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Mississippi hybrid corn performance trials in 1975

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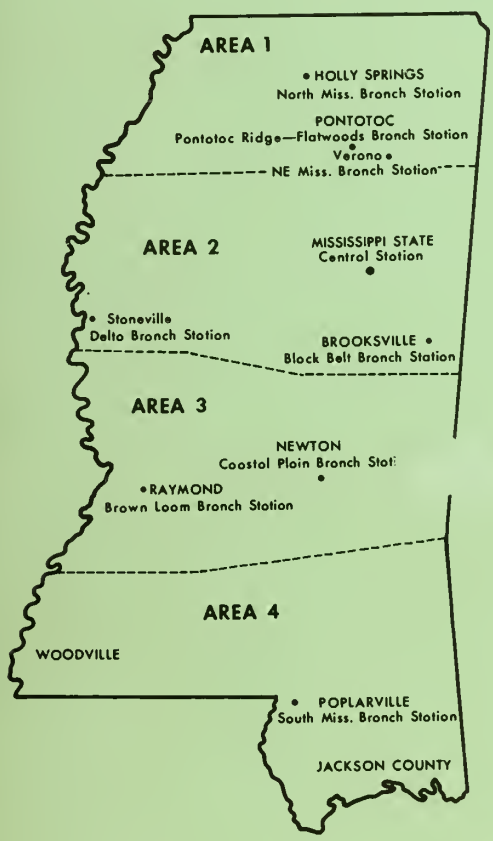

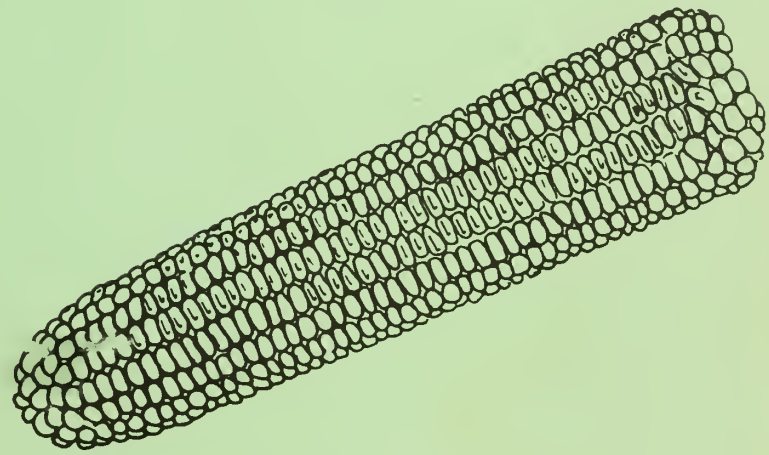

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AGRICULTURAL RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE
MISSISSIPPI STATE, MISSISSIPPI 39762
IN COOPERATION WITH

MAFES MISSISSIPPI AGRICULTURAL & FORESTRY EXPERIMENT STATION
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The test reported in Jackson County was on a private farm through the cooperation of James Clark, RFD, Pascagoula and M. P. Lewis, County Agent.

The test reported in Wilkinson County was on a private farm through the cooperation of T. O. Whitaker, RFD 4, Woodville and John Dale, County Agent.

Mississippi Hybrid Corn Performance Trials in 1975

Trials are conducted annually in Mssissippi to provide farmers, sedsmen, county agents, and oher interested persons with infornation on the performance of comercially available corn hybrids. Iese results are provided for use b corn producers in selecting hbrids suited to their area. New hbrids may be compared with nore familiar hybrids and with ceck hybrids (Dixie 18, Dixie 55, Miss. 0002, and Miss. 6131) that are icluded in all tests for comrison. Limited seed of the two Ixie hybrids may or may not be cmmercially available. Seed of Miss. 0002 and Miss. 6131 are not cmmercially available.

The best guide to the desirability a hybrid is its performance over a period of years at a number of locations. Therefore, 3-year summaries are reported for all areas.

Corn hybrids respond differently to variations in environment and a given hybrid is not always the best under all conditions. Therefore, it is suggested that corn producers grow two or more *good* hybrids each year. This practice also reduces the chances of having a disease or insect infestation spread through the total corn acreage.

