Pioneer brand 3147	105	83	4.4	3.6	54	24.0
y	M2X	Funk G-4740	98	96	3.1	3.4	48	23.8
y	3X	DeKalb XL394	95	93	3.4	3.1	59	24.1
y	M2X	Pioneer brand 3179	93	84	3.5	3.0	53	23.4
y	2X	Paymaster UC9792	93	87	2.0	2.6	54	23.9
w	M2X	RA 2602W	93	80	2.9	2.4	57	22.7
w	2X	Princeton SX910	92	79	2.8	3.0	59	24.3
y	2X	McCurdy 67-14	91	92	2.6	2.6	50	24.0
y	3X	Pioneer brand 3145	90	96	2.9	2.7	54	24.8
w	2X	Zimmerman Z-11W	88	79	2.6	2.8	58	24.4
w	2X	Golden Harvest H-2660W	87	87	3.0	2.8	56	24.7
y	2X	Golden Harvest H-2775A	87	89	3.0	2.8	50	23.8
y	3X	N.K. PX723	87	91	3.8	3.0	55	23.0
y	2X	Coker 22	85	91	4.1	3.5	50	23.0
y	M2X	FFR 955C	85	91	2.8	2.6	53	24.0
y	2X	FFR 915C	84	91	2.9	2.7	52	23.4
w	3X	FFR 929W	83	89	3.2	3.0	56	24.0
y	3X	Asgrow RX140A	83	89	2.8	2.6	56	24.9
y	3X	Golden Harvest H-2750A	79	87	3.2	2.9	51	23.0
y	2X	T.E. 6995A	79	96	5.2	3.6	50	19.8
w	2X	P.A.G. SX70W	75	79	3.0	2.8	54	23.6
y	2X	N.K. PX95	73	88	5.4	3.0	57	24.4

[1] Rating based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 12. Corn: Yields of full-season hybrids evaluated at four locations for 3 years (1978-80)

Color	Cross	Hybrid	Avg.	Knox-ville	Spring Hill	Jack-son	Ames Plantation
					Bushels per acre		
y	M2X	Pioneer brand 3147	107	143	95	106	84
y	3X	DeKalb XL394	99	140	79	103	74
w	2X	Princeton SX910	95	138	78	88	75
y	M2X	Pioneer brand 3179	94	132	79	88	77
w	2X	Zimmerman Z-11W	94	144	76	86	68
w	M2X	RA 2602W	93	145	75	81	70
w	2X	Golden Harvest H-2660W	91	136	77	80	70
y	3X	Pioneer brand 3145	90	120	78	85	77
y	3X	N.K. PX723	89	120	74	83	79
y	2X	Paymaster UC9792	89	115	72	85	82
w	3X	FFR 929W	88	135	69	81	67
y	2X	Coker 22	88	118	58	100	77
y	2X	N.K. PX95	81	120	53	83	70
w	2X	P.A.G. SX70W	81	119	62	79	64

Table 13. Corn: Yield and other characteristics of full-season hybrids evaluated at four locations for 3 years (1978-80)

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	no.	Rating[1]	Rating[1]	in.	%
y	M2X	Pioneer brand 3147	107	86	4.2	3.6	54	22.3
y	3X	DeKalb XL394	99	91	3.2	3.1	60	22.8
w	2X	Princeton SX910	95	81	2.8	3.0	58	22.7
y	M2X	Pioneer brand 3179	94	81	3.5	3.0	55	21.7
w	2X	Zimmerman Z-11W	94	80	2.7	2.8	59	22.8
w	M2X	RA 2602W	93	82	2.9	2.4	59	21.6
w	2X	Golden Harvest H-2660W	91	86	3.0	2.8	57	22.9
y	3X	Pioneer brand 3145	90	94	2.9	2.7	55	22.9
y	3X	N.K. PX723	89	89	3.5	3.0	56	21.4
y	2X	Paymaster UC9792	89	88	2.2	2.6	53	21.9
w	3X	FFR 929W	88	88	3.2	3.0	56	22.3
y	2X	Coker 22	88	92	3.9	3.5	51	21.6
y	2X	N.K. PX95	81	80	4.9	3.0	58	22.5
w	2X	P.A.G. SX70W	81	78	3.1	2.8	54	22.2

[1] Rating was based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 14. Corn: Yield of 20 early maturing hybrids evaluated at three locations in 1980

Color	Cross	Hybrid	Avg.	Cross-ville[1]	Knox-ville[2]	Ames Plantation[3]
				Bushels per acre		
y	2X	McCurdy 7440	93	114	118	48
y	2X	O's Gold SX3344	92	94	125	57
y	2X	McCurdy 84aa	87	111	116	34
y	2X	P.A.G. SX333	85	99	110	46
y	2X	Zimmerman Z-24Y	84	95	112	45
y	2X	RA 1502	83	103	98	48
y	2X	DeKalb XL72AA	82	92	104	49
y	2X	Funk G-4507A	82	93	110	42
y	2X	USS 1010	80	92	107	42
y	2X	McCurdy 7570	79	93	105	40
y	2X	Trojan TXS 114	79	100	106	32
y	2X	DeKalb XL70	79	92	108	37
y	2X	FFR 744C	79	91	107	38
y	2X	O's Gold SX5500A	78	92	104	36
y	2X	DeKalb XL67	78	100	104	28
y	2X	DeKalb XL55A	78	95	110	28
y	2X	Golden Harvest H-2500	77	88	108	36
y	2X	FFR 788C	76	103	98	27
y	M2X	FFR 717C	75	86	97	41
y	2X	N.K. PX664	73	89	101	30

1 Hartsells loam (2% to 5% slopes).
2 Sequatchie loam (2% to 5% slopes).
3 Loring silt loam (2% to 5% slopes).

Table 15. Corn: Yield and other characteristics of early maturing hybrids evaluated in 1980

Color	Cross	Hybrid	Yield	Erect plants	Quality	Husk cover	Plant ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	McCurdy 7440	93	95	4.5	5.0	48	18.6
y	2X	O's Gold SX3344	92	96	4.5	4.0	46	17.1
y	2X	McCurdy 84aa	87	92	5.0	3.0	49	19.8
y	2X	P.A.G. SX333	85	94	5.5	3.5	46	16.9
y	2X	Zimmerman Z-24Y	84	94	4.0	3.5	45	19.4
y	2X	RA 1502	83	94	7.0	3.0	45	17.6
y	2X	DeKalb XL72AA	82	92	6.5	4.0	44	18.4
y	2X	Funk G-4507A	82	97	5.5	4.5	46	18.4
y	2X	USS 1010	80	96	5.0	4.5	45	18.0
y	2X	McCurdy 7570	79	96	5.0	4.0	48	17.2
y	2X	Trojan TXS 114	79	95	6.0	4.5	45	17.7
y	2X	DeKalb XL70	79	94	5.0	4.5	52	17.5
y	2X	FFR 744C	79	95	6.0	5.5	48	17.5
y	2X	O's Gold SX5500A	78	94	6.0	3.5	44	17.1
y	2X	DeKalb XL67	78	92	4.5	4.0	49	17.3
y	2X	DeKalb XL55A	78	91	3.0	6.5	43	16.5
y	2X	Golden Harvest H-2500	77	94	6.0	3.5	46	17.6
y	2X	FFR 788C	76	90	4.5	4.0	44	18.7
y	M2X	FFR 717C	75	96	4.5	3.0	46	17.0
y	2X	N.K. PX664	73	97	5.5	3.5	44	16.9

[1] Rating was based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 16. Corn: Yield and other characteristics of early maturing hybrids evaluated at Martin in 1980[1]

Hybrid	Yield	Erect plants	Plant height	Grain moisture at harvest
	Bu/A	%	in.	%
O's Gold SX3344	125	92	48	14.4
P A.G. SX333	122	75	51	14.4
DeKalb XL72AA	119	77	50	14.3
McCurdy 84aa	118	75	48	14.8
FFR 744C	118	86	48	14.4
O's Gold SX5500A	117	86	49	14.6
Zimmerman Z-24Y	116	93	48	15.7
McCurdy 7570	115	88	48	14.6
DeKalb XL70	113	75	50	14.4
Golden Harvest H-2500	113	81	48	14.7
Funk G-4507A	112	81	49	15.0
DeKalb XL67	112	62	46	14.7
McCurdy 7440	111	88	46	15.2
DeKalb XL55A	107	81	39	14.8
FFR 788C	105	64	48	14.6
USS 1010	104	78	46	14.4
Trojan TXS114	104	77	48	14.6
FFR 717C	99	87	48	14.2
RA 1501	99	89	45	14.4
N.K. PX 664	98	89	45	14.9
L.S.D (.10)	22.7	—	—	—
C.V. %	10.8	—	—	—

[1] Collins silt loam (0% to 2% slopes).

Table 17. Corn: Yields of early maturing corn hybrids evaluated for 2 years (1979-80)

Color	Cross	Hybrid	Avg.	Knox-ville	Cross-ville	Ames Plantation
				Bushels per acre		
y	2X	McCurdy 84aa	105	131	110	74
y	2X	O's Gold SX3344	105	139	92	82
y	2X	Zimmerman Z-24Y	104	134	100	76
y	2X	P.A.G. SX333	98	118	100	77
y	2X	O's Gold SX5500A	96	116	104	69
y	2X	McCurdy 7570	95	117	100	69
y	2X	Golden Harvest H-2500	93	119	95	64
y	2X	RA 1501	92	108	95	73
y	2X	DeKalb XL72AA	92	111	94	71
y	M2X	FFR 717C	91	120	88	66

Table 18. Corn: Yields and other characteristics of early maturing hybrids evaluated for 2 years (1979-80)

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	McCurdy 84aa	105	90	4.5	3.5	50	21.3
y	2X	O's Gold SX3344	105	93	4.2	4.3	48	18.8
y	2X	Zimmerman Z-24Y	104	92	3.6	3.8	47	20.6
y	2X	P.A.G. SX333	98	90	4.6	3.7	49	18.6
y	2X	O's Gold SX5500A	96	92	5.0	3.6	47	18.6
y	2X	McCurdy 7570	95	93	4.6	4.2	48	18.8
y	2X	Golden Harvest H-2500	93	93	5.0	4.2	49	19.5
y	2X	RA 1501	92	91	5.6	3.7	47	19.4
y	2X	DeKalb XL72AA	92	92	5.8	3.8	47	19.6
y	M2X	FFR 717C	91	94	4.0	3.6	49	18.4

[1] Rating based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 19. Corn: Yield of early maturing hybrids evaluated for 3 years (1978-80)

Color	Cross	Hybrid	Avg.	Knox-ville	Cross-ville	Ames Plantation
					Bushels per acre	
y	2X	McCurdy 84aa	113	128	126	86
y	2X	Zimmerman Z-24Y	111	130	118	86
y	2X	McCurdy 7570	107	119	118	84
y	2X	RA 1501	104	112	114	88
y	2X	Golden Harvest H-2500	102	114	112	81
y	2X	DeKalb XL72AA	102	110	111	85

Table 20. Corn: Yield and other characteristics of early maturing hybrids evaluated for 3 years (1978-80)

Color	Cross	Hybrid	Avg.	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[1]	Rating[1]	in.	%
y	2X	McCurdy 84aa	113	90	4.4	3.4	50	21.7
y	2X	Zimmerman Z-24Y	111	94	3.4	4.0	48	20.9
y	2X	McCurdy 7570	107	95	4.3	4.0	49	19.4
y	2X	RA 1501	104	93	5.4	4.1	48	19.9
y	2X	Golden Harvest H-2500	102	93	4.8	4.1	49	19.9
y	2X	DeKalb XL72AA	102	94	5.4	3.8	48	19.8

[1] Rating based on a scale of 1 through 9 with 1 being excellent and 9 poor.

