

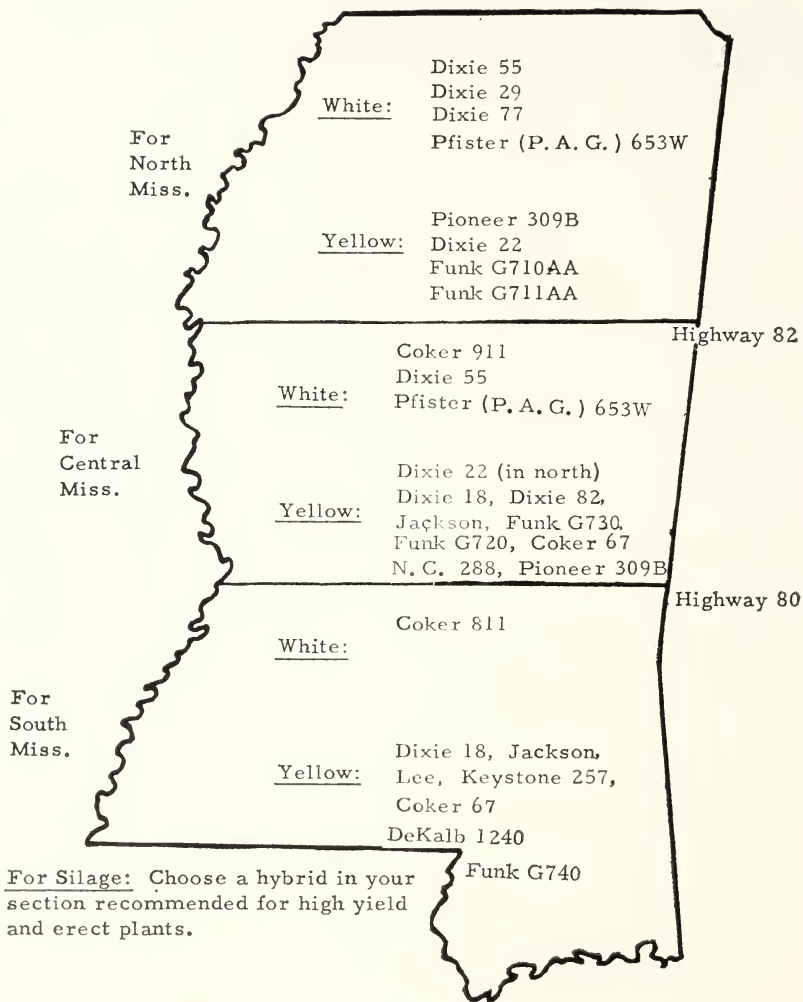
# Hybrid Corn Tests,

## Mississippi

### 1961

MISSISSIPPI STATE UNIVERSITY  
AGRICULTURAL EXPERIMENT STATION

HENRY H. LEVECK, Director



Hybrids recommended for various areas of the State.

# 1961 HYBRID CORN TESTS

By C. M. GROGAN And C. M. CAMPBELL<sup>1</sup>

Favorable growing conditions for corn were general throughout Mississippi during 1961. Record yields were obtained in the tests and on farms. The average yield for the state was 37 bushels per acre but was more than 90 bushels in the main hybrid tests. This fact would indicate that we are not approaching the full potential for yield, although we must consider many acres of corn are planted on marginal land.

The weather conditions were suitable for planting for a number of tests, but excessive moisture delayed plantings in other areas. However, the favorable conditions thereafter contributed toward an excellent harvest. Little weather interference was experienced at harvest. A total of 15 tests were planted and harvested. Seven of these were located in the northern part of the state, (roughly north of Highway 82), six in central Mississippi which is the area between Highway 80 and 82, and two tests in the southern part of the state. Both the northern and central groups of hybrids were grown at State College and at Stoneville, resulting in two tests at these locations.

All tests were check planted with each hybrid in each replication planted in a plot two hills by five hills. The check system of planting was used to facilitate note taking and computations. An effort was made to get the desired number of plants per hill by planting at a rate higher than desired and later thinning to a stand suitable for corn production for the area.

