Mississippi Corn Promotion Board
2021 Progress Report

Project Title: Standardization of Mississippi Corn Hybrid Trials

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Department: Research Support

Project Summary (Issue/Response)

The 2021 Mississippi Corn for Grain Hybrid trials consisted of a total of 79 entries. These hybrids were supplied by fifteen participating companies or groups. These hybrids were grown in both irrigated and non-irrigated environments at multiple locations throughout the state. Each participating company was given the opportunity to submit their hybrid in either the irrigated test, non-irrigated test or both. During the 2021 season, the irrigated tests consisted of 73 of the 79 total hybrids. While the non-irrigated locations were made up of 58 hybrids from the total 79 entered in the Mississippi State Corn for Grain Hybrid OVT. The 2021 growing season started off wet and planting was delayed at some locations due to these wet conditions. One location, Stoneville (loam), both irrigated and non-irrigated, had to be destroyed and replanted due to extensive damage from bird feeding as the seedlings were trying to emerge. At most locations, conditions at the time of planting were ideal and the plots were up and going quickly. A couple of locations experience some damage from flooding following excessive rains following planting, however, this damage was specific to certain portions of the fields and the remainder of the test was sufficient to serve as good, representative, yield data. Overall, the 2021 growing season was favorable for corn production. Harvest was completed without many delays due to weather or equipment and on average, good yields were observed in 2021.

Project Results/Outcomes

The 2021 Corn for Grain Hybrid Trials were divided into irrigated and a non-irrigated tests. The irrigated corn locations consisted of 73 corn hybrid entries that were evaluated for their yield potential within five different environments throughout the state. The mean yields for these four locations ranged between 228.7 to 238.9 bushels per acre. The mean yield across all five locations for the irrigated trials was 235.9 bushels per acre. The irrigated corn hybrid trials have traditionally all been located in the delta region of the state; however, one of the irrigated locations was positioned in the Black Belt region of the state, near Macon, MS. The non-irrigated locations consisted of 58 corn hybrid entries that were evaluated for their yield potential within six different environments throughout the state, 5 locations in the Hills and 1 Delta location. The mean yields for the six non-irrigated locations ranged between 172.3 to 210.6 bushels per acre. The mean yield across all four of these non-irrigated locations was 198.7 bushels per acre.