Table 21. Corn: Yield and other characteristics of 24 extra hybrids evaluated at Knoxville in 1980[1]

Color	Cross	Hybrid	Yield	Erect plants	Grain quality	Husk cover	Ear ht.	Grain moisture at harvest
			Bu/A	%	Rating[2]	Rating[2]	in.	%
y	2X	Pioneer brand 3147	136	97	4.0	3.5	58	21.0
w	[3]	HT-7W	125	97	3.0	2.5	66	23.6
y	2X	Paymaster UC9451	125	100	2.0	3.5	44	21.0
y	2X	McCurdy 7787	124	100	4.5	3.5	44	23.0
y	–	Watson 572	124	100	3.5	3.5	57	20.2
y	2X	McCurdy 8225	122	95	2.0	2.5	59	23.4
y	2X	Beck's 88X	121	98	5.0	4.5	50	23.2
y	2X	Paymaster UC9532	119	96	3.0	3.0	52	20.4
y	2X	Beck's 7319X	118	100	4.0	2.5	55	20.6
y	2X	P.A.G. SX351	116	99	6.0	4.5	48	18.6
y	–	Watson 573	116	99	3.5	3.0	51	16.2
y	3X	McCurdy X890	116	96	3.0	2.5	60	21.4
y	–	Watson 574	113	96	3.0	2.5	52	22.8
w	3X	P.A.G. 644W	113	96	3.5	3.0	67	22.0
y	–	Watson 511	111	97	4.0	2.0	56	20.6
y	2X	Trojan T1230	111	96	3.5	2.5	51	22.4
y	2X	N.K. PX83	110	99	3.0	3.0	48	20.6
y	2X	Paymaster UC7951	110	99	4.0	3.5	55	20.0
y	3X	O's Gold TX311	109	92	5.5	3.0	53	19.1
y	M2X	Beck's 77X	108	99	3.0	4.0	44	19.4
y	2X	Paymaster UC8201	108	100	6.0	5.0	50	17.6
y	2X	Paymaster UC9902	106	100	5.0	2.0	62	23.2
y	2X	Beck's 58X	102	97	5.5	6.0	44	15.6
y	2X	USS 2010	101	99	6.0	3.0	52	21.8
L.S.D. (.05)			12.2	–	–	–	–	–
C.V. %			7.5	–	–	–	–	–
Avg.			115.2	–	–	–	–	–

[1] Sequatchie loam (2% to 5% slopes).
[2] Rating was based on a scale of 1 through 9 with 1 being excellent and 9 poor.
[3] Information not furnished.

Table 22. Corn: Percent crude protein in corn grain[1] of medium-season hybrids at two locations in 1980[2]

Hybrid	Avg.	Knox-ville	Milan
		% crude protein	
T-R 2020W[3]	11.2	11.1	11.3
DeKalb XL390B	11.2	11.6	10.8
T-R 2051W[3]	11.0	10.9	11.1
Funk G-4525A	11.0	10.4	11.7
Asgrow RX962W	10.6	11.2	10.1
Asgrow RX112A	10.6	10.6	10.6
DeKalb XL80	10.2	10.1	10.3
DeKalb XL71	10.2	9.9	10.4
O s Gold SX5255	10.2	10.4	10.0
T.E. 6945	10.0	10.3	9.6
O's Gold SX5509	9.6	10.0	9.3
P.A.G. SX373	9.6	9.9	9.3
RA 1604	9.6	9.7	9.6
N.K. PX79	9.5	10.0	9.0
Asgrow RX909	9.4	9.3	9.4
Pioneer brand X7448	9.4	9.2	9.7
DeKalb XL72B	9.4	9.5	9.3
Princeton SX840	9.2	9.3	9.1
Pioneer brand 3320	9.2	8.9	9.5
Funk G-4606	9.1	9.6	8.6
DeKalb XL72BB	9.0	9.3	8.8
McCurdy 8150	9.0	9.0	9.1
Aztec SX644	8.9	8.9	8.9
Pioneer brand 3147	8.9	9.0	8.8
Aztec SX640	8.7	8.6	8.8
RA 1502	8.7	8.7	8.7
RA 1504	8.6	8.3	9.0
McCurdy 7978	8.6	8.9	8.4
Paymaster UC8951	8.5	8.2	8.8
O's Gold SX5353	8.4	8.5	8.2
Zimmerman Z-22Y	8.4	8.2	8.7
Funk G-4657	8.4	8.7	8.2
Golden Harvest 2745	8.4	8.7	8.1
Trojan TXS 115A	8.4	8.6	8.2
Pioneer brand 3184	8.2	8.4	7.9
FFR 799C	8.2	8.6	7.9
Coker 19	8.0	8.0	8.0
Pioneer brand 3369A	8.0	8.2	7.8
DeKalb XL74A	7.9	7.8	8.0
T.E. 6995	7.8	7.5	8.1

[1] Grain samples were dried to 11 to 12% moisture.
[2] The correlation coefficients of percent grain protein between Knoxville and Milan was .86.
[3] Experimentals.

Table 23. Corn: Percent crude protein in corn grain of full-season hybrids at Knoxville in 1980[1]

Hybrid	Crude protein	Hybrid	Crude protein
	%		%
N.K. PX95	11.7	P.A.G. SX70W	9.9
Asgrow RX140A	11.2	T.E. 6995A	9.8
DeKalb Ex.9696	11.1	T7006	9.7
RA 2602W	10.9	Princeton SX870	9.7
Zimmerman Z-11W	10.8	FFR 915C	9.6
Golden Harvest H-2660W	10.8	FFR 955C	9.6
Pioneer brand 519	10.7	McCurdy 8230	9.6
Funk G-4787W	10.7	Golden Harvest H-2775A	9.5
Zimmerman Z-52W	10.6	Pioneer brand 3147	9.5
T-R 2010W	10.5	DeKalb XL82	9.4
Paymaster UC9792	10.5	N.K. PX87	9.3
Pioneer brand 3145	10.5	Pioneer brand 3160	9.2
Princeton SX910	10.5	N.K. PX723	9.1
Golden Harvest H-2750A	10.4	Coker 22	9.0
FFR 929W	10.1	Funk G-4740	9.0
Princeton SP936	10.1	N.K. PX707	9.0
USS 2020	10.1	USS 2315	8.7
RA 3605W	10.0	Pioneer brand 3179	8.6
McCurdy 67-14	10.0	DeKalb XL394	8.3
Funk G-4747-1	10.0	Funk G-4848-2	8.1

[1] Moisture of samples ranged from 11 to 12%.

Table 24. Corn: Percent crude protein in corn grain of early maturing hybrids at Knoxville in 1980[1]

Hybrid	Crude protein	Hybrid	Crude protein
	%		%
DeKalb XL55A	10.8	McCurdy 7570	8.3
N.K. PX664	10.4	Zimmerman Z-24Y	8.2
FFR 717C	9.7	DeKalb XL72AA	8.1
DeKalb XL67	9.3	Golden Harvest H-2500	7.9
RA 1502	8.9	O's Gold SX3344	7.6
FFR 788C	8.9	O's Gold SX5500A	7.4
McCurdy 84aa	8.8	P.A.G. SX333	7.4
USS 1010	8.7	Funk G-4507A	7.4
DeKalb XL70	8.7	FFR 744C	7.4
Trojan TXS 114	8.6	McCurdy 7440	7.1

[1] Moisture of grain ranged from 11 to 12%.

Table 25. Corn: Yield and mean virus reaction of selected hybrids grown in Humphreys County, under virus condition from 1977 through 1979

Hybrid	Yield	Erect plants	Diseased plants %	sev. index	Mean sev. Index
	Bu/A	%		virus	
FFR 707C	109	74	22.6	2.2	1.5
Pioneer brand 3147	108	70	41.4	3.3	2.0
Pioneer brand 3179	105	64	53.8	3.1	2.2
DeKalb XL394	100	73	26.7	2.4	1.6
DeKalb XL72B	98	73	23.1	2.7	1.5
Funk G-4848	97	80	41.3	3.3	2.1
Pioneer brand 3145	93	76	36.0	3.3	1.8
Tenn. 505	89	60	37.8	3.0	2.0
Tenn. 608	89	47	29.8	3.1	1.7
Princeton SX910	86	62	51.5	3.6	2.5
FFR 929W	85	66	46.4	4.0	2.4
RA 2602W	82	60	51.1	4.3	2.8
Golden Harvest H-2660W	81	64	54.5	3.8	2.7
RA 3602	75	52	56.0	4.3	3.1
RA 2601	63	56	74.0	4.9	4.1
Pioneer brand 3369A	58	44	77.8	5.1	4.5

Table 26. Virus Ratings of early maturing hybrids grown in Humphreys County, Tennessee in 1980

Hybrid	No. of plants	% virus	Virus severity	Virus index
Golden Harvest H-2500	45	97.8	4.9	4.7
RA 1501	44	86.4	5.4	4.9
Zimmerman Z-24Y	52	61.5	5.5	4.0
McCurdy 84AA	55	74.5	5.0	4.2
McCurdy 7570	42	76.2	4.9	4.2
DeKalb XL72AA	45	95.6	6.0	5.9
O's Gold SX5500A	56	96.4	4.8	4.7
O's Gold SX3344	48	62.5	3.5	2.9
FFR 717C	62	32.3	3.1	1.7
P.A.G. SX333	55	89.1	4.8	4.3
Funk G-4507A	45	82.2	4.8	4.4
FFR 744C	44	72.7	4.8	4.0
McCurdy 7440	44	61.4	4.5	3.3
DeKalb XL70	42	57.1	4.3	3.3
DeKalb XL67	48	83.3	4.8	4.4
DeKalb XL55A	55	69.1	4.6	3.9
N.K. PX664	39	84.6	5.5	4.9
FFR 788C	47	97.9	5.0	5.0
USS 1010	47	72.3	4.8	3.9
Trojan TXS114	43	90.7	4.6	4.3
Mean		77.1	4.8	4.1
C.V. %		18.6	14.1	19.9
L.S.D. (.05)		30.0	1.4	1.7

Table 27. Virus ratings of extra hybrids grown in Humphreys County, Tennessee in 1980