The amount of harvestable good-quality grain (or silage) determines the desirability of corn hybrids. However, attributes other than yield may be extremely important in some instances. For example, resistance to a particular disease should be the prime consideration in areas where the disease occurs. That is, selection should be among hybrids that are known to have resistance to diseases associated with geographic areas

All producers and distributors of seed corn are eligible to enter hybrids in these tests. The producers designate which hybrids they want entered in each area. Hybrids must be submitted for entry to the Mississippi Agricultural and Forestry Experiment Station by February 15. A nominal fee is charged for each hybrid tested in each area to help defray costs of the tests.

Two or more tests are located in each area. Trials were conducted at eleven locations in 1975 (Table 1.).

able 1. Number of entries and date of planting and harvest, brid corn performance trials by location of trials, Mississippi, 975.

ounty	Location	No. of entries	Planting date	Harvest date
	Area I			
arshall	Holly Springs	37	May 5	Sept. 30
ntotoc	Pontotoc	37	May 2	Sept. 16
ee	Verona	37	May 6	Sept. 11
	Area II			
oxubee	Brooksville	36	May 20	-------
ktibbeha	Mississippi State	36	May 21	Oct. 8
ashington	Stoneville	36	April 24	Sept. 15
	Area III			
ewton	Newton	28	March 27	Sept. 9
inds	Raymond	28	May 19	Oct. 15
	Area IV			
ilkinson	Woodville	23	March 21	-------
earl River	Poplarville	23	March 20	-------
ackson	Pascagoula	23	March 5	Aug. 11

Experimental Procedure

A randomized complete-block experimental design with five replications was used at all locations. A plot consisted of two rows, 40 inches apart and 200 inches long. All experiments were overplanted and later thinned to 16,000 plants per acre (plants 10 inches apart within the row). The plots at Stoneville were irrigated once and all other plots received natural rainfall only. Fertilizer was applied by each cooperator as he thought necessary. Weeds were controlled by cultivation and herbicides The plots were handpicked and the ear corn from each plot was weighed separately. Moisture samples were taken from two replications in each test.

Table 2. Performance of 37 hybrids in Mississippi hybrid corn performance trials, Area I, avera of three locations (Holly Springs, Pontotoc and Verona), 1975

Hybrid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Mois-ture	Sta
	bu/A	%	%	cm.	no.	%	%
PIONEER BRAND 3147	79.9	0	11	99	100	20.8	94
DEKALB XL 394	74.3	0	8	118	103	22.2	91
DEKALB XL 72B	71.8	0	6	88	101	18.1	9
FUNKS G-4525	71.7	0	10	94	99	15.2	91
PIONEER BRAND 3009	69.1	1	8	113	95	22.3	8
PIONEER BRAND 3179	68.2	0	10	99	97	20.6	9
FUNKS EXP 27466	64.0	0	15	93	96	20.6	7
MISS 6131	63.0	0	19	154	114	19.6	8
PIONEER BRAND 3145	62.1	0	11	104	96	20.3	8
PIONEER BRAND 3177	61.2	1	7	98	87	18.1	8
NORTHRUP KING PX95	59.8	0	11	111	111	19.2	8
DIXIE 55	58.2	0	15	120	93	19.7	8
COLUMBIANA H-2660W	58.2	0	12	110	87	20.3	81
NORTHRUP KING PX79	57.6	0	8	94	87	15.2	8
FUNKS G-4762	56.7	0	8	94	98	21.2	8
McCURDY 72-44A	56.4	0	10	108	103	18.6	7
McNAIR 73009	56.4	0	15	117	100	24.3	8
DIXIE 18	54.8	0	16	131	103	22.4	81
FUNKS G-5757	54.8	1	16	90	85	19.6	8
FUNKS G-4810	54.5	0	23	99	84	20.7	8
FUNKS G-4864	54.0	0	16	106	86	19.8	9
COKER 56	53.8	0	15	101	94	21.7	8
PIONEER BRAND 511A	50.8	0	14	108	100	19.9	7
NORTHRUP KING PX91	50.7	1	14	96	90	19.8	8
FUNKS G-795W-1	49.8	1	20	100	87	21.1	8
COLUMBIANA H-2666	49.2	0	27	86	91	19.0	7
COLUMBIANA H-2740	48.5	1	23	102	105	18.9	6
COLUMBIANA H-2775	46.8	0	28	90	93	20.4	7
McNAIR X 300	46.7	0	21	84	80	20.2	7
FUNKS G-4611	46.2	0	24	86	91	15.3	7
DEKALB XL 395	45.6	0	10	117	78	21.7	7
McNAIR S338	45.5	2	25	90	82	18.3	7
MISS 0002	41.2	0	24	115	80	20.1	8
McCURDY 73-85	40.4	0	28	98	83	20.8	6
FUNKS G-4507	32.4	0	23	91	69	15.5	7
NORTHRUP KING PX76	31.4	0	32	84	78	17.6	7
COLUMBIANA H-2750	30.2	0	30	83	71	19.4	6
MEAN	54.5	0	17	102	92	19.7	8

