



# Mississippi Corn Promotion Board 2019 Progress Report

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## Project

**Title:** Standardization of Mississippi Corn Hybrid Trials

**PI:** Dr. Brad Burgess

**Department:** Research Support

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## Project Summary (Issue/Response)

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The 2019 Mississippi Corn for Grain Hybrid trials consisted of a total of 80 entries. These hybrids were supplied by fourteen 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 2019 season, the irrigated tests consisted of 75 of the 80 total hybrids. While the non-irrigated locations were made up of 57 hybrids from the total 76 entered in the Mississippi State Corn for Grain Hybrid OVT.

The 2019 growing season started off wet and planting was delayed at some locations due to these wet conditions. One location, Rolling Fork, was lost due to a prolonged rainy period, which resulted in flooded conditions in the south delta for much of the spring. Conditions at the time of planting were ideal, but following planting some locations experienced tough environmental conditions, primarily heavy rainfall, in the weeks following planting. Overall the 2019 growing season was favorable for corn production, at most locations. Harvest was completed without any delays due to weather or equipment and on average, good yields were observed in 2019.



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## Project Results/Outcomes

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The 2019 Corn for Grain Hybrid Trials were divided into irrigated and a non-irrigated tests. The irrigated corn locations consisted of 75 corn hybrid entries that were evaluated for their yield potential within four different environments throughout the state. The mean yields for these four locations ranged between 175.6 to 257.7 bushels per acre. The mean yield across all four locations for the irrigated trials was 218.1 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 57 corn hybrid entries that were evaluated for their yield potential within five different environments throughout the Hill section of the state; however, yields were only reported from four of the five locations due to poor plant stands, which caused variability due to wildlife feeding. The mean yields for the four non-irrigated locations ranged between 164.2 to 243.9 bushels per acre. The mean yield across all four of these non-irrigated locations was 204.2 bushels per acre.

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# Project Results

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*See Tables beginning on Page 3*

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## Project Impacts/Benefits

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The overall goal of this project was to evaluate multiple corn hybrids across multiple environments, 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.

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## Project Deliverables

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The 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](http://mafes.msstate.edu/variety-trials).