Hybrid	No. of plants	% virus	Virus severity	Virus index
McCurdy 7787	44	63.6	4.0	3.0
McCurdy 8225	36	52.8	3.3	2.5
McCurdy X890	42	64.3	3.5	2.7
O's Gold TX311	40	52.5	3.5	2.5
P.A.G. 644W	44	61.4	3.5	2.7
N.K. PX83	38	92.1	5.3	5.0
P.A.G. SX351	46	87.0	5.7	5.1
Beck's 88X	40	95.0	5.2	4.9
Beck's 7319X	34	88.2	5.1	4.6
Beck's 77X	38	89.5	4.2	4.0
Beck's 58X	49	95.9	4.8	4.7
Paymaster UC8201	41	82.9	4.9	4.3
Paymaster UC7951	45	77.8	5.3	4.4
Paymaster UC9451	43	69.8	4.9	3.7
Trojan T1230	42	81.0	5.0	4.2
Watson 511	45	42.2	4.1	2.3
Watson 572	44	36.4	5.0	2.5
Watson 573	46	26.1	3.0	1.6
Watson 574	48	43.8	3.2	2.1
Paymaster UC9902	40	97.5	3.3	3.2
Paymaster UC9532	44	52.3	4.4	2.9
HT-7W	40	45.0	3.8	2.2
USS 2010	40	82.5	5.2	4.5
Pioneer 3147	43	46.5	3.5	2.2
Mean		68.1	4.3	3.4
C.V. %		32.1	15.5	24.1
L.S.D. (.05)		45.2	1.4	1.7

Table 28. Virus rating of full season hybrids grown in Humphreys County, Tennessee in 1980

Hybrid	No. of plants	% virus	Virus severity	Virus index
McCurdy 67-14	52	53.8	4.1	3.2
Pioneer brand 3147	50	42.0	3.0	1.9
DeKalb XL394	47	38.3	3.0	1.8
Pioneer brand 3145	54	55.6	3.4	2.4
Princeton SX910	61	59.0	3.9	3.3
Golden Harvest H-2660W	57	61.4	4.0	2.9
Asgrow 140A	45	75.6	3.6	3.1
Zimmerman Z-11W	51	64.7	4.0	3.4
RA 2602W	49	61.2	4.5	3.1
FFR 929W	50	48.0	3.7	2.7
Pioneer brand 3179	57	56.1	3.2	2.2
N.K. PX95	45	57.8	3.8	2.7
Paymaster UC 9729	50	48.0	4.3	2.5
Coker 22	46	78.3	4.8	3.8
N.K. PX723	46	58.7	4.0	2.8
P.A.G. SX70W	36	86.1	5.3	4.8
Princeton SP936	42	64.3	4.1	3.2
Zimmerman X-52W	58	55.2	3.5	2.7
Funk G-4740	48	37.5	2.8	1.8
T.E. 6995A	44	47.7	3.6	2.8
Golden Harvest H-2775A	47	83.0	4.8	4.2
Golden Harvest H-2750A	43	90.7	5.2	4.8
FFR 915C	42	81.0	4.5	3.8
FFR 955C	40	47.5	3.3	2.2
N.K. PX707	38	89.5	5.3	4.9
Funk G-4787W	51	51.0	3.2	2.4
Funk G-4848-2	45	71.1	4.5	3.5
Funk G-4747-1	48	77.1	3.5	3.0
Princeton SX870	37	89.2	5.4	5.0
Pioneer brand 3160	47	51.1	3.8	2.4
Pioneer brand 519	50	78.0	3.1	2.7
RA 3605W	52	59.6	4.4	2.9
McCurdy 8230	49	67.3	3.9	2.9
DeKalb EX9696	46	82.6	4.7	4.0
USS 2020	42	69.0	5.7	4.2
USS 2315	48	52.1	3.6	2.3
N K. PX87	40	65.0	4.9	3.5
DeKalb XL82	46	78.3	5.1	4.4
Mean		62.6	4.1	3.1
C.V. %		26.8	19.6	27.3
L.S.D. (.05)		34.1	1.6	1.7

Table 29. Virus rating of medium season hybrids grown in Humphrey's County, Tennessee in 1980

Hybrid	No. of plants	% virus	Virus severity	Virus index
Pioneer brand 3369A	51	62.7	4.7	3.4
Pioneer brand 3147	70	35.7	3.2	1.9
DeKalb XL80	50	44.0	3.9	2.3
DeKalb XL72B	47	12.8	1.8	1.2
Pioneer brand 3184	48	58.3	4.1	2.6
Princeton SX840	45	82.2	4.0	3.4
N K. PX79	50	42.0	3.6	2.2
RA 1502	46	69.6	4.0	3.1
T.E. 6995	53	77.4	4.7	3.9
DeKalb XL72BB	51	29.4	3.1	1.6
Funk G-4606	58	96.6	5.9	5.7
Funk G-4657	49	83.7	4.1	3.6
O's Gold SX5509	45	66.7	4.8	3.5
O's Gold SX5353	45	55.6	3.2	2.3
Zimmerman Z-22Y	50	80.0	4.1	3.6
T.E. 6945	47	48.9	3.1	2.1
FFR 799C	50	84.0	5.4	5.0
McCurdy 7978	51	51.0	3.1	2.4
Asgrow RX962W	46	60.9	3.0	2.4
DeKalb XL390B	49	51.0	4.0	3.1
Coker 19	41	95.1	5.0	4.9
Golden Harvest 2745	55	49.1	3.0	2.2
DeKalb XL71	48	70.8	4.1	3.1
Funk G-4525A	58	36.2	2.2	1.8
Pioneer brand 3320	59	76.3	3.6	3.1
Pioneer brand X7448	62	30.6	3.2	1.8
McCurdy 8150	43	79.1	4.1	3.6
Asgrow RX112	39	71.8	4.0	3.2
DeKalb XL74A	55	65.5	4.0	2.9
P.A.G. SX373	44	88.6	4.7	4.3
RA 1504	46	95.7	5.0	4.9
RA 1604	44	84.1	4.7	4.1
Paymaster UC8951	46	82.6	4.2	3.7
O's Gold SX5255	49	63.3	3.9	2.9
Asgrow RX909	45	73.3	4.7	4.0
Trojan TXS115A	43	81.4	5.2	4.5
T-R:2020W	36	52.8	2.8	2.0
T-R:2051W	43	37.2	3.7	2.3
Aztec SX644	44	72.7	5.6	4.4
Mean		64.3	4.0	3.1
C.V. %		24.1	19.3	22.3
L.S.D. (.05)		31.3	1.5	1.4

WHEAT

Seventeen soft red winter wheat varieties were evaluated at eight locations in 1980. The leading varieties were Coker 747, Southern Belle, Roy, Rosen, McNair 1003, and Hart. Sullivan had a tendency to lodge at most locations.

A Tennessee seed source of Doublecrop was compared with an Arkansas seed source. There was little difference in yield of the two seed sources but the Arkansas seed source headed and matured 5 days sooner than the Tennessee seed source.

The leading varieties in grain yield for a 3-year period (1978-80) were Coker 747, Hart, McNair 1003, Pioneer brand S76, and Pioneer brand S78.

The hard red winter wheat varieties were evaluated in 1980 at Springfield. The leading hard red winter wheat variety was Larned.

The recommended soft red winter wheat varieties for 1980-81 are Abe, Arthur, Coker 747, Doublecrop, Hart, McNair 1003, Pioneer brand S78, and Pioneer brand S76.

Table 30. Wheat: Grain yield of soft red winter wheat varieties evaluated in 1980 at eight locations

Variety	Avg.	Greene-ville[1]	Knox-ville[2]	Cross-ville[3]	Spring-field[4]	Spring Hill[5]	Jack-son[6]	Milan[7]	Mar-tin[8]
					Bushels per acre				
Coker 747	56	42	60	56	58	51	50	64	71
Southern Belle	56	47	67	49	62	49	50	59	68
Roy	55	52	67	52	52	50	54	51	62
Rosen	54	45	59	47	49	51	48	62	74
McNair 1003	54	42	62	45	53	47	48	52	79
Hart	52	52	59	43	49	50	52	50	59
Pioneer brand S78	48	45	54	42	43	47	51	48	59
Pioneer brand S76	48	39	55	46	42	47	48	44	63
Arthur	47	43	47	38	47	43	48	50	57
Abe	46	34	49	40	42	48	47	52	59
Beau	46	37	48	35	44	42	51	48	59
Doublecrop (Tenn)	45	38	41	42	44	47	44	54	48
Sullivan	43	36	47	36	44	45	44	50	46
Doublecrop (Ark)	42	33	48	41	48	40	28	48	52
Delta Queen	–	37	48	49	48	45	37	–	57
T66-338	–	43	53	49	45	42	38	–	52
T67-309	–	34	50	42	45	43	42	–	53
L.S.D. (.05)	–	11.4	6.9	5.2	3.9	3.2	6.0	4.7	10.4
C.V. %	–	19.4	9.0	8.4	5.7	4.9	9.3	6.3	10.4
Avg.	–	41.2	53.7	44.2	47.9	46.2	45.8	52.3	59.9

1 Waynesboro loam (2% to 5% slopes).
2 Decatur silt loam (2% to 5% slopes).
3 Hartsells loam (2% to 5% slopes).
4 Dickson silt loam (2% to 5% slopes).
5 Maury silt loam (2% to 5% slopes).
6 Grenada silt loam (0% to 2% slopes).
7 Collins silt loam (2% to 5% slopes).
8 Grenada silt loam (2% to 5% slopes).

Table 31. Yield and other characteristics of soft red winter wheat varieties evaluated at eight locations in 1980

Variety	Yield	Date headed	Plant height	Date mature	Lodging	Test weight
	Bu/A		in.		%	lb./bu.
Coker 747	56	5-9	40	6-12	10	59
Southern Belle	56	5-5	37	6-9	1	60
Roy	55	5-9	41	6-13	1	56
Rosen	54	5-7	39	6-11	2	57
McNair 1003	54	5-8	41	6-12	1	56
Hart	52	5-9	42	6-12	4	57
Pioneer brand S78	48	5-13	37	6-14	5	58
Pioneer brand S76	48	5-11	40	6-12	3	59
Arthur	47	5-7	43	6-10	16	59
Abe	46	5-7	41	6-10	16	59
Beau	46	5-8	41	6-12	2	60
Doublecrop (Tenn)	45	5-9	43	6-12	30	59
Sullivan	43	5-6	42	6-10	33	59
Doublecrop (Ark)	42	5-4	43	6-7	11	59
Delta Queen	—	5-9	38	6-10	6	58
T66-338	—	5-11	49	6-14	23	59
T67-309	—	5-13	51	6-15	17	58

Table 32. Wheat: Yield of soft red winter wheat varieties evaluated for 3 years (1978-80)

Variety	3 yr avg.[1] 1978-80	Greene-ville	Knox-ville	Cross-ville	Spring-field	Spring Hill	Jack-son	Milan	Mar-tin
					Bushels per acre				
Coker 747	51	47	59	52	56	52	38	56	63
Hart	48	51	54	42	50	50	42	—	51
McNair 1003	47	40	56	37	55	50	44	53	65
Pioneer brand S76	46	45	54	40	47	51	42	—	—
Pioneer brand S78	46	45	54	38	47	50	38	—	—
Arthur	44	46	51	38	47	47	36	36	54
Doublecrop (Tenn)	43	44	47	39	46	49	34	53	46
Sullivan	43	39	48	39	47	47	36	53	43
Beau	42	43	45	38	45	46	38	50	50
Abe	42	41	47	36	45	51	35	53	52
Delta Queen	35	22	37	—	42	46	29	—	—

[1] Milan and Martin not included in average because all varieties were not evaluated at these two locations.