CV = 21.07%
LSD (.05) = 9.01 bu/A

Test Results/ Area I

Area I---Yields from tests at Holly Springs, Pontotoc, and Verona ranged from 30 to 80 bushels per acre (Table 2.). Stalk lodging ranged from 6 to 32 percent. Some bareness (plants without ears) was noted and this was more prevalent in the poorer-yielding hybrids.

Yields at Holly Springs were disappointingly low with an average of 38 bushels per acre. This reduced yield was at least partly caused by an extended drought. Yields at Pontotoc were fairly good and three hybrids yielded above 100 bushels per acre, with an average of 78 bushels for all hybrids. Stands were erratic at Verona and only 3 replications of this test were harvested. Yields averaged 48 bu/A. There was little plant lodging in this test.

Performance of those hybrids that have been tested in Area I for the last three years is given in Table 3.

Table 3. Performance of 13 hybrids in Mississippi hybrid corn performance trials, Area I, average of three locations (Holly Springs, Pontotoc and Verona) for the three years, 1973-75.

Hybrid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Moisture	Stand
	bu/A	%	%	cm.	no.	%	%
PIONEER BRAND 3147	89.8	2	13	116	99	19.8	96
MISS 6131	85.2	3	18	143	117	17.8	93
PIONEER BRAND 3179	84.4	2	11	114	96	18.6	95
FUNKS G-4762 [1]	77.6	2	11	108	100	19.9	93
DIXIE 55	76.4	3	19	137	104	18.8	93
PIONEER BRAND 3009	76.2	3	10	122	89	20.5	92
COKER 56	67.7	2	14	108	100	20.6	93
FUNKS G-4864	67.6	3	15	115	87	19.3	93
PIONEER BRAND 511A	66.4	2	19	119	104	18.8	88
DIXIE 18	62.5	2	17	145	98	20.5	90
FUNKS G-5757	61.7	3	17	102	90	19.3	90
FUNKS G-795W-1	59.7	3	21	110	95	19.6	92
MISS 0002	55.0	3	25	130	92	19.6	91
MEAN	71.6	3	16	121	98	19.5	92

[1]1973 data for Funks G-4761 (genetically similar to Funks G-4762) were used to obtain these averages.

Table 4. Performance of 36 hybrids in Mississippi hybrid corn performance trials, Area II, avera of two locations (Mississippi State and Stoneville), 1975.