Information on insects was collected by W. A. Douglas, C. A. Henderson, and R. A. Blanchard, U.S.D.A. Entomologists working on corn insects. Depending on the location of the tests, notes were taken on the extent of earworm damage, percent of ears infested with the pink corn

worm and rice weevil, and the extension of the husk and size of the silk channel. Generally, a hybrid with a long husk with a constricted silk channel has more resistance to insect attacks to the ear than one not possessing these characteristics. The nature of resistance is largely mechanical, although a type of physiological resistance is apparent in some strains of corn.

Lodging is an important factor in most areas of the state. Stalk lodging was excessive in the majority of tests in northern Mississippi and at Yazoo City. Much of the lodging was attributed to the heavy infestation of the Southwestern stalk borer. This pest is becoming increasingly dangerous and threatens corn production in the northern areas of Mississippi. The rate at which it is spreading is of concern to farmers and research workers throughout the state. Research is being planned to determine the best approach in limiting damage.

The number of ears per plant is commanding more attention since efficiency has become an essential part of economic survival on American farms. The southern open-pollinated varieties and their hybrid derivatives are generally prolific to varying degrees. The prolific characteristic is especially useful in an area with variable environmental conditions. When the conditions are favorable for production, the prolific hybrids produce

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Table 1.—Average yields, in bushels per acre, of 25 hybrids in seven 1961 North Mississippi tests.

Hybrid	Average 7 tests	Holly Springs	Verona	State College	Pontotoc (Ridge)	Pontotoc		
						(Flat- woods)	Clarks- dale	Stone- ville
Delta 9907	113.2	98.1	135.7	91.5	86.2	105.5	121.3	153.8
Miss 6133	107.2	86.3	116.1	87.3	90.0	92.4	123.8	154.6
Dixie 55	107.0	101.7	121.9	88.8	80.4	97.3	120.1	138.8
Ricmer 305	106.2	103.8	122.2	86.7	83.3	89.9	110.4	147.2
Miss 6131	104.4	99.6	122.5	86.8	78.3	103.0	104.9	136.0
Delta 8812	104.0	94.7	113.1	88.4	83.9	92.2	115.8	139.6
Miss 6135	104.0	95.7	117.8	88.4	84.9	97.9	115.9	127.2
P.A.G. 653W	101.9	89.1	118.6	85.6	89.1	100.9	108.2	121.7
Dixie 22	101.0	93.5	114.9	88.5	76.2	93.5	109.9	130.6
Dixie 77	98.4	87.1	106.7	90.0	75.4	96.6	100.0	132.3
Pioneer 309B	98.0	92.6	108.7	79.7	80.3	87.2	113.5	123.7
Funk G710AA	95.6	78.6	118.1	82.5	82.3	84.0	103.7	120.1
Mid South	95.1	78.9	117.7	82.7	72.7	86.9	109.1	117.4
Funk G711AA	94.0	88.0	114.9	80.1	80.0	85.3	97.6	112.3
Keystone 256	94.0	80.1	101.5	79.8	77.0	80.6	115.5	123.6
Tenn. 501	93.8	79.7	114.3	78.9	75.8	82.9	106.3	118.8
Dixie 29	93.3	70.9	102.4	83.3	76.3	78.1	107.7	134.7
P.A.G. 488	91.3	84.4	106.7	72.2	80.3	84.6	101.8	109.1
Coker 616	90.7	81.3	109.7	78.7	66.7	85.5	101.1	111.7
Pioneer 309A	90.1	82.2	102.5	75.0	76.3	83.7	96.9	113.9
P.A.G. 480	89.1	82.8	103.9	75.4	73.1	84.4	97.4	106.9
Stull 400W	87.3	72.4	105.5	78.4	78.4	77.7	88.4	110.3
Funk G702	87.2	65.8	104.9	77.5	76.6	74.9	96.9	113.7
McCurdy 999	86.9	75.4	93.3	75.6	71.3	87.6	97.2	107.8
DeKalb 633	78.6	62.6	91.9	69.4	74.8	69.6	91.2	90.7
Average	95.8	85.3	111.7	82.1	78.5	88.1	106.2	118.8
L.S.D., 5%		3.3	10.8	6.5	8.5	10.8	12.2	10.8
C.V. (%)		3.4	8.4	6.9	16.0	10.7	9.0	8.0

more than one ear per plant, but when conditions are unfavorable, there is an adjustment by the plant to the situation. The ability of a plant to make an adjustment is important also in endeavoring to obtain record yields since fewer plants per unit of land area are required of prolifics than single-ear hybrids. Shading effect, found to be a detrimental factor in high plant densities, is reduced when prolific hybrids are used. A look at the results of tests will reveal that the prolific hybrids form the highest-yielding group, and the non-prolific hybrids the lowest.