Table 33. Wheat: Yield and other characteristics of soft red winter wheat varieties evaluated 2 or 3 years[1]

Variety	Yield (1978-80)	Date headed	Plant height	Date mature	Test weight	Lodging
	Bu/A		in.		lb./bu.	%
Coker 747	51	5-8	38	6-12	58	12
Hart	48	5-8	42	6-12	57	7
McNair 1003	47	5-8	40	6-12	55	3
Pioneer brand S76	46	5-10	39	6-12	57	4
Pioneer brand S78	46	5-12	37	6-14	57	5
Arthur	44	5-6	42	6-10	58	15
Doublecrop (Tenn)	43	5-8	42	6-11	58	29
Sullivan	43	5-6	41	6-10	59	29
Beau	42	5-8	40	6-12	59	3
Abe	42	5-6	42	6-10	58	15
Delta Queen	35	5-8	38	6-10	56	17

[1] Yield is for 3 years and other characteristics are averages for 2 years.

Table 34. Yield and other characteristics of hard red winter wheat evaluated at Springfield in 1980[1]

Variety	Yield	Date headed	Plant height	Test weight
	Bu/A			lb./bu.
Larned	36	5-4	44	60
Rall	32	5-14	43	60
Sage	30	5-15	44	60
Parker 76	27	5-13	42	60
Triumph Imp.	–[2]	5-8	44	61
L.S.D. (.05)	4.2			
C.V. %	8.5			

[1] Dickson silt loam (2% to 5% slopes).
[2] No yield due to weighing error.

BARLEY

The leading varieties in yield were Volbar, Surry, and Henry. Maury did not perform as well in 1979 and 1980 as it had in previous years.

The recommended Barley varieties for 1980-81 are Volbar, Surry, Henry, and Maury.

Table 35. Barley: Grain yield of varieties evaluated at six locations in 1980

Variety	Avg.	Greene-ville[1]	Knox-ville[2]	Cross-ville[3]	Spring-field[4]	Spring Hill[5]	Jackson[6]
				Bushels per acre			
Volbar	75	72	81	66	76	60	93
Surry	64	80	62	54	66	51	74
Henry	62	68	68	66	56	47	67
Maury	59	69	66	58	56	45	60
Ames	–	–	73	–	–	–	–
Sharon	–	–	00[7]	–	–	–	–
L.S.D. (.05)	–	10.9	11.3	6.8	7.7	4.6	16.7
C.V. %	–	9.4	10.5	6.9	7.6	5.6	14.2
Avg.	–	72	70	61	63	51	74

1 Waynesboro loam (2% to 5% slopes).
2 Decatur silt loam (2% to 5% slopes).
3 Hartsells loam (2% to 5% slopes).
4 Dickson silt loam (2% to 5% slopes).
5 Maury silt loam (2% to 5% slopes).
6 Memphis silt loam (0% to 2% slopes).
7 Poor seed.

Table 36. Barley: Yield and other characteristics of barley varieties evaluated in 1980

Variety	Yield	Date headed	Plant height	Date mature	Test weight
	Bu/A		in.		lb./bu.
Volbar	75	4-30	44	6-2	45
Surry	64	4-27	36	5-25	44
Henry	62	4-29	38	5-24	44
Maury	59	5-2	38	5-28	42

Table 37. Barley: Grain yield of four varieties evaluated at six locations from 1978 through 1980

Variety	3 yr. avg. (1978-80)	Greene-ville	Knox-ville	Cross-ville	Spring-field	Spring Hill	Jackson
				Bushels per acre			
Volbar	59	39	73	53	64	60	63
Surry	52	47	57	48	61	49	50
Henry	52	38	60	54	58	50	50
Maury	51	35	68	52	60	46	43

FALL-SEEDED OATS

Only four oat varieties were evaluated in 1980. Coker 716 produced the highest yield with Brooks, Cumberland, and Coker 66-22 producing similar average yields.

The recommended fall-seeded oats for 1980-81 are Coker 716 and Cumberland.

Table 38. Oats: Yields of oat varieties evaluated at six locations in 1980

Variety	Avg.	Greene-[1] ville	Knox-[2] ville	Cross-[3] ville	Spring-[4] field	Spring[5] Hill	Jackson[6]
				Bushels per acre			
Coker 716	111	123	110	121	128	92	95
Brooks	106	129	88	109	125	90	94
Cumberland	104	141	95	111	113	82	84
Coker 66-22	102	128	101	113	109	81	78
L.S.D. (.05)	--	N.S.	12.0	N.S.	12.0	6.2	9.1
C.V. %	--	19.3	7.6	5.8	6.4	4.5	6.5
Avg.	--	136	99	113	119	86	88

1 Waynesboro loam (2% to 5% slopes).
2 Decatur silt loam (2% to 5% slopes).
3 Hartsells loam (2% to 5% slopes).
4 Dickson silt loam (2% to 5% slopes).
5 Maury silt loam (2% to 5% slopes).
6 Memphis silt loam (0% to 2% slopes).

Table 39. Oats: Yield and other characteristics of varieties evaluated at six locations in 1980

Variety	Yield	Date headed	Plant height	Date mature	Test weight	Lodging
	Bu/A		in.		lb./bu.	%
Coker 716	111	5-10	40	6-8	36	3
Brooks	106	5-11	40	6-9	34	36
Cumberland	104	5-16	42	6-13	35	3
Coker 66-22	102	5-9	42	6-10	36	12

Table 40. Oats: Yields of oat varieties evaluated at six locations in 1979 and 1980

Variety	Avg.	Greene-ville	Cross-ville	Knox-ville	Spring-field	Spring Hill	Jackson
				Bushels per acre			
Coker 716	93	82	66	118	123	89	81
Cumberland	86	87	65	103	110	79	70
Coker 66-22	85	83	71	100	111	76	67

SPRING OATS

Ten spring oat varieties were evaluated for grain and forage at Knoxville in 1980. Cumberland winter oats was included as a check.

Otee produced the highest grain and forage yield. All varieties lodged some with Jaycee and Haylander lodging the most. Marathon, Lodi, and Haylander were the tallest growing varieties with Clintford being the shortest.

Table 41. Spring Oats: Yield of grain, forage and other characteristics of varieties evaluated at Knoxville in 1980[1]

Variety	Yield		Date headed	Date mature	Plant height	Lodging	Test weight
	Bu/A[2]	T/A[3]			in.	%	lb./bu.
Otee	56	2.92	5-24	6-20	34	15	34.2
Noble	51	2.38	5-26	6-19	34	31	34.0
Dal	51	2.29	5-29	6-25	34	36	31.1
Haylander	49	2.64	5-30	6-27	39	60	28.4
Clintford	48	2.59	5-25	6-20	31	55	36.4
Cumberland[4]	46	2.01	6-1	6-24	32	41	28.9
Marathon	45	2.29	6-1	6-28	40	28	26.5
Jaycee	44	2.45	5-24	6-20	34	79	35.7
Holden	42	2.28	5-28	6-21	37	62	29.6
Lodi	39	2.05	6-1	6-28	40	25	27.2
L.S.D. (.05)	5.8	0.31	–	–	–	–	–
C.V. %	8.6	8.8	–	–	–	–	–

[1] Decatur silt loam (2% to 5% slopes).
[2] Grain yield
[3] Tons per acre of oven dry material. All varieties harvested in the boot stage.
[4] Winter oat included as a check.

RYE

The rye varieties were evaluated at Knoxville. Wintergrazer 70 produced the highest grain yield.

Table 42. Rye: Yield and other characteristics of varieties evaluated at Knoxville in 1980[1]

Variety	Yield	Date headed	Date mature	Plant height	Lodging	Test weight
	Bu/A			in.	%	lb./bu.
Wintergrazer 70	34	4-13	6-13	72	92	55
Vita-Graze	26	4-12	6-12	70	100	54
N.A.P.B. SR80	26	4-14	6-13	73	100	54
Hiwassee	21	4-17	6-15	75	81	52
L.S.D. (.05)	4.2	–	–	–	–	–
C.V. %	10.0	–	–	–	–	–

[1] Decatur silt loam (2% to 5% slopes).

GRAIN SORGHUM

The grain sorghum tests were conducted at Knoxville, Spring Hill, Martin, and Ames Plantation. At Martin a non-bird resistant variety test was conducted in addition to the regular bird resistant test. The yields from Ames Plantation were not reported due to the low yields and variability of yields within the test due to the severe dry weather during the growing season.

The non-bird resistant varieties at Martin had a higher average yield than the bird resistant varieties. The leading varieties in yield at Martin were Acco 1090, Acco DR-1073, and Coker 7675.

Acco BR493 produced the highest yield at Spring Hill and Penngrain BR and McNair 656BR yielded most at Knoxville.

Table 43. Grain Sorghum: Yield of bird resistant varieties evaluated at Martin in 1980[1]

Variety	Yield	Date headed	Head type	Plant ht.	Date mature
	Bu/A			in.	
Coker 7672BR	56	7-13	open	55	8-12
McNair 656-BR	55	7-11	open	52	8-12
Acco BR493	50	7-10	medium	47	8-12
Funk G-516BR	48	7-11	open	51	8-12
DeKalb BR-65	46	7-12	medium	48	8-12
Penngrain BR	45	7-12	open	50	8-12
Coker 7681BR	39	7-14	medium	57	8-12
L.S.D. (.05)	10.7	—	—	—	—
C.V. %	14.9	—	—	—	—

[1] Grenada and Calloway silt loam (0% to 2% slopes).

Table 44. Grain Sorghum: Yield and other characteristics of non-bird resistant varieties evaluated at Martin in 1980[1]

Variety	Yield	Date headed	Plant ht.	Date mature
	Bu/A		in.	
Acco 1090	83	7-6	52	8-16
Acco DR-1073	83	7-7	53	8-14
Coker 7675	82	7-7	54	8-20
Funk G-522DR	79	7-11	53	8-29
Acco R-1029-A	79	7-9	52	8-16
Wilstar 1330	77	7-12	58	8-18
T.E. Dinero	76	7-10	50	8-14
Coker 7737	76	7-11	57	8-24
Penngrain YE	74	7-10	47	8-10
McCurdy 51yg	71	7-6	47	8-14
Acco DR1085	69	7-7	53	8-14
DeKalb DK64	68	7-9	58	8-24
Wilstar 1425	67	7-9	52	8-23
GSA ML135	66	7-12	46	8-18
McCurdy 53yg	66	7-10	50	8-17
T.E. Y-44-R	66	7-3	53	8-10
Acco DG1195	66	7-12	54	8-20
RA 733bg	66	7-10	47	8-17
DeKalb DK61	64	7-13	54	8-24
Acco DR-1035	64	7-8	51	8-14
Funk G-611	64	7-13	50	8-12
T.E. V-101-R	64	7-9	48	8-14
Pioneer brand 8311	63	7-7	49	8-14
DeKalb DK-57	61	7-12	48	8-14
Wilstar 1225	60	7-11	47	8-20
RA 807	59	7-13	48	8-24
GSA 1444W	55	7-14	54	8-24
Pioneer brand 923	48	7-30	94	9-25
L.S.D. (.05)	14.0			
C.V. %	14.6			

[1] Grenada silt loam 2% to 5% slopes.