Hybrid	Yield	Lodging stalk	Ear height	Ears/ 100 plants	Moisture	Mid-[1] silk	Ear[1] quality	Sta
	bu/A	%	cm.	no.	%	days		%
DEKALB XL394	121.7	8	126	133	18.3	63	1.5	10
PIONEER BRAND 3147	120.7	10	119	118	17.8	63	3.7	9
FUNKS G-795W-1	113.6	22	112	142	18.2	62	1.0	9
MISS 6131	111.7	27	129	146	16.8	64	1.7	10
McCURDY 72-24	110.0	13	148	129	18.1	64	1.0	10
McCURDY 73-47A	109.0	15	133	138	18.5	64	1.3	9
McNAIR 73009	107.7	14	137	162	20.4	70	1.0	10
FUNKS G-5945	104.9	11	124	126	19.2	65	1.5	10
P-A-G 644W	104.8	11	126	106	17.6	63	2.2	10
DIXIE 55	103.8	18	131	144	17.6	64	2.0	9
COKER 56	97.9	6	115	124	19.1	63	1.8	10
McCURDY 73-47	97.6	17	125	123	18.0	62	2.2	8
PIONEER BRAND 511A	97.6	14	108	140	18.0	63	1.0	9
PIONEER BRAND 3009	93.3	11	119	101	20.3	64	1.0	9
FUNKS G-4810	93.2	10	116	109	18.1	59	2.2	9
FUNKS G-4864	93.0	6	109	102	17.9	63	2.0	9
FUNKS EXP. 27466	93.0	15	103	110	18.4	65	2.7	9
PIONEER BRAND 3179	91.7	13	111	100	17.0	61	2.5	9
DIXIE 18	91.1	13	147	129	19.2	68	1.0	10
DEKALB XL72B	89.2	8	95	113	17.8	58	3.3	9
DEKALB XL395	87.4	13	122	114	17.9	64	2.0	8
MISS 0002	87.4	24	131	133	18.5	66	1.5	9
COLUMBIANA H2740	86.8	12	114	123	16.9	60	3.5	8
FUNKS G-4762	85.3	12	103	109	18.2	62	2.7	9
FUNKS G-4525	85.1	8	93	105	14.4	57	3.2	9
PIONEER BRAND 3145	84.6	4	114	101	19.0	61	1.3	8
McNAIR S338	84.0	12	110	97	16.9	63	2.5	10
McNAIR X300	80.9	11	100	84	18.2	63	2.3	9
FUNKS G-4949A	78.6	6	121	105	19.4	64	1.7	8
FUNKS G-4611	78.0	9	96	88	15.6	59	3.0	9
McCURDY 74-14A	77.1	8	101	95	20.5	65	1.5	9
P-A-G SX605	76.6	14	122	95	17.5	64	1.3	8
COLUMBIANA H2775	75.8	10	93	105	17.3	61	1.5	8
FUNKS G-4507	75.7	5	104	91	16.4	58	3.5	9
COLUMBIANA H2750	73.7	16	100	101	16.3	64	2.2	8
PIONEER BRAND 3177	73.5	6	97	93	16.9	59	1.0	9
MEAN	92.7	12	115	115	18.0	63	2.0	9

CV = 12.96%
LSD (.05) = 10.6 bu/A

[1]**Data taken only at Stoneville; Ear quality 1 = good; 5 = very poor.**

Test Results/ Area II

Area II---An average yield of 67 and 118 bushels per acre was obtained at Mississippi State and Stoneville, respectively (Table 4.). The yields at Mississippi State were probably reduced because the corn was planted about 6 weeks later than was desirable because of wet soil. A sound fertilization program and the irrigation on July 17 undoubtedly helped to obtain the good yields at Stoneville (a range of 90-159 bushels per acre). This test was planted twice at Brooksville but both plantings were abandoned because of extremely poor stands caused by excessive rains shortly after planting.

The days from planting to 50% silk and the ear quality ratings were taken only at Stoneville. Some hybrids had excellent ear quality (1.0) and others rated as poorly as 3.7 on a rating scale of 1-5.

Performance of the hybrids that have been tested in Area II for the last three years is given in Table 5.

ble 5. Performance of 15 hybrids in Mississippi hybrid corn performance trials, Area II, average two locations (Mississippi State and Stoneville) for the three years, 1973-75.

brid	Yield	Lodging stalk	Ear height	Ears/ 100 plants	Mid-silk	Moisture	Stand
	bu/A	%	cm.	no.	days	%	%
CURDY 72-24	117.0	12	131	132	72	18.2	100
NKS G-795W-1	112.4	13	107	133	70	18.5	96
SS 6131	109.8	18	121	147	71	17.4	97
KIE 55	107.7	13	125	145	71	18.3	96
ONEER BRAND 3147	105.5	6	109	115	71	19.2	97
NKS G-5945	104.8	7	116	123	73	19.8	101
SS 0002	102.8	19	128	136	74	19.2	96
-G 644W	101.4	7	117	106	71	18.1	98
ONEER BRAND 511A	99.8	11	106	127	71	18.3	95
NKS G-4864	99.1	4	105	104	71	18.1	98
ONEER BRAND 3009	97.4	8	112	102	72	20.1	97
ONEER BRAND 3179	95.8	8	104	101	70	18.1	97
NKS G-4762[1]	93.5	7	96	109	69	18.3	98
KIE 18	93.3	8	143	129	77	19.4	98
NKS G-4949A	89.5	7	114	116	72	20.2	91
AN	102.0	10	116	122	72	18.7	97

1973 data for Funks G-4761 (genetically similar to Funks G-4762) were used to obtain these erages.