Yields in individual tests were exceptional in 1961. Among hybrids individual yields ranged from 154.6 bushels per acre at Stoneville to a low of 41.2 at Poplarville. However, the hybrid producing 41.2 bushels had an extremely poor stand. Ordinarily, Keystone 257 has a good yield but apparently the lot sent for testing

purposes did not produce a sufficient number of plants to maintain the yield record of the past few years. Stoneville, Verona, and Clarksdale had the highest individual yield records for the northern region. Stoneville and Yazoo City were the highest in the central region. Highest yield in tests, including experimental hybrids and tests for special purposes, was 196.1 bushels per acre.

A farmer should take into consideration the three-year average when purchasing a hybrid. A good three-year average figure will give a much better picture of what might be expected of the performance of a hybrid. Too often we fail to take other agronomic attributes into consideration by being too absorbed in yield comparisons. These other factors may be very important in many ways, and may, under certain circumstances, be more important than yield itself. Also, depending

Table 3. Average yields, in bushels per acre, of 25 hybrids in six 1961 Central Mississippi tests.

Hybrid	Average 6 tests	State College	Brooks- ville	Newton	Raymond	Stone- ville	Yazoo City
Miss 0002 (EXP.)	104.4	96.1	94.7	64.2	106.1	141.0	124.1
Dixie 82	102.8	88.9	93.3	76.4	105.0	123.1	130.3
Dixie 55	101.0	86.4	87.2	77.3	109.8	130.5	114.8
Funk G795W	100.8	88.7	97.5	77.6	96.6	148.4	96.0
Rierner 308	100.1	87.4	94.0	69.2	106.3	129.1	114.9
KC 288	98.0	85.1	81.9	70.7	100.8	121.0	128.6
Jackson	93.4	78.7	82.2	67.2	94.0	115.9	122.7
DeKalb 1225	93.3	76.0	86.2	77.1	99.3	116.6	104.8
P.A.G. 653W	92.5	88.7	84.5	82.4	85.8	120.3	93.3
Dixie 18	91.8	74.8	80.8	67.6	94.6	121.7	111.1
DeKalb 1240	90.3	80.0	82.6	58.7	93.5	123.9	103.4
Coker 67	90.1	77.9	80.3	62.1	95.0	122.9	102.4
Funk G720	90.1	79.3	88.4	62.1	85.8	117.6	107.4
Funk G730	89.7	79.3	88.6	76.0	86.0	110.3	98.2
Dixie 22	89.2	80.4	90.7	65.5	85.9	119.7	93.1
P.A.G. 750	88.4	79.3	70.9	54.6	91.1	127.3	107.1
DeKalb 1201	88.4	73.2	76.5	74.9	88.2	122.3	95.1
Rierner 302	88.3	81.6	87.8	62.2	85.2	118.9	93.9
Coker 911	88.1	78.0	81.8	63.9	92.8	120.8	91.6
McCurdy 1003C	86.7	77.3	81.7	67.6	81.7	118.2	93.7
Pioneer 309B	85.4	78.9	82.7	74.4	78.6	114.0	83.6
Lee	84.3	72.6	72.5	60.4	85.4	115.6	99.1
Coker 71	83.7	78.2	69.3	70.1	92.4	108.2	83.8
Keystone 257	77.2	65.7	67.6	50.3	74.8	108.8	95.8
P.A.G. 488	77.2	70.6	73.3	68.3	79.4	99.1	72.8
Average	90.2	80.2	83.1	68.1	91.8	115.8	102.4
L.S.D., 5%		5.2	7.4	4.8	9.1	11.5	13.0
C. V. (%)		5.6	7.8	6.1	8.6	8.7	11.0

on the need, some of the early hybrids not on the list of hybrids of above-average performances may be found very useful for early harvesting or hogging-

Findings in other tests reveal that corn

can be planted much earlier than is generally practiced in Mississippi. This means that corn can be planted before cotton and harvested before cotton picking.

Table 2.—Average data of seven North Mississippi main hybrid tests, 1961.