2020 Corn hybrid yield summary for dryland locations.

Brand	Hybrid	Aberdeen (clay)	Brooksville (clay)	Olive Branch (loam)	Stoneville (loam)	Verona (clay)	Overall avg.
		bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*
AgriGold	A645-16VT2PRO	208.3	190.0	234.1	207.9	182.0	204.5
AgriGold	A647-35-3330	197.2	183.9	203.4	215.3	161.8	192.3
AgriGold	A6544VT2RIB	219.1	216.3	220.2	210.7	177.4	208.7
AgriGold	A6659VT2RIB	223.9	216.6	228.7	225.7	178.0	214.6
AgriGold	A6572VT2RIB	218.5	197.5	225.2	202.5	183.3	205.4
Croplan	CP5335 VT2P	205.0	198.0	221.2	187.4	177.9	197.9
Croplan	CP5340 VT2P	211.7	196.6	210.1	186.9	186.2	198.3
Croplan	CP5370 VT2P	196.6	200.4	221.7	198.4	189.4	201.3
Croplan	CP550 VT2P	196.8	188.1	219.6	200.1	177.9	196.5
Croplan	X19115B VT2P *	221.5	197.1	229.4	193.1	183.0	204.8
DeKalb	DKC65-95	205.2	213.4	242.1	195.0	200.5	211.3
DeKalb	DKC65-99	217.2	196.2	224.6	188.3	205.1	206.3
DeKalb	DKC66-18	213.3	191.7	223.4	178.3	184.1	198.2
DeKalb	DKC66-75	221.9	185.3	227.3	188.9	196.1	203.9
DeKalb	DKC67-37	215.1	194.2	230.3	209.6	195.3	208.9
DeKalb	DKC67-44	219.2	203.5	226.0	215.5	198.4	212.6
DeKalb	DKC68-69	222.3	206.8	235.4	203.3	195.6	212.7
DeKalb	DKC69-99	238.5	207.4	247.9	205.4	195.6	219.0
DeKalb	DKC70-27	222.5	213.6	236.3	210.9	204.9	217.6
Dyna Gro	D57VC51	213.0	210.1	233.5	205.2	192.1	210.8
Dyna-Gro	CX20114 *	199.4	185.3	217.2	199.4	183.5	197.0
Dyna-Gro	D57VC17	195.7	198.4	207.8	193.7	191.2	197.4
Dyna-Gro	D58VC65	198.3	191.0	215.9	189.8	171.3	193.3
Great Heart Seed	HT-7302VT2P	203.7	191.6	205.4	201.2	178.4	196.1
Great Heart Seed	HT-7337VT2P	212.1	179.4	237.2	208.7	190.5	205.6
Great Heart Seed	HT-7462VT2P	192.7	191.3	194.3	184.8	178.1	188.2
Great Heart Seed	HT-7676VT2P	198.5	190.6	225.6	206.8	207.7	205.8
Great Heart Seed	HT7890VT2P	179.0	192.5	211.4	155.0	190.7	185.7
LG Seeds	LG5643VT2RIB	210.3	200.5	258.0	215.4	177.0	212.3
LG Seeds	LG66C32VT2RIB	206.0	189.9	193.9	170.6	172.6	186.6
LG Seeds	LG66C44	225.1	202.0	230.8	204.0	188.9	210.2
LG Seeds	LG68C22VT2RIB	225.8	198.5	212.4	179.3	187.5	200.7
LG Seeds	LG68C59	204.8	166.1	207.8	198.9	164.3	188.4
Local Seed	LC1577 VT2P	217.0	198.0	240.6	210.4	193.8	212.0
Local Seed	LC1987VT2P	225.9	207.7	223.6	195.3	186.9	207.9
Local Seed	LC1398 VT2P	215.9	192.7	244.0	192.8	193.5	207.8
Local Seed	LC1497 DGVT2P	232.6	203.5	239.4	205.2	197.8	215.7
Local Seed	LC1697 VT2P	171.2	195.9	230.0	188.4	181.2	193.3
Local Seed	LC1898 TC	220.4	203.3	196.6	217.9	181.9	204.0
Local Seed	LC1307 TC	211.8	219.6	246.3	213.8	197.0	217.7
Local Seed	LC1407 VT2P	184.3	174.7	208.7	190.7	179.8	187.6
Local Seed	LC1506 VT2P	218.5	204.9	235.4	205.1	183.1	209.4
Local Seed	LC1707 VT2P	189.2	210.8	234.8	202.9	201.2	207.8
Local Seed	LC11806 VT2P	210.3	191.5	203.2	184.6	168.4	191.6
Local Seed	LC1289 VT2P	205.3	186.0	219.2	202.3	195.4	201.6
Mission Seed Solutions	A1257VT2P	200.6	196.4	212.7	192.8	178.9	196.3
Mission Seed Solutions	A1477DGVT2P	210.3	181.1	200.1	201.5	186.2	195.9
Mission Seed Solutions	A1548DGVT2P	196.4	176.6	175.8	189.5	184.1	184.5
Mission Seed Solutions	A1657VT2P	192.2	190.2	233.8	183.1	184.9	196.8
Mission Seed Solutions	A1798VT2P	202.3	204.8	212.7	197.1	171.1	197.6
Mission Seed Solutions	AV7516Q	218.0	217.6	229.0	176.0	180.8	204.3
Mission Seed Solutions	AV8216YHB	211.9	187.5	196.6	224.0	173.8	198.8
MorCorn	MC 4255	198.1	186.7	206.3	189.4	179.1	191.9
MorCorn	MC 4670	207.6	195.1	217.1	202.1	188.8	202.2
MorCorn	MC4319	202.5	179.6	210.2	181.7	179.3	190.7
MorCorn	MC4725	185.4	206.8	223.5	189.4	196.6	200.3
Pioneer	P1077YHR	208.0	192.6	227.0	202.5	165.8	199.2
Pioneer	P1464VYHR	213.0	195.8	211.5	226.9	180.9	205.6
Progeny Ag	EXP1917 *	161.3	148.0	165.0	155.8	138.0	153.6
Progeny Ag	EXP2015 *	211.6	175.7	212.9	198.4	196.5	199.0
Progeny Ag	EXP2018 *	209.1	182.3	210.4	170.3	193.3	193.1
Progeny Ag	PGY 8116SS	234.5	218.6	206.6	190.4	200.4	210.1
Progeny Ag	PGY 9114VT2P	211.6	179.2	222.8	209.5	179.9	200.6
Progeny Ag	PGY 9117VT2P	211.0	183.0	215.1	185.9	182.7	195.5
Progeny Ag	PGY 2012VT2P	188.9	170.1	202.3	173.0	180.3	182.9
Progeny Ag	PGY 2015VT2P	195.4	181.9	229.5	169.2	159.8	187.2
Progeny Ag	PGY 2025DG	199.2	191.3	205.7	190.4	185.8	194.5
Progeny Ag	EXP1912 *	200.9	170.3	200.9	186.5	182.9	188.3
Progeny Ag	EXP1913 *	213.3	168.4	205.3	163.9	174.2	185.0
Progeny Ag	EXP1915 *	198.2	182.1	217.3	169.4	168.8	187.2
Progeny Ag	PGY 6116VT2P	191.5	195.4	209.4	175.2	172.0	188.7
Progeny Ag	PGY 5115VT2P	207.3	181.6	209.8	182.3	155.9	187.4
Mean		207.2	193.2	218.7	194.7	183.7	199.5
CV		9.3	7.8	10.7	10.9	14.0	
LSD (0.05)		26.6	21.1	32.6	29.7	35.9	
P		42.0	51.0	38.0	41.0	23.0	
Error DF		216	216	216	216	216	