Table 6. Performance of 28 hybrids in Mississippi hybrid corn performance trials, Area III, avera of two locations (Newton and Raymond), 1975.

Hybrid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Mois-ture	Sta
	bu/A	%	%	cm.	no.	%	%
P-A-G 751	92.8	0	9	124	119	14.1	9
PIONEER BRAND 3009	91.2	0	11	116	93	15.1	9
DEKALB XL 394	90.8	0	7	117	102	14.0	9
PIONEER BRAND 511A	88.8	0	5	114	108	14.2	9
PIONEER BRAND 3147	88.4	0	6	105	100	12.9	9
McNAIR 73011	88.2	0	5	128	110	15.0	9
DIXIE 55	87.2	0	7	132	110	13.8	9
PIONEER BRAND 3030	87.0	0	9	106	109	15.0	9
FUNKS 795W-1	86.5	0	9	112	109	13.6	8
FUNKS G-5945	85.7	0	6	123	103	14.7	9
FUNKS G-4864	83.9	0	8	103	98	13.4	9
McCURDY 73-75	83.9	0	9	147	114	14.8	9
MISS 0002	83.4	0	12	136	106	13.8	9
MISS 6131	82.7	0	11	124	120	13.4	9
McNAIR 73009	82.3	0	9	137	128	15.8	8
COKER 54	81.5	0	5	111	103	15.2	9
COKER 77	80.2	0	8	124	101	15.6	9
FUNKS G-4949A	80.0	0	6	116	98	13.7	9
McNAIR 508	78.0	0	5	117	113	15.3	9
PIONEER BRAND 3145	77.9	0	6	110	93	13.9	9
DIXIE 18	75.6	0	10	148	111	14.5	8
P-A-G SX605	74.6	0	9	109	87	13.9	8
DEKALB XL 395	72.8	0	5	124	87	15.3	9
FUNKS G-4810	70.5	0	11	105	103	13.5	8
McCURDY 73-79	68.8	0	12	127	102	13.7	9
FUNKS G-4762	64.7	0	22	98	96	13.5	8
FUNKS G-4611	62.4	0	18	94	91	13.1	9
PIONEER BRAND 3177	59.5	0	16	99	89	13.6	8
MEAN	80.3	0	9	118	104	14.3	9

CV = 12.70%
LSD (.05) = 9.12 bu/A

Test Results/ Area III

Area III---Yields at Newton and Raymond averaged 85 and 75 bu/A, respectively (Table 6.). The April 23 planting at Raymond was a failure because of poor stands. However, stands were adequate in the May 19 replanted test.

Performance of the hybrids that have been tested in Area III over the last three years is given in Table 7.

ble 7. Performance of 17 hybrids in Mississippi hybrid corn performance trials, Area III, average f wo locations (Newton and Raymond) for the three years, 1973-75.

brid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Mois-ture	Stand
	bu/A	%	%	cm.	no.	%	%
NAIR 73011	90.7	2	8	129	110	16.2	98
SS 6131	90.5	5	25	130	119	14.3	93
DNEER BRAND 3147	89.7	2	13	109	96	14.3	94
DNEER BRAND 3030	88.4	2	9	116	99	16.4	92
NKS G-795W-1	87.9	3	20	114	100	14.6	92
DNEER BRAND 511A	87.3	2	17	117	101	15.2	90
DNEER BRAND 3009	85.5	2	15	112	95	16.6	90
KIE 55	85.2	3	14	135	109	15.1	93
SS 0002	83.4	2	23	132	105	15.6	93
-G 751	82.8	2	13	126	109	15.6	97
NKS G-5945	81.5	1	12	125	99	16.5	91
KER 54	80.9	1	10	118	105	16.8	93
NKS G-4949A	79.9	1	9	124	95	16.6	95
NKS G-4864	78.9	1	9	108	90	14.9	94
NAIR 508	76.8	2	12	120	113	17.3	95
KIE 18	73.2	3	16	146	107	16.1	91
NKS G-4762 [1]	69.2	2	19	102	91	15.2	89
AN	83.1	2	14	121	103	15.7	93

973 data for Funks G-4761 (genetically similar to Funks G-4762) were used to obtain these rages.