Table 45. Grain Sorghum: Yield and other characteristics of bird-resistant varieties evaluated at Spring Hill in 1980[1]

Variety	Yield	Plant height	Head exertion
	Bu/A	in.	in.
Acco BR493	115	42	2.4
Coker 7681BR	110	41	1.0
Coker 7672BR	109	40	1.8
McNair 656BR	109	39	1.1
Funk G-516BR	105	41	2.0
Penngrain BR	103	40	1.6
DeKalb BR65	102	43	4.6
L.S.D. (.05)	N.S.	—	—
C.V. %	6.3	—	—

[1] Maury silt loam (2% to 5% slopes).

Table 46. Grain Sorghum: Yield and other characteristics of bird-resistant varieties evaluated at Knoxville in 1980[1]

Variety	Yield	Plant height	Head type rating
	Bu/A	in.	(1-3)[2]
Penngrain BR	81	45	3
McNair 656BR	81	43	3
Funk G-516BR	76	45	3
Coker 7681BR	74	44	3
Coker 7672BR	72	43	3
DeKalb BR-65	66	43	1
Acco BR493	61	44	3
L.S.D. (.05)	10.0	—	—
C.V. %	9.2	—	—

[1] Sequatchie loam (2% to 5% slopes).
[2] 1 = tight and 3 open type head.

ALFALFA

Alfalfa results are from tests seeded in the fall of 1975, 1978, and spring of 1979.

At Jackson, using a 5-year average, Vangard, Apollo, Buffalo, Arc, and Gladiator were the five leading varieties in yield. At Spring Hill, the six top-producing varieties were Cimarron, Fame, Apollo, Weevlchek, Gladiator, and Pioneer brand 531.

At Springfield C/W 27 (an experimental) Saranac AR, Vangard, C/W 2 (an experimental), Olympic, and Apollo were the leading varieties in yield. At Knoxville the five highest producing varieties were Hi-phy, Fame, Cimarron, Olympic, and Pioneer brand 524.

An alfalfa yields are oven-dry yields expressed as tons per acre.

Table 47. Alfalfa: Yield of varieties seeded in fall of 1975 at Jackson[1]

Variety	Avg.	1980	1979	1978	1977	1976
			Tons per acre			
Vangard[2]	4.14	3.38	3.88	4.34	4.37	4.73
Apollo	4.13	3.58	4.02	4.37	4.27	4.43
Buffalo	4.07	3.65	4.07	4.42	4.58	3.62
Arc	4.06	3.25	4.11	4.09	4.34	4.50
Gladiator	4.05	3.23	3.91	4.49	4.64	3.96
Cody	4.04	3.66	3.92	4.34	4.71	3.58
Saranac AR	4.01	3.20	3.87	3.91	4.66	4.43
Weevlchek	4.00	3.38	3.89	4.42	4.55	3.78
Lancer	3.98	3.51	3.85	4.31	4.42	3.81
Team	3.96	2.87	3.63	4.38	4.72	4.22
Pioneer brand 521	3.96	3.58	3.78	4.28	4.21	3.97
Pioneer brand 520	3.91	3.05	3.84	4.33	4.71	3.60
Williamsburg	3.90	3.28	3.67	4.22	4.64	3.68
Apalachee	3.81	2.84	3.50	3.80	4.50	4.39
N.K. KO-612	3.77	3.65	3.74	4.12	4.20	3.12
N.K. 3-10	3.61	2.32	3.40	4.08	4.44	3.81
L.S.D. (.05)	–	0.50	0.36	N.S.	N.S.	0.46
C.V. %	–	10.8	6.6	9.0	7.9	8.2

1 Memphis silt loam (0% to 2% slopes).
2 Evaluated in previous years as Victor.

Table 49. Alfalfa: Yield of varieties seeded in the fall of 1978 at Springfield[1]

Variety	Avg.	1980	1979	Variety	Avg.	1980	1979
	Tons per acre				Tons per acre		
C/W 27[2]	4.94	4.31	5.56	Liberty	4.52	4.05	4.99
Saranac AR	4.94	4.48	5.40	Cimarron	4.50	3.87	5.12
Vangard	4.86	4.39	5.33	Gladiator	4.48	3.89	5.08
C/W 2[2]	4.80	4.49	5.12	Williamsburg	4.41	3.99	4.83
Olympic	4.74	4.25	5.24	Pioneer brand 520	4.41	3.96	4.86
Apollo	4.72	4.36	5.08	Weevlchek	4.40	4.00	4.80
Fame[3]	4.70	4.14	5.26	Tempo	4.36	3.81	4.90
Arc	4.60	4.16	5.04	Pioneer brand 531	4.28	3.82	4.74
C/W 9[2]	4.52	3.99	5.05	Buffalo	4.28	3.86	4.69
L.S.D. (.05)	—	.48	0.41		—	.48	0.41
C.V. %	—	8.3	5.6		—	8.3	5.6

[1] Dickson silt loam (2% to 5% slopes).
[2] Cal-West experimental.
[3] Tested in 1979 as Voris A77.

Table 48. Alfalfa: Yield of varieties seeded in the fall of 1978 at Spring Hill

Variety	Avg.	1980	1979	Variety	Avg.	1980	1979
	Tons per acre				Tons per acre		
Cimarron	4.65	4.12	5.18	Tempo	4.15	3.60	4.70
Fame	4.44	3.69	5.18	C/W 2[2]	4.08	3.30	4.86
Apollo	4.43	4.10	4.76	Arc	4.08	3.58	4.58
Weevlchek	4.42	4.08	4.75	Buffalo	4.07	3.59	4.55
Gladiator	4.30	3.84	4.77	Williamsburg	4.02	3.55	4.49
Pioneer brd. 531	4.29	3.52	5.06	Pioneer brand 520	3.97	3.37	4.57
Vangard	4.26	3.58	4.95	C/W 9[2]	3.97	3.38	4.56
Saranac AR	4.26	3.62	4.89	Liberty	3.92	3.59	4.24
Olympic	4.22	3.46	4.98	C/W 27[2]	3.81	3.18	4.44
L.S.D. (.05)	—	0.53	0.49		—	0.53	0.49
C.V. %	—	10.3	7.3		—	10.3	7.3

[1] Maury silt loam (2% to 5% slopes).
[2] Cal-West experimentals.

Table 50. Alfalfa: Yield of varieties seeded in the spring of 1979 at Knoxville[1]

Variety	Avg.	1980	1979	Variety	Avg.	1980	1979
	Tons per acre				Tons per acre		
Hi-phy	3.16	3.09	3.23	DeKalb 130	2.92	2.89	2.94
Fame	3.16	3.19	3.12	Arc	2.90	2.90	2.90
Cimarron	3.12	3.01	3.23	Classic	2.90	2.92	2.88
Olympic	3.13	3.09	3.17	Weevlchek	2.89	2.84	2.95
Pioneer brand 524	3.12	3.18	3.05	Williamsburg	2.88	2.80	2.95
Apollo	3.09	3.24	2.94	Pioneer brand 521	2.82	3.01	2.62
Tempo	3.08	2.93	3.22	Gladiator	2.81	2.80	2.82
Liberty	3.04	3.12	2.96	Buffalo	2.79	2.84	2.74
Vangard	3.02	3.00	3.04	Saranac AR	2.72	2.72	2.71
L.S.D. (.05)	–	N.S.	N.S.		–	N.S.	N.S.
C.V. %	–	8.2	9.2		–	8.2	9.2

[1] Etowah silt loam (2% to 5% slopes).

PERFORMANCE OF SUMMER ANNUALS
(Sorghum X Sudangrass Crosses, and Pearl Millets)

Twenty-one summer annual cultivars were evaluated in 1980 for forage production at Knoxville and Spring Hill. The plants were cut to a 6-inch stubble when they reached 30 to 36 inches in height.

The leading sorghum x sudangrass crosses using a 3-year average yield were Sweet Sioux IV, Sweet M, and Acco S-99.

The highest yielding varieties at Spring Hill in 1980 were DeKalb Sudax SX-17+, Sunrise, DeKalb Sudax ST-6+, and Acco S-99. The test at Spring Hill was harvested with a forage chopper and the test at Knoxville was harvested by hand. All yields are reported as tons of oven dry forage per acre.

Table 51. Yields of summer annual varieties and hybrids evaluated at Spring Hill in 1980

Variety		Variety	
	Sorghum x Sudangrass Crosses		
	Tons/acre		**Tons/acre**
DeKalb Sudax SX-17+	6.04	Sweet M	5.37
Sunrise	5.97	Mor Su II	5.31
DeKalb Sudax ST-6+	5.90	FFR 1025	5.26
S-99	5.86	Coker SS-110	5.12
FFR-66	5.80	FFR 74A	5.08
Summergrazer 3	5.80	Tastemaker	4.98
Sweet Sioux IV	5.67	RA 235F	4.80
Summergrazer	5.53	HS-33	4.15
T.E. Haygrazer	5.46		
	Pearl Millet		
Pearlex 24	4.11	Southgraze	3.92
Mill hy 99	3.94	N.A.P.B. 78-21-01	3.90
L.S.D. (.05)	0.53		0.53
C.V. %	7.3		7.3

Table 52. Yields of summer annual varieties and hybrids evaluated at Knoxville from 1978 through 1980

Company	Variety	1980	Avg. 1979-80	Avg. 1978-80
	Sorghum x Sudangrass Crosses		**Tons/acre**	**(oven dry forage)**
Acco	Sweet Sioux IV	5.72	4.36	4.41
McCurdy	Sweet M	5.44	4.30	4.36
Acco	S-99	5.10	4.23	4.31
N.A.P.B.	Mor Su II	5.26	4.12	4.30
Pennington	Summergrazer	5.11	4.12	4.25
Helena	Tastemaker	5.19	4.12	4.23
Co-op	FFR-66	4.87	3.92	3.91
N.A.P.B.	Sunrise	5.93	4.52	–
DeKalb	Sudax ST-6+	5.71	4.52	–
DeKalb	Sudax SX-17+	5.99	–	–
Coker	SS-1110	5.71	–	–
Co-op	FFR 1025	5.36	–	–
Pennington	Summergrazer #3	5.17	–	–
T.E.	Haygrazer	5.11	–	–
Co-op	FFR 74A	4.74	–	–
Ring Around	RA 235F	4.74	–	–
Acco	HS-33	3.86	–	–
	Pearl Millet			
R.A.	Mill-hy 99	3.64	3.33	3.02
N.A.P.B.	Pearlex 24	3.30	3.02	3.59
Pennington	Southgraze	3.58	–	–
N.A.P.B.	N.A.P.B. 78-21-01	3.53	–	–
	L.S.D. (.05)	0.76	–	–
	C.V. %	12.3	–	–

PERFORMANCE OF SOYBEAN VARIETIES

Soybean varieties were evaluated by maturity groups at several locations in 1980. Varieties in maturity groups IV or less were evaluated at Crossville, Springfield, Martin, and Milan. Varieties in maturity groups V were evaluated at seven locations and varieties of maturity groups VI and VII were evaluated at five locations.