Hybrid followed by an asterisk indicates an experimental entry

2020 Corn hybrid yield summary for irrigated locations.

Brand	Hybrid*	Macon hills (clay)	Minter City delta (loam)	Stoneville delta (clay)	Stoneville delta (loam)	Overall avg.
		bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*
AgriGold	A645-16VT2PRO	214.7	230.3	241.4	213.1	224.8
AgriGold	A645-80-3110	242.4	248.8	257.2	233.1	245.4
AgriGold	A647-35-3330	232.1	234.2	260.4	223.1	237.4
AgriGold	A6544VT2RIB	239.3	234.5	237.1	225.3	234.0
AgriGold	A6659VT2RIB	233.7	245.7	240.2	208.2	232.0
AgriGold	A6572VT2RIB	245.3	229.7	244.3	207.6	231.7
Augusta Seed	A7168	212.7	213.4	225.6	207.6	214.8
Augusta Seed	A4565	222.2	206.4	245.7	228.8	225.8
Augusta Seed	A4567	221.3	207.9	240.8	238.8	227.2
Augusta Seed	A1367	239.3	219.5	267.1	227.5	238.3
BH Genetics	BH 5222DG2P	214.4	205.2	242.2	194.9	214.2
BH Genetics	X18053VT2P *	207.7	208.8	240.4	211.3	217.0
BH Genetics	BH 8721VT2P	240.0	227.8	239.2	229.5	234.1
Croplan	CP5335 VT2P	214.8	213.0	246.8	221.7	224.1
Croplan	CP5340 VT2P	218.6	205.1	240.0	211.1	218.7
Croplan	CP5370 VT2P	214.8	209.5	231.9	230.2	221.6
Croplan	CP550 VT2P	214.9	239.6	243.9	215.9	228.6
Croplan	X19115B VT2P *	222.2	228.2	217.5	202.8	217.7
DeKalb	DKC65-95	228.0	217.4	242.3	192.0	219.9
DeKalb	DKC65-99	227.4	237.7	243.3	217.4	231.4
DeKalb	DKC66-18	205.7	211.8	231.9	192.4	210.4
DeKalb	DKC66-75	227.2	223.2	244.4	194.0	222.2
DeKalb	DKC67-37	233.2	223.0	240.2	218.9	228.8
DeKalb	DKC67-44	242.0	224.7	243.1	234.2	236.0
DeKalb	DKC68-69	242.4	231.2	236.7	223.2	233.4
DeKalb	DKC69-99	248.4	228.7	261.3	232.4	242.7
DeKalb	DKC70-27	239.2	240.3	267.7	230.2	244.4
Dyna Gro	D57VC51	237.6	230.6	258.0	226.8	238.2
Dyna-Gro	CX20114 *	236.6	227.3	255.2	230.0	237.3
Dyna-Gro	D55VC80	218.1	235.9	227.7	207.8	222.4
Dyna-Gro	D57VC17	228.9	233.5	234.7	196.8	223.5
Dyna-Gro	D58VC65	221.7	231.8	233.6	200.0	221.8
Great Heart Seed	HT7256 DGVT2P	212.4	243.9	243.6	212.2	228.0
Great Heart Seed	HT-7302VT2P	228.1	230.2	255.1	211.6	231.3
Great Heart Seed	HT-7337VT2P	238.4	232.5	241.1	216.7	232.2
Great Heart Seed	HT-7425DGVT2P	235.6	236.5	248.0	228.2	237.1
Great Heart Seed	HT-7462VT2P	214.2	213.0	235.5	178.7	210.3
Great Heart Seed	HT7890VT2P	202.1	224.5	241.8	178.0	211.6
LG Seeds	LG5643VT2RIB	248.4	227.6	255.9	218.3	237.6
LG Seeds	LG66C32VT2RIB	217.1	210.0	221.7	174.0	205.7
LG Seeds	LG66C44	238.7	236.1	240.9	215.6	232.8
LG Seeds	LG68C22VT2RIB	229.0	212.4	223.0	197.0	215.3
LG Seeds	LG68C59	227.7	214.5	253.1	233.3	232.1
Local Seed	LC1577 VT2P	253.7	221.4	250.8	220.8	236.6
Local Seed	LC1987 VT2P	227.9	230.7	230.8	211.5	225.2
Local Seed	LC1398 VT2P	228.1	228.3	237.7	196.5	222.7
Local Seed	LC1497 DGVT2P	224.4	229.6	244.5	216.1	228.6
Local Seed	LC1697 VT2P	230.9	221.4	243.7	192.1	222.0
Local Seed	LC1898 TC	221.9	219.7	233.5	210.4	221.4
Local Seed	LC1307 TC	247.9	215.5	254.7	216.2	233.6
Local Seed	LC1407 VT2P	225.0	219.4	234.4	202.5	220.4
Local Seed	LC1506 VT2P	212.2	226.8	250.9	196.0	221.5