Hybrid	Yield, Bu./A		Lodging		Ear ht. ft.	Ears per plant no.	Moist		Stand %	Penetration in.	Earworm*		P.C.W. 2*		Husk*	
	3-Year Average	1961	Root %	Stalk %			in grain %	Ears in-fested %			Ears in-fested %	Extension in.	Tightness in.			
Delta 9007 (Exp.)	—	113.2	1	15	4.6	1.7	14.7	99	1.1	72	100	2.5	0.74			
Miss. 6133 (Exp.)	87.2	107.2	1	24	4.5	1.7	13.7	94	1.0	79	100	3.1	0.65			
Dixie 55	85.8	107.0	0	23	4.7	1.5	14.8	97	1.1	78	100	3.3	0.65			
Ricmer 305	—	106.2	0	22	4.7	1.6	14.2	96	1.1	80	100	3.2	0.68			
Miss. 6131 (Exp.)	87.5	104.4	1	21	4.6	1.6	13.6	94	1.0	76	100	3.1	0.69			
Delta 8812 (Exp.)	—	104.0	1	17	4.4	1.4	14.3	98	1.1	77	100	3.1	0.67			
Miss. 6135 (Exp.)	—	104.0	0	18	4.7	1.8	14.0	96	1.0	75	100	2.8	0.71			
P.A.G. 653W	80.0	101.9	0	18	4.0	1.6	14.2	96	0.8	71	100	2.8	0.70			
Dixie 22	81.6	101.0	1	18	4.7	1.3	14.3	96	1.0	73	100	2.6	0.80			
Dixie 77	82.4	98.4	1	23	4.2	1.5	14.5	97	1.2	88	100	2.3	0.81			
Pioneer 309B	79.6	98.0	1	14	3.9	1.2	14.3	99	1.0	76	100	2.2	0.80			
Funk G710AA	79.5	95.6	0	16	4.3	1.3	14.7	95	1.2	87	100	2.3	0.86			
Mid South	75.4	95.1	0	16	4.7	1.2	13.9	96	1.3	87	100	2.1	0.84			
Funk G711AA	79.1	94.0	0	19	4.2	1.1	14.8	96	1.2	82	100	1.9	0.91			
Keystone 256	75.5	94.0	0	15	4.8	1.3	14.1	98	1.1	73	100	3.1	0.65			
Tenn. 501	76.0	93.8	0	21	3.8	1.3	14.0	97	1.4	86	100	2.0	0.95			
Dixie 29	77.6	93.3	1	17	4.1	1.4	14.4	91	1.2	84	100	3.0	0.70			
P.A.G. 488	75.2	91.3	1	21	4.2	1.3	15.2	97	1.1	84	100	2.0	0.90			
Coker 616	—	90.7	1	15	3.9	1.2	14.2	96	1.2	92	100	2.2	0.81			
Pioneer 309A	74.9	90.1	0	11	3.9	1.0	13.8	98	1.3	83	100	2.5	0.83			
P.A.G. 480	—	89.1	1	20	4.0	1.2	14.1	96	1.2	87	100	1.7	0.90			
Stull 400W	—	87.3	0	21	3.9	1.0	13.1	97	1.4	89	100	2.1	0.95			
Funk G702	—	87.2	0	13	3.7	1.1	13.8	98	1.4	85	100	2.2	0.93			
McCurdy 999	73.6	86.9	0	19	4.0	1.1	13.3	97	1.3	79	100	2.5	0.82			
DeKalb 633	—	78.6	0	13	3.4	1.0	13.1	95	1.7	91	100	2.3	0.96			
Averages	—	95.8	0	18	4.2	1.3	14.1	96	1.2	81	100	2.5	0.80			

\*Inches from tip of ear. <sup>2</sup>Inches beyond tip of ear. <sup>4</sup>Diameter of silk channel at tip of ear.

\*Average of two locations: Holly Springs and State College.

Exp. — Experimental hybrids not commercially available.