Ten selected varieties were evaluated in Dyer County on four soil types. These tests were conducted on private farms in cooperation with the Dyer County Extension Service and the Milan Field Station. Two tests were conducted at Jackson which contained experimental and commercial strains with Bedford, Forrest, and Centennial included as checks in the appropriate maturity groups.

The varieties in maturity group V with the highest average yield in 1980 were Essex, Peterson X1086-19, Asgrow A5618, Bay, Peterson X1190-19, RA 604, and FFR 559. The test at Greeneville was the only test irrigated. Tabby 10, an early maturing variety, was included at this location due to local interest.

The yields at Ames Plantation were extremely low due to the dry growing conditions. These data were not included in the average due to the high C.V. for the test.

The maturity of soybean varieties were variable in 1980 due to the dry weather during the growing season. Some varieties, especially varieties in the early maturing groups, produced re-growth when moisture was available late in the season.

The leading varieties in yield of maturity groups VI and VII were Deltapine 506, FFR 668, UR 8026, RA 603, and Centennial. Asgrow XP5934 was included at three locations but should have been evaluated with the varieties of V maturities.

The early maturing varieties produced good yields at Springfield and only fair yields at the other locations. Desoto and Delta produced the highest average yields. At Crossville Mitchell 450 and FFR 446 produced re-growth and did not mature as they normally would.

The leading varieties in average yield in Dyer County were Pickett 71, Centennial, and Forrest. The lowest producing variety was J-74-51 (on experimental).

The yields of the strains evaluated at Jackson were low due to dry weather during the growing season. The C.V. for the maturity group V test was very high.

Any variety on the recommended list in maturity groups VI and VII is not recommended for the Cumberland Plateau. Bedford (Maturity group V) has performed poorly at Crossville and probably should not be grown on the Cumberland Plateau.

Early-maturing varieties (III & IV) yield well in Tennessee; however, if varieties of these maturity groups (III & IV) are to be grown, they should be grown on a small acreage because if they are not harvested when they first become mature, they may shatter or deteriorate in the pod if rainy weather persists for any length of time after maturity. Also, if the very early varieties are planted late (July 15), in many cases they will not produce as much plant growth before flowering as some later-maturing varieties, such as Forrest, Essex, York, etc.

Table 53. Soybeans: Yields of varieties (maturity group V) evaluated at seven locations in 1980

Variety	Avg.[1]	Knox-[2] ville	Greene-[3] ville	Spring[4] Hill	Spring-[5] field	Milan[6]	Martin[7]	Ames[8] Plantation
				Bushels per acre				
Essex	38	43	63	27	38	41	18	5
Peterson X1086-19	37	45	59	24	40	34	23	6
Asgrow A5618	37	46	56	26	38	36	20	6
Bay	36	42	56	25	34	34	25	6
Peterson X1190-19	36	40	55	21	39	34	26	8
RA 604	36	42	54	23	37	32	27	13
FFR 559	35	42	57	22	36	33	19	6
Forrest	34	42	48	22	35	35	25	9
Terra-Vig 505	34	43	60	22	36	26	19	6
N.A.P.B. 505	34	42	57	20	32	28	23	6
Deltapine 345	34	40	50	21	39	29	24	9
Bedford	33	38	52	24	30	32	22	10
RA 481	33	40	61	23	36	20	17	5
FFR 556	33	39	50	23	34	30	20	8
J-74-51	32	33	52	22	42	30	16	9
FFR 557	32	39	55	19	32	30	19	10
VR 8027	32	35	53	20	36	29	21	8
McNair 500	32	39	53	20	36	26	20	7
RA 480	32	37	55	21	34	28	17	8
Wilstar 550	31	41	50	20	32	25	17	7
Asgrow XP5474	–	41	60	24	33	–	22	–
Tabby 10	–	–	45	–	–	–	–	–
L.S.D. (.05)	–	5.3	9.3	4.0	4.9	8.2	5.8	3.4
C.V. %	–	9.3	12.0	12.7	9.8	18.7	19.5	31.6

[1] Ames Plantation yields not included in state average due to high C.V.
[2] Sequatchie loam (2% to 5% slopes).
[3] Cumberland silt loam (2% to 5% slopes).
[4] Maury silt loam (2% to 5% slopes).
[5] Sango silt loam (2% to 5% slopes).
[6] Collins silt loam (2% to 5% slopes).
[7] Falaya-Henry silt loam (0% to 2% slopes).
[8] Loring silt loam (2% to 5% slopes).

Table 54. Soybeans: Maturity dates of soybean varieties (maturity group V) evaluated at four locations in 1980

Variety	Avg.	Knoxville	Spring Hill	Martin	Milan
			Date mature		
Essex	9-30	9-28	10-2	10-5	9-24
RA 481	10-1	9-30	10-2	10-6	9-26
RA 480	10-2	9-30	10-2	10-10	9-26
J-74-51	10-3	9-30	10-2	10-11	9-30
VR 8027	10-4	10-2	10-7	10-6	9-30
Peterson X1086-19	10-5	10-2	10-7	10-17	9-24
Peterson X1190-19	10-5	10-2	10-7	10-12	9-30
Bay	10-5	10-7	10-10	10-8	9-24
Forrest	10-6	10-2	10-10	10-14	9-30
Asgrow A5418	10-6	10-6	10-7	10-13	9-30
FFR 559	10-6	10-5	10-2	–	9-30
N.A.P.B. 505	10-7	10-3	10-7	10-16	10-3
Bedford	10-9	10-6	10-10	10-16	10-3
Deltapine 345	10-9	10-7	10-10	10-16	10-3
McNair 500	10-11	10-9	10-10	10-22	10-3
Terra-Vig 505	10-11	10-10	10-10	10-18	10-6
Wilstar 550	10-12	10-11	10-10	10-22	10-3
FFR 556	10-16	10-17	10-17	10-25	10-7
RA 604	10-17	10-16	10-15	10-26	10-12

Table 55. Soybean: Yield and other characteristics of Maturity Group V evaluated at Knoxville in 1980

Variety	Yield	Date mature	Plant height
	Bu/A		in.
Asgrow A5618	46	10-6	34
Peterson X1086-9	45	10-2	32
Terra-Vig 505	43	10-12	37
Essex	43	9-28	28
N.A.P.B. 505	42	10-4	35
Bay	42	10-7	34
FFR 559	42	10-4	32
Forrest	42	10-1	35
RA 604	42	10-16	39
Asgrow XP5474	41	9-30	33
Wilstar 550	41	10-10	34
RA 481	40	9-30	42
Peterson X1190-19	40	10-2	34
Deltapine 345	40	10-8	36
FFR 557	39	10-16	36
FFR 556	39	10-17	45
McNair 500	39	10-9	30
Bedford	38	10-6	42
RA 480	37	10-1	41
VR 8029	35	10-4	32
J-74-51	35	9-30	42
L.S.D. (.05)	5.3	–	–
C.V. %	9.3	–	–

Table 56. Soybeans: Yield and other characteristics of varieties (maturity group V) evaluated at Martin in 1980[1]

Variety	Yield	Date 1st flower	Flower[2] color	Pubescence[3] color	Date mature	Lodging	Plant height
	Bu/A					%	in.
RA 604	27	7-27	P	T	10-26	2	40
Peterson X1190-19	26	7-17	P	T	10-12	0	37
Bay	25	7-16	P	G	10-8	0	37
Forrest	25	7-15	W	T	10-14	0	39
Deltapine 345	24	7-24	P	T	10-16	2	35
N.A.P.B. 505	23	7-21	P	T	10-16	5	37
Peterson X1086-19	23	7-13	W	T	10-17	0	33
Bedford	22	7-27	W	T	10-16	0	44
Asgrow XP5474	22	7-17	W	T	10-12	5	37
VR 8027	21	7-21	P	T	10-6	2	38
FFR 556	20	7-22	P	G	10-25	0	36
McNair 500	20	7-29	P	T	10-22	0	32
Asgrow A5618	20	7-20	P	G	10-13	5	40
Terra-Vig 505	19	7-23	P	T	10-18	0	34
FFR 557	19	7-30	W	T	10-25	5	42
FFR 559	19	7-21	W	G	10-27	5	42
Essex	18	7-12	P	G	10-5	0	24
RA 481	17	7-12	W&P	G	10-6	2	41
Wilstar 550	17	7-28	P	T	10-22	0	33
RA 480	17	7-10	P	T	10-10	0	41
J-74-51	16	7-23	W	T	10-11	5	47
L.S.D. (.05)	5.8	–	–	–	–	–	–
C.V. %	19.5	–	–	–	–	–	–

1 Falaya - Henry silt loam (0% to 2% slopes).
2 W = white and P = purple.
3 G = gray and T = tawny.

Table 57. Soybeans: Yield and other characteristics of varieties evaluated at Milan in 1980[1]

Variety	Yield	Date 1st flower	Flower[2] color	Date last flower	Pubescence[3] color	Date mature	Plant ht.	Shattering[4]	Lodging
	Bu/A						in.	0-5 Rating	
Essex	41	7-9	P	8-14	G	9-24	24	2	0
Asgrow A5618	36	7-14	P	8-18	G	9-30	44	3	0
Forrest	35	7-14	W	8-18	T	9-30	40	1	10
Asgrow SX5934	34	7-11	P	8-16	T	9-30	46	1	10
Peterson X1190-19	34	7-11	P	8-16	T	9-30	32	1	0
Bay	34	7-11	P	8-16	G	9-24	32	2	0
Peterson X1086-19	34	7-11	W	8-14	T	9-24	24	1	0
FFR 559	33	7-14	W	8-21	G	9-30	34	1	0
Bedford	32	7-20	W	8-21	T	10-3	54	1	20
RA 604	32	7-16	P&W	8-18	T	10-12	52	0	0
FFR 556	30	7-14	P	8-18	G	10-7	62	0	10
FFR 557	30	7-20	P	8-21	T	10-6	46	0	0
J-74-51	30	7-16	W	8-16	T	9-30	52	1	10
VR 8027	29	7-11	P	8-16	T	9-30	30	1	0
Deltapine 345	29	7-20	P&W	8-24	T	10-3	52	1	0
N.A.P.B. 505	28	7-15	P	8-18	T	10-3	42	0	0
RA 480	28	7-11	P	8-14	T	9-26	50	0	0
McNair 500	26	7-16	P	8-18	T	10-3	36	0	20
Terra-Vig 505	26	7-20	P&W	8-24	T	10-6	44	0	0
Wilstar 550	25	7-20	P&W	8-24	T	10-3	39	1	0
RA 481	20	7-11	P&W	8-18	G	9-26	42	4	60
L.S.D. (.05)	8.2								
C.V. %	18.7								
Avg.	30.8								

[1] Planted May 9 on a Collins silt loam.
[2] W = white and P = purple.
[3] G = gray and T = tawny.
[4] Rating based on a scale of 0 through 5 with 0 = no lodging 5 = severe lodging.