## 2019 Corn hybrid yield summary for dryland locations.

Brand	Hybrid <sup>1</sup>	Aberdeen	Brooksville	Olive Branch	Raymond	Stoneville	Verona	Overall avg.
		hills (clay)	hills (clay)	hills (loam)	hills (loam)	delta (loam)	hills (loam)	
		<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>
AgriGold	A644-32TRCRIB	215.2	158.0	263.8	211.3	231.3	204.9	214.1
AgriGold	A645-16VT2PRO	196.8	178.6	246.2	150.8	229.0	219.5	203.5
AgriGold	A647-46VT2PRO	217.7	152.8	229.0	198.2	205.7	218.0	203.6
AgriGold	A648-54STX	194.5	186.1	239.2	165.5	222.0	213.9	203.5
AgriGold	A6544VT2RIB	208.1	183.0	267.1	196.4	234.4	204.0	215.5
AgriGold	A6659VT2RIB	210.8	166.4	256.4	219.1	219.4	211.9	214.0
AgriGold	A6572VT2RIB	206.1	168.4	257.0	206.9	239.4	217.6	215.9
Agventure	AV8614 YHB	225.8	157.6	252.3	237.3	235.4	220.8	221.5
Agventure	AV7516 YHB	209.0	168.2	272.9	221.4	239.9	189.8	216.9
DeKalb	DKC62-53	222.0	164.7	256.9	203.7	235.0	211.1	215.6
DeKalb	DKC64-35	202.0	168.1	257.9	169.8	226.2	197.5	203.6
DeKalb	DKC65-95	217.1	173.0	246.7	192.8	250.3	200.5	213.4
DeKalb	DKC66-18	197.9	174.4	264.0	181.2	231.2	205.0	208.9
DeKalb	DKC66-75	204.0	183.4	266.2	192.5	238.9	200.6	214.3
DeKalb	DKC67-44	229.9	182.0	274.1	170.9	219.2	201.0	212.8
DeKalb	DKC68-26	198.3	171.4	266.6	197.0	210.3	213.8	209.6
DeKalb	DKC68-69	220.7	171.2	263.3	193.9	236.6	198.8	214.1
DeKalb	DKC70-27	211.5	165.2	275.8	226.6	229.2	213.0	220.2
Dyna Gro	D54VC14	204.4	150.9	227.0	187.1	199.5	194.5	193.9
Dyna Gro	D57VC51	210.9	163.5	240.6	212.9	215.5	204.7	208.0
Dyna-Gro	D57VC17	200.3	152.7	223.0	180.5	197.7	194.3	191.4
Dyna-Gro	D58VC65	176.2	159.7	214.9	178.8	211.9	199.9	190.2
Great Heart Seed	HT-7381VT2P	210.3	145.7	234.0	185.6	207.7	182.5	194.3
Great Heart Seed	HT-7676VT2P	199.3	161.2	214.6	161.2	226.2	194.0	192.7
Great Heart Seed	HX-6321VT2P	194.8	167.3	232.5	192.6	190.4	199.6	196.2
Local Seed	LC0877 VT2P	180.7	165.7	213.1	159.0	197.4	199.6	185.9
Local Seed	LC1577 VT2P	200.2	181.6	227.8	187.9	221.1	188.5	201.2
Local Seed	LC1776VT2P	202.0	192.7	252.9	195.9	231.9	220.1	215.9
Local Seed	LC1878VT2P	212.5	171.0	232.5	183.2	221.6	196.5	202.9
Local Seed	LC1987VT2P	210.1	163.4	226.4	174.9	218.8	204.3	199.7
Local Seed	LS1586TC	190.7	151.5	236.4	179.2	211.0	199.8	194.8
Local Seed	LC1289 VT2P	182.3	153.4	244.7	158.8	202.6	195.8	189.6
Local Seed	LC1488 VT2P	198.0	147.1	230.5	191.4	230.0	203.1	200.0
Local Seed	LCX16-91 *	185.2	155.4	230.6	186.6	226.5	181.3	194.3
Local Seed	LCX17-98 *	199.1	158.2	243.1	192.1	204.2	191.1	198.0
Mission Seeds	A1687VT2P	195.6	136.5	244.7	150.8	219.6	193.3	190.1
MorCorn	MC 4255	195.0	160.9	245.1	196.5	212.9	200.9	201.9
MorCorn	MC4319	193.1	137.4	244.8	171.6	193.7	184.1	187.5
MorCorn	MC4725	207.2	179.2	247.5	204.5	230.0	221.0	214.9
Pioneer	P1464VYHR	202.1	153.4	265.8	221.3	241.5	210.9	215.8

**2019 Corn hybrid yield summary for dryland locations.**

Brand	Hybrid <sup>1</sup>	Aberdeen	Brooksville	Olive Branch	Raymond	Stoneville	Verona	Overall
		hills (clay)	hills (clay)	hills (loam)	hills (loam)	delta (loam)	hills (loam)	avg.
		<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>
Progeny Ag	PGY 8116SS	215.1	174.1	255.1	211.0	213.0	219.5	214.6
Progeny Ag	PGY 9114VT2P	221.7	181.9	259.5	186.2	235.9	222.1	217.9
Progeny Ag	PGY 9117VT2P	200.9	165.6	244.0	204.9	219.4	217.1	208.6
Progeny Ag	PGY 6119VT2P	201.6	185.4	226.8	217.1	214.5	201.9	207.9
Progeny Ag	EXP1912 *	202.6	134.2	243.7	210.0	216.4	197.5	200.7
Progeny Ag	EXP1913 *	193.0	149.1	229.2	194.5	207.5	201.7	195.8
Progeny Ag	EXP1915 *	194.2	161.5	253.0	162.5	204.3	194.9	195.1
Progeny Ag	EXP1918 *	196.7	141.5	230.2	178.1	209.3	202.9	193.1
Progeny Ag	PGY 6116VT2P	215.5	177.2	257.4	227.5	232.4	213.3	220.6
Progeny Ag	PGY 5115VT2P	212.2	182.9	249.6	149.3	222.3	204.9	203.5
Terral Seed	REV 24BHR99	190.2	153.7	230.9	213.7	246.6	183.1	203.0
Terral Seed	REV 24LPR70	182.7	142.1	218.0	177.4	181.3	175.0	179.4
Terral Seed	REV 25BHR80	196.7	164.7	239.6	175.4	221.9	211.6	201.6
Terral Seed	REV 25BHR89	213.8	170.3	248.6	207.2	236.6	195.8	212.1
Terral Seed	REV 26BHR30	189.7	170.1	233.0	203.5	225.1	190.2	201.9
Terral Seed	REV 2858SXE	198.8	161.7	211.4	201.0	205.1	192.0	195.0
Terral Seed	REV 28BHR18	193.0	161.8	244.2	209.9	243.4	203.8	209.4
Mean		202.7	164.2	243.9	191.5	220.7	202.3	204.2
CV		7.4	9.7	7.4	10.9	8.1	7.3	
LSD (0.05)		20.8	22.1	25.1	29.3	53.6	20.6	
R <sup>2</sup>		45.0	54.0	54.5	64.0	25.0	54.9	
Error DF		168	168	168	168	168	168	