Table 4.—Average data of six central Mississippi main hybrid tests, 1961

Hybrid	Yield, Bu./A.		Lodging		Ear ht. ft.	Ears per plant no.	Moist in grain %	Stand %	Earworm		P.C.W. <sup>2</sup> ears infested %	R.W. <sup>3</sup> ears infes. %*	Husk	
	3 year Average	1961	Root %	Stalk %					Penetration in.	Ears infested %			Extension in.	Tightness in.
Miss. 0002 (Exp.)	—	104.4	0	20	4.5	1.8	13.7	93	0.8	62	100	10	3.5	0.67
Dixie 82	89.8	102.8	0	15	4.7	1.6	14.4	98	0.7	60	100	8	2.9	0.69
Dixie 55	90.6	101.0	0	18	4.3	1.7	13.5	95	0.8	67	100	13	3.2	0.68
Funk G795W	—	100.8	0	20	3.8	1.6	13.8	96	1.0	75	100	13	2.6	0.75
Riemer 308	—	100.1	0	14	4.9	1.6	14.4	94	0.7	58	100	5	3.1	0.67
NC 288	84.9	98.0	0	14	4.6	1.4	14.5	97	0.9	69	100	8	2.7	0.74
Jackson	76.7	93.4	0	10	5.1	1.5	14.3	96	0.8	61	100	5	2.9	0.70
DeKalb 1225	—	93.3	2	13	5.0	1.5	13.5	96	0.7	59	100	3	2.7	0.70
P.A.G. 653W	83.6	92.5	0	17	4.0	1.7	13.9	97	0.8	65	100	20	2.8	0.78
Dixie 18	90.0	91.8	0	11	5.1	1.5	14.1	96	0.7	55	100	0	3.4	0.64
DeKalb 1240	—	90.3	1	19	4.8	1.7	14.1	96	0.7	55	100	10	2.6	0.70
Coker 67	79.2	90.1	0	13	4.2	1.6	14.5	95	0.7	56	100	13	2.7	0.69
Funk G720	84.4	90.1	0	11	4.2	1.2	13.9	96	0.9	68	100	10	2.3	0.86
Funk G730	80.0	89.7	0	14	4.0	1.4	13.9	95	0.9	67	100	0	2.8	0.77
Dixie 22	82.0	89.2	0	16	4.4	1.4	14.0	97	1.0	76	100	8	2.5	0.84
P.A.G. 750	—	88.4	0	12	4.3	1.6	14.1	97	0.7	58	100	5	2.6	0.72
DeKalb 1201	—	88.4	1	20	4.5	1.3	13.8	97	0.9	60	100	5	2.5	0.81
Riemer 302	—	88.3	0	21	4.4	1.3	13.8	95	0.9	72	100	18	2.4	0.81
Coker 911	77.9	88.1	1	17	4.0	1.4	13.9	98	0.9	63	100	10	2.3	0.81
McCurdy 1003C	74.2	86.7	1	20	4.7	1.3	13.8	95	0.9	65	100	10	3.0	0.71
Pioneer 309B	79.2	85.4	0	12	3.4	1.3	14.1	97	1.1	72	100	5	2.3	0.84
Lee	72.8	84.3	0	11	4.6	1.5	14.1	96	0.8	65	100	0	3.0	0.64
Coker 71	75.5	83.7	1	10	4.2	1.5	14.7	94	0.8	55	100	0	2.6	0.70
Keystone 257	75.0	77.2	0	9	4.8	1.4	14.6	72	0.8	59	100	5	3.0	0.67
P.A.G. 488	72.9	77.2	0	19	3.9	1.3	13.9	96	1.1	77	100	25	1.8	0.94
Average	—	90.2	0	15	4.3	1.5	14.1	95	0.8	64	100	8	2.7	0.74

<sup>1</sup>Inches from tip of ear. <sup>2</sup>Pink corn worm. <sup>3</sup>Inches beyond tip of ear. <sup>4</sup>Diameter of silk channel at tip of ear. <sup>5</sup>Rice Weevil.

\*One test only: Raymond, Mississippi.

Exp. — Experimental hybrid not commercially available.

Table 5.—Average data of two South Mississippi main hybrid tests, 1961.