Table 58. Soybeans: Yields and other characteristics of varieties (maturity group V) evaluated at Crossville in 1980[1]

Variety	Yield	Date 1st flower	Date last flower	Flower[2] color	Date mature	Plant height	Lodging
	Bu/A					in.	%
Forrest	32	7-23	8-8	W	10-6	33	5
Bay	31	7-24	8-12	P	10-6	36	2.5
RA 480	31	7-23	8-14	P	10-2	32	0
FFR 559	30	7-24	8-14	W	10-2	32	20
Asgrow XP5474	29	7-24	8-8	W	10-6	32	0
Essex	27	7-23	8-8	P	10-6	27	0
J-74-51	26	7-24	8-7	W	10-2	37	30
FFR 557	25	7-28	8-14	W	10-6	32	0
Bedford	24	7-28	7-14	W	10-6	36	10
RA 481	22	7-23	8-11	W&P	10-6	33	0
L.S.D. (.05)	5.4	–	–	–	–	–	–
C.V. %	16.3	–	–	–	–	–	–

1 Hartsells loam (2% to 5% slopes).
2 W = white and P = purple.

Table 59. Soybeans: Yield of varieties evaluated for 3 years (1978-80)

Variety	Avg.	Greene-ville	Knox-ville	Spring Hill	Spring-field	Martin	Milan	Ames Plantation
					Bushels per acre			
Essex	37	57	41	29	40	25	48	18
Bay	37	54	–	39	35	30	41	22
Bedford	35	48	36	31	34	30	44	25
Forrest	35	51	38	28	34	29	42	22
McNair 500	33	49	35	25	35	26	38	20
FFR 557	33	56	37	23	35	30	36	20

Table 60. Soybeans: Yield of varieties (maturity group VI and VII) evaluated at five locations in 1980

Variety	Avg.	Knox-ville[1]	Spring Hill[2]	Martin[3]	Milan[4]	Ames Plantation[5]
			Bushels per acre			
Deltapine 506	27	38	21	31	26	18
FFR 668	27	42	21	30	24	16
VR 8026	26	41	23	25	23	20
RA 603	26	41	23	29	26	13
Centennial	26	41	17	27	27	17
Terra-Vig 606	25	42	21	27	22	12
VR 8025	22	36	22	28	13	14
Pickett 71	25	32	23	28	27	14
Brysoy-9	—	35	23	30	—	—
Asgrow XP 5934[6]	—	34	25	23	—	—
L.S.D. (.05)	—	6.1	3.7	2.9	3.3	4.7
C.V. %	—	11.4	11.7	7.1	9.6	20.5

[1] Sequatchie loam (2% to 5% slopes).
[2] Maury silt loam (2% to 5% slopes).
[3] Falaya silt loam (0% to 2% slopes).
[4] Collins silt loam (2% to 5% slopes).
[5] Loring silt loam (2% to 5% slopes).
[6] Should have been included in Maturity Group V test.

Table 61. Soybean: Maturity date of soybean varieties (maturity group VI and VII) at three locations in 1980

Variety	Avg.	Knoxville	Spring Hill	Martin
Asgrow XP5934[1]	10-10	9-29	10-9	10-24
Pickett 71	10-24	10-24	10-19	10-30
Terra-Vig 606	10-25	10-24	10-24	10-27
VR 8025	10-25	10-23	10-24	10-28
Centennial	10-26	10-22	10-28	10-27
Deltapine 506	10-26	10-24	10-23	10-30
VR 8026	10-26	10-22	10-27	10-28
Brysoy-9	10-26	10-25	10-24	10-30
RA 603	10-27	10-25	10-27	10-30
FFR 668	10-29	10-28	10-29	10-30

[1] Should have been included in group V maturity.

Table 62. Soybeans: Yield and other characteristics of varieties (maturity groups VI and VII) evaluated at Martin in 1980[1]

Variety	Yield	Date 1st flower	Flower[2] color	Pubes-[3] cense color	Date mature	Lodging	Plant height
	Bu/A					%	in.
Deltapine 506	31	8-2	W	T	10-30	40	51
Brysoy-9	30	7-28	P	T	10-30	90	45
FFR 668	30	8-5	P	G	10-30	10	45
RA 603	29	7-18	W	T	10-30	10	56
Pickett 71	28	8-3	P	G	10-30	30	41
VR 8025	28	7-29	P	T	10-28	35	54
Centennial	27	7-28	P	T	10-27	20	48
Terra-Vig 606	27	8-2	W	G	10-27	35	47
VR 8026	25	7-31	P	T	10-28	35	56
Asgrow XP5934	23	7-19	P	T	10-24	60	48
L.S.D. (.05)	2.9	—	—	—	—	—	—
C.V. %	7.1	—	—	—	—	—	—

1 Seeded May 20 on a Falaya silt loam (0% to 2% slopes).
2 W = white and P = purple.
3 G = gray and T = tawny.

Table 63. Soybeans: Yields and other characteristics of varieties (maturity groups VI and VII) evaluated at Milan in 1980[1]

Variety	Yield	Date 1st flower	Flower color	Date[2] last flower	Pubes-[3] cence color	Date mature	Plant height	Lodging
	Bu/A						in.	%
Pickett 71	27	7-19	P	8-24	G	10-2	29	10
Centennial	27	7-22	W	8-26	T	10-6	36	20
RA 603	26	7-20	P&W	8-26	T	10-6	45	10
Deltapine 506	26	7-19	P	8-24	T	10-2	44	10
FFR-668	24	7-20	P	8-24	G	10-6	38	5
VR 8026	23	7-20	P&W	8-24	T	10-2	48	15
Terra-Vig 606	22	7-19	P&W	8-24	G	10-6	38	10
VR 8025	13	7-20	P&W	8-24	T	10-2	46	10
L.S.D. (.05)	3.3	—	—	—	—	—	—	—
C.V. %	9.6	—	—	—	—	—	—	—

1 Seeded May 7 on a Collins silt loam (2% to 5% slopes).
2 W = white and P = purple.
3 G = gray and T = tawny.

Table 64. Soybeans: Yields of early-maturing soybean varieties evaluated at four locations in 1980

Variety	Avg.	Cross-ville[1]	Springfield[2]	Martin[3]	Milan[4]
			Bushels per acre		
Desoto	36	31	55	24	32
Delta	34	27	48	26	34
Williams	33	27	49	26	29
Mitchell	32	29	50	22	28
Wilstar 430	32	29	48	23	26
Mitchell 450	31	30	49	24	22
FFR 446	31	29	44	19	30
FFR 335	30	24	48	22	28
L.S.D. (.05)	—	3.3	N.S.	N.S.	4.9
C.V. %	—	8.0	13.4	20.5	11.8
Avg.	—	28.3	48.9	23.3	28.6

1 Hartsells loam (2% to 5% slopes).
2 Huntington silt loam, local allevium (2% to 5% slopes).
3 Falaya silt loam (0% to 2% slopes).
4 Falaya silt loam (2% to 5% slopes).

Table 65. Soybeans: Yield and other characteristics of early maturing varieties evaluated at Martin in 1980

Variety	Yield	Date 1st flower	Flower[3] color	Date mature	Lodging	Plant height
	Bu/A				%	in.
Delta	26	6-18	P	9-15	0	54
Williams	26	6-18	W	9-12	2	45
Desoto	24	6-18	P	9-7	0	42
Mitchell 450	24	6-24	P	9-29	10	54
Wilstar 430	23	6-22	P	9-27	5	50
Mitchell	22	6-20	P	9-15	0	40
FFR 335	22	6-18	W	9-11	0	42
FFR 446	19	6-26	P	9-16	0	48
L.S.D. (.05)	N.S.	—	—	—	—	—
C.V. %	20.5	—	—	—	—	—

1 Seeded May 13 on a Falaya silt loam (0% to 2% slopes).
2 W = white and P = purple.

Table 66. Soybeans: Yield and other characteristics of early-maturing varieties evaluated at Milan in 1980[1]

Variety	Yield	Date 1st flower	Date last flower	Flower[2] color	Pubescence[3] color	Date mature	Plant ht.	Shattering[4]
	Bu/A						in.	(1-5)
Delta	34	6-20	7-28	P	G	8-24	43	3
Desoto	32	6-18	7-24	P	G	8-24	39	2
FFR 446	30	6-20	7-28	P	G	8-30	46	2
Williams	29	6-18	7-24	W	T	8-24	38	3
Mitchell	28	6-20	7-24	P	T	8-30	41	1
FFR 335	28	6-18	7-24	W	T	8-24	34	4
Wilstar 430	26	6-20	7-24	P	T	9-5	46	1
Mitchell 450	22	6-20	7-26	P	T	9-8	48	1
L.S.D. (.05)	4.9	—	—	—	—	—	—	—
C.V. %	11.8	—	—	—	—	—	—	—
Avg.	28.6	—	—	—	—	—	—	—

1 Falaya silt loam (2% to 5% slopes).
2 P = purple and W = white.
3 G = gray and T = tawny.
4 Rating of 1 to 5 with 1 slight and 5 severe.

Table 67. Soybeans: Yield and other characteristics of early maturing varieties evaluated at Crossville in 1980[1]

Variety	Yield	Date 1st flower	Date last flower	Flower color	Date mature	Plant height	Shattering rating
	Bu/A					in.	(0-5)
Desoto	31	7-7	7-30	P	9-10	24	2
Mitchell 450	30	7-8	8-6	P	10-6	27	0
Wilstar 430	29	7-8	7-31	W	9-17	28	0.2
Mitchell	29	7-6	8-1	P	9-17	26	2
FFR 446	29	7-8	8-1	P	10-6	32	2
Williams	27	7-7	7-30	W	9-8	22	1.2
Delta	27	7-7	8-1	P	9-17	28	2
FFR 335	24	7-7	7-30	W	9-10	26	2.2
L.S.D. (.05)	3.3	—	—	—	—	—	—
C.V. %	8.0	—	—	—	—	—	—

1 Hartsells loam (2% to 5% slopes).

Table 68. Soybeans: Yield of varieties evaluated on four soil types in Dyer County in 1980[1]

Variety	Avg.	Sharky clay	Bosket silt loam	Alligator clay	Robinson-ville loam
			Bushels per acre		
Pickett 71	36	46	17	36	43
Centennial	34	43	16	38	39
Forrest	33	46	8	30	48
York	30	44	9	32	34
Bay	30	46	9	31	33
Bedford	30	42	11	33	33
Asgrow 5474	30	37	8	31	46
Dare	30	45	10	31	34
Essex	26	37	7	25	34
J-74-51	25	33	6	22	34
L.S.D. (.05)	–	7.6	5.1	5.2	N.S.
C.V. %	–	12.5	34.6	11.5	29.3

[1] Tests conducted on private farm in cooperation with the Extension Service and the Milan Field Station.