<sup>1</sup>Hybrid followed by an asterisk indicates an experimental entry.

## 2019 Corn hybrid yield summary for irrigated locations.

Brand	Hybrid <sup>1</sup>	Macon	Minter City	Stoneville	Stoneville	Overall avg.
		hills (clay)	delta (loam)	delta (clay)	delta (loam)	
		<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>
AgriGold	A644-32TRCRIB	237.5	204.8	180.1	195.1	204.4
AgriGold	A645-16VT2PRO	256.5	237.9	161.6	233.2	222.3
AgriGold	A647-46VT2PRO	242.7	222.0	173.0	203.7	210.4
AgriGold	A648-54STX	239.6	215.0	155.0	211.7	205.3
AgriGold	A6544VT2RIB	260.8	226.6	184.9	229.3	225.4
AgriGold	A6659VT2RIB	259.9	226.6	211.6	237.2	233.8
AgriGold	A6572VT2RIB	244.8	205.5	189.6	232.1	218.0
Agventure	AV8614 YHB	261.8	198.8	204.9	244.6	227.5
Agventure	AV7516 YHB	268.6	195.7	169.1	225.9	214.8
Armor	A1688T	248.8	218.2	197.2	198.6	215.7
Armor	A1810	258.2	205.7	156.2	221.7	210.5
Armor	X8117 *	257.0	202.6	171.4	231.3	215.6
Armor	X9115 *	272.1	234.4	173.4	229.3	227.3
Armor	X9115B *	251.8	220.4	175.9	192.0	210.0
Augusta Seed	A1065	234.8	212.9	163.1	197.3	202.0
Augusta Seed	A4565	255.6	212.4	192.0	226.3	221.6
Augusta Seed	A1367	265.7	205.6	206.2	220.0	224.4
BH Genetics	XP 8509TRE	250.1	208.2	187.4	192.4	209.5
BH Genetics	XP 8511VT2P	256.3	223.6	167.7	204.8	213.1
B-H Genetics	BH 8721VT2P	261.7	210.8	194.5	246.0	228.2
Croplan	C5678	263.9	218.0	159.3	214.1	213.8
Dekalb	DKC62-53	269.1	227.4	178.7	266.5	235.4
Dekalb	DKC64-35	253.3	223.9	174.0	206.6	214.4
Dekalb	DKC65-95	270.5	233.3	186.6	249.9	235.1
Dekalb	DKC66-18	253.3	230.6	168.2	246.6	224.6
Dekalb	DKC66-75	270.6	238.4	178.2	231.9	229.8
Dekalb	DKC67-44	263.0	213.9	190.6	198.2	216.4
Dekalb	DKC68-26	267.4	228.4	161.6	216.8	218.5
Dekalb	DKC68-69	274.5	220.4	190.5	228.2	228.4
Dekalb	DKC70-27	254.6	232.9	173.1	252.4	228.2
Dyna Gro	D54VC14	239.5	216.9	165.6	217.7	209.9
Dyna Gro	D57VC51	273.1	237.5	198.8	231.9	235.3
Dyna-Gro	D55VC80	262.6	230.9	184.2	218.0	223.9
Dyna-Gro	D57VC17	251.6	220.0	177.3	224.3	218.3
Dyna-Gro	D58VC65	268.0	231.0	184.7	253.2	234.3
Great Heart Seed	HT-7302VT2P	256.6	228.8	171.1	226.7	220.8
Great Heart Seed	HT-7381VT2P	252.6	207.1	153.1	202.5	203.8
Great Heart Seed	HT-7425DGV2P	241.8	213.8	176.6	217.9	212.5
Great Heart Seed	HT-7676VT2P	263.4	216.7	174.1	194.2	212.1

