

CORN HYBRID PERFORMANCE IN MARYLAND

The 1998 field corn hybrid trials were conducted by the Maryland Agricultural Experiment Station and the Department of Natural Resource Science and Landscape Architecture at four locations across Maryland: (1) Lower Eastern Shore Research and Education Center's (REC) Poplar Hill Facility near Quantico in Wicomico County; (2) Wye REC at Queenstown in Queen Anne's County; (3) Central Maryland REC's Clarksville Facility in Howard County; and (4) Western Maryland REC's Keedysville Facility in Washington County. Entries in the tests were solicited from seed companies offering corn hybrids for sale in Maryland. Eighty-eight hybrids were entered in the field corn hybrid trials.

Corn hybrids were planted in a randomized complete block design, replicated three times at each location. Each entry was planted in four-row plots approximately 25 feet long with 30-inch row spacing using a Wintersteiger Plotking 2600 precision-spaced air planter. The seeding rate was 26,500 seeds per acre. Tillage varied according to location. Plantings began on April 30 at the Wye REC and were completed on May 21 at Clarksville. Plots were harvested with a Massey-Ferguson 8-XP combine.

Very dry conditions characterized the 1998 growing season. Precipitation from May through September was lower than the thirty-year average at the Clarksville, Keedysville, Poplar Hill, and Wye locations by 2.7, 3.6, 6.3, and 8.2 inches, respectively. Precipitation and temperatures at the corn hybrid trial locations are given in Figures 1-8. All thirty-year weather data were taken from Owenby and Ezell's *Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days 1961-1990—Maryland* (National Climatic Data Center, Asheville, N.C.).

MEASUREMENTS AND RECORDS

Plant population, lodging, grain yield, and percent moisture were determined for each plot at each test site. Plant population was determined from July 2 to October 8. Lodging, defined as plants with stalks broken below the ear or leaning more than 45°, was determined on the day of harvest. A HarvestMaster HM-420 BF attached to the combine reported test plot weights and percent moisture. Grain yields were adjusted to 15.5% moisture and reported at 56 lb/bu.

Information regarding modified growing degree days (MGDD) was provided by the seed company and was not determined from the Maryland corn hybrid trials. The following formula is used to calculate MGDD's:

$$\text{MGDD} = [(T_{\text{max}} + T_{\text{min}}) / 2] - T_{\text{b}}$$

Where T_{max} is the maximum daily temperature (with an upper limit of 86° F), T_{min} is the minimum daily temperature (with a lower limit of 50° F), and T_{b} is the base temperature equal to 50° F. The formula gives a linear function of how corn grows and accumulates days from time of planting until physiological maturity.

In the tables, an asterisk (*) indicates that the seed company highly recommends the hybrid for whole plant silage production.

Planting and harvesting dates, chemical usage, and other information about the trials are given in Table 1. Results of the trials by location and maturity grouping are given in Tables 2-13. A summary of the trials using relative yields is given in Tables 14-16. Relative yields are based on the average yield of all entries by maturity group and location. The companies that participated in the 1998 trials are listed in Table 17.

Data were statistically analyzed to determine if differences existed between hybrids at each location. At the bottom of each table a location mean, a LSD, and a CV are reported. Least significant differences (LSD) were calculated at the 25% probability level. Therefore, for two hybrids to be statistically different for any particular variable, they must have measured differences equal or greater than the LSD value for that variable. The coefficient of variation (CV) indicates the degree of precision with which the treatments are compared and is a good index of the reliability of the experiment. CV's below 15% are an indication that the precision of the test is good in distinguishing differences between hybrids.

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ADDITIONAL INFORMATION

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Table 1. 1998 Corn hybrid trial plot information.