Hybrid	Yield, Bushels/Acre		Ears per plant	Moist. grain %	Earworm		P.C.W. <sup>2</sup> in-fested %	R.W. <sup>3</sup> ears infcs. %	Husk Extens <sup>3</sup> in.	Tight-ness in						
	3 year Average	Poplar-town			Tyler-ville	Penetr <sup>1</sup> in.					Ears in-fested %					
Miss. 8484 (Exp.)	—	82.0	126.8	104.4	0	1	5.5	1.5	16.7	97	0.6	38	90	20	3.8	0.61
Riemers 308	—	84.4	117.2	100.8	0	7	5.3	1.6	15.7	92	0.6	52	100	20	3.1	0.76
Funk G795W	—	77.0	121.5	99.3	1	8	4.0	1.8	17.1	96	0.7	54	100	52	2.7	0.74
Coker 67	64.2	80.2	117.4	98.8	1	3	4.7	1.7	15.7	97	0.6	46	100	38	2.4	0.78
Jackson	61.4	75.9	120.1	98.0	0	2	5.3	1.5	15.6	94	0.7	52	92	28	3.1	0.71
Miss. 8288	—	80.2	113.7	97.0	2	1	5.2	1.5	17.1	90	0.6	44	98	32	3.4	0.71
Coker 811	60.2	73.8	119.0	96.4	0	2	4.6	1.7	16.6	96	0.8	68	100	6	2.3	0.78
Dixie 55	—	74.8	113.6	94.2	5	4	4.9	1.6	17.3	91	0.8	60	98	36	2.7	0.74
Miss 6002 (Exp.)	63.7	79.4	106.3	92.9	2	3	5.1	1.3	15.4	97	0.7	54	90	12	3.6	0.67
DeKalb 1240	57.3	72.7	110.5	91.6	0	2	5.2	1.8	16.2	95	0.4	32	98	26	2.8	0.68
Dixie 18	57.0	74.3	104.9	89.6	1	1	5.5	1.5	16.7	96	0.5	46	98	26	3.2	0.67
DeKalb 1225	—	69.9	107.8	88.9	2	7	5.3	1.5	16.7	95	0.6	52	96	26	2.6	0.92
Miss. 8440 (Exp.)	—	68.0	109.6	88.8	1	4	5.1	1.7	18.6	97	0.5	46	92	28	3.7	0.66
Miss. 6004 (Exp.)	59.5	76.5	100.2	88.4	0	4	5.1	1.4	17.6	98	0.5	46	94	22	3.8	0.70
Miss. 8464 (Exp.)	57.1	63.0	113.4	88.2	1	6	4.8	1.4	18.6	98	0.6	50	96	34	2.7	0.56
Miss. 6115 (Exp.)	—	69.4	105.9	87.7	0	1	5.0	1.1	16.2	97	0.4	26	96	24	2.7	0.78
Funk G740	58.8	64.2	110.5	87.4	1	5	5.1	1.3	18.2	99	0.7	58	96	24	2.2	0.72
Miss. 8305	—	66.3	107.6	87.0	0	2	5.5	1.8	17.1	93	0.6	44	94	16	3.4	0.67
Funk G745	—	64.3	108.9	86.6	0	4	4.6	1.4	19.8	98	0.9	64	98	36	1.5	0.91
McCurdy 1003C	54.8	66.8	104.0	85.4	1	4	5.0	1.3	17.8	94	0.8	54	100	46	2.4	0.87
Miss. 6111 (Exp.)	—	65.2	102.8	84.0	0	1	5.4	1.1	18.6	96	0.5	40	92	18	2.9	0.70
Pioneer 309B	—	67.1	98.6	82.9	1	8	3.9	1.3	18.2	96	1.0	74	100	52	2.1	0.85
Lee	55.6	67.4	93.8	80.6	0	2	4.9	1.5	16.0	93	0.4	40	92	20	3.1	0.66
Coker 71	55.0	67.2	84.0	75.6	1	2	4.5	1.6	19.0	88	0.6	46	100	24	2.5	0.77
Keystone 257	45.7	41.2	63.2	52.2	1	3	5.0	1.5	18.0	92	0.6	48	96	26	3.1	0.70
Average	—	71.0	107.2	89.1	1	3	5.0	1.5	17.3	94	0.6	49	97	28	2.9	0.72
LSD, 5%	—	7.0	3.8	—	—	—	—	—	—	—	—	—	—	—	—	—
CV %	—	8.6	3.1	—	—	—	—	—	—	—	—	—	—	—	—	—

<sup>1</sup>Inches from tip of ear. <sup>2</sup>Pink corn worm. <sup>3</sup>Inches beyond tip of ear. <sup>4</sup>Diameter of silk channel at tip of ear. <sup>5</sup>Rice Weevil.