Local Seed	LC1707 VT2P	234.2	221.4	246.6	192.7	223.7
Local Seed	LC1806 VT2P	220.1	216.7	235.1	169.2	210.3
Local Seed	LC1289 VT2P	213.8	198.9	239.0	195.4	211.8
Mission Seed Solutions	A1257VT2P	214.4	211.5	234.8	200.4	215.2
Mission Seed Solutions	A1477DGVT2P	236.5	215.5	240.7	193.0	221.4
Mission Seed Solutions	A1548DGVT2P	239.1	240.9	259.6	225.7	241.3
Mission Seed Solutions	A1657VT2P	224.1	237.6	220.8	201.2	220.9
Mission Seed Solutions	A1798VT2P	205.2	224.9	238.7	207.9	219.2
Mission Seed Solutions	AV7516Q	220.5	233.2	250.8	229.8	233.6
Mission Seed Solutions	AV8216YHB	216.6	212.3	249.1	211.5	222.4
MorCorn	MC4255	204.6	207.7	232.1	218.6	215.7
MorCorn	MC4670	234.3	200.7	235.0	209.2	219.8
MorCorn	MC4319	228.1	225.8	228.6	189.0	217.9
MorCorn	MC4725	238.6	217.0	243.2	219.1	229.5
Pioneer	P1077YHR	220.6	212.7	236.9	209.9	220.0
Pioneer	P1870YHR	224.1	236.9	263.3	234.5	239.7
Progeny Ag	EXP1917 *	168.3	180.9	183.7	153.2	171.5
Progeny Ag	EXP2015 *	235.4	230.2	241.1	213.6	230.1
Progeny Ag	EXP2018 *	244.5	239.7	253.6	185.3	230.8
Progeny Ag	PGY 8116SS	237.9	233.5	244.0	224.1	234.9
Progeny Ag	PGY 9114VT2P	213.4	212.4	244.5	202.6	218.2
Progeny Ag	PGY 9117VT2P	246.6	242.1	264.1	201.2	238.5
Progeny Ag	PGY 2012VT2P	209.8	206.7	247.1	184.3	212.0
Progeny Ag	PGY 2015VT2P	208.5	215.9	231.0	180.4	208.9
Progeny Ag	PGY 2025DG	228.3	236.9	251.5	201.3	229.5
Progeny Ag	EXP1912 *	206.1	212.7	231.7	206.5	214.2
Progeny Ag	EXP1913 *	202.6	225.2	232.6	170.8	207.8
Progeny Ag	EXP1915 *	232.3	229.6	246.0	203.3	227.8
Progeny Ag	PGY 6116VT2P	209.3	221.0	223.0	192.8	211.5
Progeny Ag.	PGY 5115VT2P	223.5	217.0	233.4	205.1	219.7
Taylor Seed	T-8561VT2PRORIB	216.9	212.8	249.4	207.5	221.7
Taylor Seed	T-8680VT2PRO	259.2	239.4	255.6	239.0	248.3
Mean		225.8	223.4	241.8	208.7	224.9
CV		6.2	8.3	7.2	7.1	
LSD (0.05)		19.7	25.8	24.5	20.6	
R^		57	37	40	64	
Error DF		252	252	252	252	

Hybrid followed by an asterisk indicates an experimental entry.

Project Impacts/Benefits

The overall goal of this project was to evaluate a large number of corn hybrids across multiple environments and cultural practices, in both irrigated and non-irrigated to determine which ones have the greatest yield potential within the state of Mississippi. The benefit of these hybrid trials is to allow the producer to be able to view unbiased yield data of these various corn hybrids, supplied by multiple seed company participants. The results of these yield trials can have a tremendous impact on a producer's decision of which hybrids are best suited for his area of the state or particular soil type. By having tests grown under both irrigated and non-irrigated conditions, this data can help one to make management decisions about which hybrids might have the best potential to perform well when soil moisture is limited.

Project Deliverables

The Mississippi Corn Hybrid for Grain publication is available annually in a printed copy or it may be downloaded from the MSU Variety testing website at **mafes.msstate.edu/variety-trials**.