Table 8. Performance of 23 hybrids in Mississippi hybrid corn performance trials, Area IV (Jacks County), 1975.

Hybrid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Moisture	Sta
	bu/A	%	%	cm.	no.	%	%
McNAIR 73009	51.7	0	3	0	85	22.5	94
DIXIE 18	47.2	0	28	0	87	18.9	8
FUNKS G-5945	42.7	0	19	0	91	20.8	8
McNAIR 508	39.6	0	15	0	98	22.4	7
COKER 77	37.4	0	35	0	94	18.4	7
DEKALB XL 395	36.9	0	19	0	81	19.7	6
P-A-G 751	36.2	0	36	0	92	19.4	7
PIONEER BRAND 3030	36.2	0	37	0	101	19.3	7
McNAIR 73011	33.9	0	20	0	79	21.9	5
FUNKS G-795W-1	32.7	0	40	0	91	18.6	7
PIONEER BRAND 3009	30.8	0	48	0	85	19.3	7
MISS 0002	30.2	0	44	0	91	17.4	7
DEKALB XL 394	29.6	0	52	0	84	19.0	8
COKER 54	29.5	0	41	0	88	18.0	7
MISS 6131	29.5	0	56	0	86	18.8	7
FUNKS G-4949A	28.6	0	37	0	82	20.1	7
FUNKS G-4810	28.2	0	36	0	94	18.3	7
FUNKS G-4864	26.2	0	37	0	95	17.8	7
DIXIE 55	25.9	0	58	0	91	18.3	7
PIONEER BRAND 3145	23.7	0	47	0	76	19.9	7
FUNKS G-762	23.5	0	50	0	83	20.5	7
PIONEER BRAND 511A	23.3	0	46	0	77	19.0	6
FUNKS G-4611	14.1	0	63	0	68	17.9	7
MEAN	32.1	0	38	0	87	19.4	7

CV = 21.87%
LSD (.05) = 8.10 bu/A

Test Results/ Area IV

Area IV---A summary of the results of two tests in Jackson County is given in Table 8. Plants in these tests did not grow vigorously and as a result, plant height of most hybrids was 5 feet or less. This poor growth and subsequent low yield resulted from the area being flooded due to excessive rainfall on a number of occasions when the plants were young and probably because of a limited amount of available nitrogen.

Tests at Woodville and Poplarville had to be abandoned because of poor stands.

Performance of the hybrids that have been tested in Area IV for the last three years is given in Table 9.

able 9. Performance of 15 hybrids in Mississippi hybrid corn performance trails, Area IV, average three locations (Jackson County, Poplarville, and Woodville) for the three years, 1973-1975.

ybrid	Yield	Lodging root	Lodging stalk	Ear height	Ears/100 plants	Moisture	Stand
	bu/A	%	%	cm.	no.	%	%
cNAIR 73011	62.4	1	12	95	101	18.8	88
IONEER BRAND 3030	61.0	2	26	76	103	16.4	91
cNAIR 508	59.9	1	11	89	109	18.7	88
OKER 54	59.7	3	30	78	103	15.7	88
IXIE 18	58.9	2	20	96	99	17.2	91
UNKS G-5945	58.9	6	20	85	100	17.3	89
ISS 6131	57.8	6	48	78	109	16.2	88
IONEER BRAND 3009	57.0	3	40	67	99	18.0	85
UNKS G-4949A	56.4	2	25	85	92	18.4	89
A-G 751	56.4	5	35	79	100	16.3	89
IONEER BRAND 511A	55.6	3	43	74	99	17.2	86
UNKS G-4864	54.4	1	26	69	98	17.0	91
ISS 0002	53.6	4	39	82	99	16.4	88
IXIE 55	53.4	3	45	83	107	16.4	85
UNKS G-4762 [1]	46.2	2	43	63	94	17.4	87
EAN	56.8	3	31	80	101	17.2	88

[1]1973 data for Funks G-4761 (genetically similar to Funks G-4762) were used to obtain these verages.

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