Table 69. Soybeans: Yield and other characteristics of maturity group five strains evaluated at Jackson in 1980[1]

Variety	Yield	Plant height	Date mature	Shattering score	Seed quality score	Purple stain score
	Bu/A	in.		(0-5)	(0-5)	(0-5)
GS 791[2]	18	42	11-10	1	2	2
GS 737	16	40	11-1	1	2	2
Deltapine 403	16	35	10-10	2	3	2
T-77-28[3]	11	44	10-28	1	2	2
T-77-103	10	35	10-12	1	2	2
T-77-84	10	37	10-28	2	4	3
Forrest	10	35	9-22	2	4	2
Bedford	9	44	10-1	2	3	3
GS 82	9	33	9-25	2	3	2
RAX-16-79[4]	9	38	10-2	2	3	2
GS 333	9	31	10-10	2	2	2
RAX-10-79	9	33	9-17	2	3	2
RAX-17-79	8	43	10-3	1	3	2
RAX-9-79	7	38	9-21	2	3	3
T-77-31	5	50	10-20	1	3	3
L.S.D. (.05)	5.2	–	–	–	–	–
C.V. %	35.6	–	–	–	–	–

[1] Memphis silt loam (0% to 2% slopes).
[2] Green Seed Co.
[3] Tenn. Experimental.
[4] Ring Around Seed Co.

Table 70. Soybeans: Yield and other characteristics of varieties in maturity groups VI and VII evaluated at Jackson in 1980[1]

Variety	Yield	Plant ht.	Shattering[2] score	Seed[3] quality score	Purple[4] stain score
	Bu/A	in.	(1-5)	(1-5)	(1-5)
X3272	21	46	1	2	2
Deltapine 439	20	42	1	1	1
Wilstar 790	17	50	1	2	1
N.A.P.B. 605	17	41	1	2	1
McNair 710	15	47	1	1	2
Coker 78-438	14	48	1	1	1
N.A.P.B. 607	14	44	1	2	2
McNair 700	14	43	1	1	2
X3282	13	44	1	2	2
Centennial	12	47	1	2	2
McNair 780	12	46	1	2	2
McNair 770	11	46	1	1	2
Terra-Vig 908	11	47	1	1	1
X3268	11	45	2	2	2
L.S.D. (.05)	5.2	–	–	–	–
C.V. %	25.6	–	–	–	–

[1] Grenada silt loam (0% to 2% slopes).
[2] 1 = no shattering 5 = over 20% shattered.
[3] 1 = very good 5 = very poor.
[4] 1 = no purple stain 5 = severe purple stain.

DARK TOBACCO

The dark fire-cured and dark air-cured tobacco varieties were evaluated at Springfield. The 1980 data are not available so the data included in this report are for 1979.

The leading dark fire-cured varieties in yield were certified Madole, Atkins Madole, DF 516, and DF-911.

The leading dark air-cured tobacco varieties were DF-300 and Ky 160.

Table 71. Dark Fire-Cured Tobacco: Average yield and acre value of old varieties grown at Springfield in 1979

Variety	Acre yield	Acre value[1]
	pounds per acre	$ per acre
Certified Madole	2382	2556
Atkins Madole	2222	2383
TR Madole	1842	1994
Greenwood	1838	2001
Little Crittendon	1761	1890
Black Mammoth	1648	1828
DT-100	1635	1815
Beltsville Madole	1600	1749
L.S D. (.05)	155.3	171.5
C.V. %	5.6	5.8

[1] These values are based on the average value for the various grades on all Type 22 markets from 1973-1977.

Table 72. Dark Fire-Cured Tobacco: Average yield and acre value of new varieties grown at Springfield in 1979

Variety	Acre yield	Acre value[1]
	pounds per acre	$ per acre
DF-516	2306	2318
DF-911	2187	2274
Ky 171	1975	2219
DF 300	1704	1814
Va 310	1702	1865
Ky 151	1640	1729
Va 312	1505	1629
Va 331	1325	1429
L.S.D. (.05)	257	270
C.V %	9.8	9.6

[1] These values are based on the average value for the various grades on all Type 22 markets from 1973-1977.

Table 73. Dark Air-Cured Tobacco: Average yield and acre value of varieties grown in Springfield in 1979

Variety	Acre yield	Acre value[1]
	Pounds per acre	$ per acre
DF-300	1485	1407
Ky 160	1326	1313
Ky 165	1216	1175
Ky 163	1127	1002
L.S.D. (.05)	275	264
C.V. %	13.3	7.3

[1] These values are based on the average yield for the various grades on all type 35 markets from 1973-1977.

BURLEY TOBACCO[1]

T. C. CORBIN and G. L. GUPTON[2]

The commercial potentials of several varieties and hybrids of burley tobacco were assessed in terms of yield, market value, usability, disease resistance, and plant characteristics. The data were taken in 1975, 1976, and 1977 at three locations, in 1979 at one location, and in 1980 at two locations. The variety test was grown on Staser silt loam with irrigation at Springfield and on Waynesboro loam and Nolichucky silt loam without irrigation at Greeneville.

The growing season was hot and dry for both locations in 1980. Greeneville had slightly more rain in July but it was not enough to prevent some moisture stress. The curing season was also hot and dry for both locations.

In this dry year, black shank was a very costly disease problem. An increase of race 1 black shank throughout the burley growing area has caused considerable losses in the hybrids using L8 as one of it's parents. While the L8 hybrids are highly resistant to race 0 black shank, they offer no resistance to race 1 (Table 2).

Yields of the varieties are presented in Table 1. MS Burley 21 x Ky. 10 and MS Ky. 14 x L8 produced the highest yields. Ky. 10, MS Burley 21 x L8, Ky. 15, Ky. 14, and Va. 509 produced on the average about 100 pounds per acre less tobacco than the highest-yielding varieties. N 77, MS Burley 37 x L8, and Va. 528 produced on the average about 200 pounds per acre more tobacco than the lowest - yielding varieties. KY. 17, Burley 64, Burley 49, and Burley 37 were generally the lowest in yield.

Varieties differed practically none in market value per hundredweight and all of the varieties produced about the same average of tobacco usable to the trade. These data indicate that, with current varieties, price and usability to the manufacturers are not among the primary criteria that need to be considered in selecting a variety.

The presence of disease on a farm is generally the most limiting factor in the choice of a variety. Race 1 of the black shank organism may present a serious problem under a continuous culture of hybrids involving L8. Burley 37, Burley 49, Va. 509, Burley 64, Ky. 17, N77, and Va. 528 are usually resistant to both race 0 and race 1. Under certain conditions, however, these varieties will suffer varying degrees of loss to black shank. It appears that none of our sources of resistance is good enough under continuous tobacco culture in soil heavily infested with black shank organisms. More attention needs to be directed to rotations, liming practices, and fertilization practices which would help transplants get a better start and reduce stress during the growing season.

Although Burley 37 is resistant, MS Burley 37 x L8 is not resistant to race 1 of black shank organism (Table 2). In fields infested with both black shank and black root rot, Burley 49, Burley 64, or Ky. 17 should be grown. However, one should be familiar with recommended management practices for Burley 64 before growing it.

Some plant characteristics of the commercial varieties are presented in Table 3. The number and size of leaves, plant height, distance between leaves, and time from transplant to flowering may be considered when selecting a variety for ease of handling. These factors may be important in the choice of a variety depending upon the personal preference of the grower, kind of labor available, and the kind and amount of other resources such as barn space and land that are available.

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Table 1. Burley Tobacco: Yield[1] in pounds per acre - 3-year average at three locations under normal conditions and 1980 yields at two locations

Variety	1975-1977 Mean-TES HRES, MTES	1980 TES	1980 HRES	1980 varietal average
Burley 37	2399	2136	2873	2505
Burley 49	2425	2385	2574	2480
Burley 64	2446	2374	2785	2580
Va. 509	2776	2778	2993	2886
Va 528	–	2606	2826	2716
Ky. 10	2872	2994	2946	2970
Ky. 14	2818	2994	2824	2909
Ky. 15	–	2920	2948	2934
Ky. 17	–	2592	2724	2658
N 77	–	2863	2815	2839
HYBRID				
MS Burley 21 x Ky. 10	2926	2980	3091	3036
MS Ky. 14 x L8	2943	2867	3329	3098
MS Burley 21 x L8	2754	2729	3144	2957
MS Burley 37 x L8	2705	2575	3064	2820
L.S.D. (0.05)		260	220	
C.V. %		6.7	5.2	

[1] Based on four replications of 50 plants per replication in each test.

Table 2. Burley Tobacco: Resistance to black shank and black root rot, estimate of blue mold damage and sensitivity to TVMV

Variety	1980 % survival in Race 0 infested soil	1979 % survival in Race 1 infested soil	Blue Mold damage[1]	Resistance to black root rot	Extremely sensitive to TVMV
Burley 37	97	100	MH	Low	Yes
Burley 49	99	100	SM	High	Yes
Burley 64	99	97	SM	High	Yes
Va. 509	100	95	MH	Low	Yes
Va. 528	97	86	VH	–	No
Ky. 10	11	0	VH	Medium	No
Ky. 14	0	0	MH	Medium	No
Ky. 15	0	0	SM	High	No
Ky. 17	99	97	MH	High	No
N 77	99	100	MH	Segregating	–
HYBRID					
MS Burley 21 x Ky. 10	1	0	MH	Low	No
MS Ky. 14 x L8	100	0	MH	Med. High	No
MS Burley 21 x L8	100	0	MH	Med. High	No
MS Burley 37 x L8	100	79	M	Med. High	Yes

[1] S = Slight M = Medium H = High VH = Very High.

Table 3. Burley Tobacco: Plant characteristics[1] - 1980 Tobacco Experiment Station

Variety	Days to flower	Plant height	No. of leaves	Leaf internode	Largest leaf	
					Length	Width
Burley 37	64	38.6	17.9	2.2	20.7	10.8
Burley 49	69	36.7	19.7	1.9	21.4	11.0
Burley 64	69	35.6	17.9	2.0	22.4	12.0
Va. 509	68	36.2	17.7	2.0	24.1	11.8
Va. 528	63	39.5	17.0	2.3	22.9	12.0
Ky. 10	68	35.2	17.0	2.1	23.4	12.3
Ky. 14	63	43.1	20.3	2.1	24.3	12.2
Ky. 15	65	41.8	20.0	2.1	23.9	12.6
Ky. 17	64	38.4	17.9	2.1	23.3	11.8
N 77	68	39.9	19.7	2.0	23.5	11.9
HYBRID						
MS Burley 21 x Ky. 10	63	41.0	18.2	2.3	24.5	12.7
MS Ky. 14 x L8	59	39.9	17.5	2.3	25.0	12.5
MS Burley 21 x L8	57	41.3	17.0	2.4	24.9	11.8
MS Burley 37 x L8	56	36.0	16.0	2.3	24.2	12.0

[1] Measurements are given in inches.

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