## 2019 Corn hybrid yield summary for irrigated locations.

Brand	Hybrid <sup>1</sup>	Macon	Minter City	Stoneville	Stoneville	Overall avg.
		hills (clay)	delta (loam)	delta (clay)	delta (loam)	
		<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>	<i>bu/A</i>
LG Seeds	LG66C32VT2RIB	264.4	213.3	154.9	224.0	214.1
LG Seeds	LG68C22VT2RIB	273.8	226.3	162.0	219.7	220.5
Local Seed	LC0877 VT2P	256.7	227.9	160.1	191.7	209.1
Local Seed	LC1577 VT2P	261.0	222.8	166.8	255.5	226.5
Local Seed	LC1776VT2P	264.7	236.4	178.9	261.8	235.5
Local Seed	LC1878VT2P	261.6	215.0	177.5	197.0	212.8
Local Seed	LC1987VT2P	253.8	212.4	182.4	208.8	214.3
Local Seed	LS1586TC	230.3	186.1	169.0	207.6	198.3
Local Seed	LC1289 VT2P	246.0	207.7	148.7	165.8	192.1
Local Seed	LC1488 VT2P	251.1	215.9	171.9	217.1	214.0
Local Seed	LCX16-91 *	239.3	201.7	163.3	194.5	199.7
Local Seed	LCX17-98 *	261.2	223.7	173.5	207.1	216.4
Mission Seeds	A1687VT2P	255.7	214.8	200.3	209.6	220.1
MorCorn	MC 4255	250.8	211.3	151.2	227.6	210.2
MorCorn	MC4319	234.9	214.9	158.9	206.2	203.7
MorCorn	MC4725	273.7	207.0	182.5	248.1	227.8
Pioneer	P1870YHR	269.7	216.7	190.5	282.5	239.8
Progeny Ag	PGY 8116SS	271.9	182.5	173.0	219.7	211.8
Progeny Ag	PGY 9114VT2P	262.7	216.6	151.3	219.9	212.6
Progeny Ag	PGY 9117VT2P	257.6	205.1	157.5	238.6	214.7
Progeny Ag	PGY 6119VT2P	246.8	209.8	175.4	200.3	208.1
Progeny Ag	EXP1912 *	253.2	219.2	165.7	244.6	220.6
Progeny Ag	EXP1913 *	253.5	194.5	169.6	208.6	206.5
Progeny Ag	EXP1915 *	249.9	187.3	179.0	200.4	204.1
Progeny Ag	PGY 6116VT2P	270.3	201.1	186.4	212.3	217.5
Progeny Ag	PGY 5115VT2P	264.8	223.5	174.1	228.0	222.6
Terral Seed	REV 24BHR99	274.0	208.6	182.7	252.1	229.4
Terral Seed	REV 24LPR70	240.7	194.9	167.4	209.2	203.1
Terral Seed	REV 25BHR80	261.2	197.4	177.1	229.9	216.4
Terral Seed	REV 25BHR89	262.6	192.3	174.7	267.1	224.2
Terral Seed	REV 26BHR30	259.0	197.0	189.1	247.0	223.0
Terral Seed	REV 28BHR18	270.1	205.4	177.4	264.8	229.4
Mean		257.5	214.7	175.4	223.1	217.7
CV		5.8	8.3	8.4	9.6	
LSD (0.05)		20.8	24.8	23.9	34.6	
R <sup>2</sup>		43.5	8.3	59.0	65.0	
Error DF		222	222	148	148	

<sup>1</sup>Hybrid followed by an asterisk indicates an experimental entry.