Lower Eastern Shore REC's Poplar Hill Facility
Wicomico County—Quantico, Maryland

Soil type: Mattapex silt loam
Previous crop: Wheat and double-cropped no-till soybeans
Fertilizer: Through planter-30-40-40-24-0.5 lb N-P₂O₅-K₂O-NH₄SO₄-Zn/acre
Sidedressed with 100 lb N/acre as 30% UAN injected at corn
height=1 ft
Herbicides: Pre-emergent—2 qt/acre Roundup, 1.3 lb/acre Atrazine, 1 lb/acre
Princep, 1.5 pt/acre Dual II, 1 pt/acre 2,4-D, and 3 oz/acre Warrior
Insecticides: 8 lb/acre Force banded over row
Tillage: No-till
Planted: May 5, 1998
Harvested: September 18, 1998

Wye REC
Queen Anne's County—Queenstown, Maryland

Soil type: Matapeake silt loam
Previous crop: Soybeans
Fertilizer: Broadcast 150 lb/acre 0-0-41 N-P₂O₅-K₂O on April 28, 1998
40 lb N/acre as 30% UAN applied on May 6, 1998
Sidedressed with 133 lb N/acre as 30% UAN on June 9, 1998
Herbicides: Pre-emergent—2.2 qt/acre Bicep II on May 1, 1998
Insecticides: 6 oz/acre Ambush applied with herbicide on May 1, 1998
Tillage: Conventional
Planted: April 30, 1998
Harvested: September 14, 1998

Table 1, continued.

Central Maryland REC's Clarksville Facility
Howard County—Clarksville, Maryland

Soil types: Chester silt loam and Delanco silt loam
Previous crops: Corn
Fertilizer: 195 lb N/acre as 30% UAN applied on May 22 1998, mixed with herbicide
Herbicides: 3 qt/acre Bicep Lite applied on May 22,1998
2.5 pt/acre Marksman applied on June 5, 1998
Insecticides: None
Tillage: Heavy disked May 16 and 19, 1998
Planted: May 21, 1998
Harvested: October 13, 1998

Western Maryland REC's Keedysville Facility
Washington County—Keedysville, Maryland

Soil type: Hagerstown silt loam
Previous crop: Soybeans
Fertilizer: 161 lb N/acre as urea applied on April 23, 1998
Herbicides: None
Insecticides: None
Tillage: Conventional
Planted: May 20, 1998
Harvested: October 21, 1998

Table 2. 1998 Maryland field corn hybrid trial results at Clarksville: early-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Cargill	7770	130	23	2600	2	17945
Chemgro	6742	111	21	2500	4	17581
Chemgro	7047	124	21	2600	1	19400
Doebler's	596 XY	102	19	2500	4	16005
Doebler's	636 XY	116	23	2550	5	16126
Doebler's	642 XP	120	22	2550	2	17703
Garst	8585 GLSIT	102	20	2555	3	18794
Garst	8541 IT	120	20	2560	2	17339
Garst	8464	131	22	2570	2	18066
Mid-Atlantic	MA 9010	114	22	2450	4	16854
Mid-Atlantic	MAX 9110	104	19	2475	6	22068
Mid-Atlantic	MA 9141	81	22	2600	5	16854
NC+	4646	122	19	2425	7	16854
NC+	4578	116	23	2450	4	18551
NC+	4718	115	19	2490	6	14429
NC+	5697 *	140	22	2515	6	19643
Southern States	576	99	18	2570	6	19036
Southern States	627	118	21	2580	3	17339
Terra	TR 1066 *	127	22	2460	5	17096
Terra	TR 1088	137	21	2540	1	20128
Terra	TR 1158IT *	122	23	2600	7	16733
Grand Mean		117	21	NA	4	17835

LSD .25 = 18 bushels; CV = 22%

Table 3. 1998 Maryland field corn hybrid trial results at Clarksville: mid-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agripro	AP 9707 *	68	22	2750	17	21340
Agripro	AP 9828	95	23	2780	5	18915
Agripro	AP 9646	89	23	2780	9	16248
Agway	AG 657	105	19	2700	10	18430
Agway*	AG 663	110	20	2725	4	18188
Augusta	A 285	105	20	2720	4	17218
Cargill	8412	119	23	2720	3	17945
Chemgro	7171	79	21	2650	3	20734
Chemgro	7199	108	20	2650	6	19643
Chemgro	7294	119	26	2800	4	17581
Chemgro	7343	105	22	2800	3	19036
Dekalb	DK 551	104	17	2650	4	18188
Dekalb	DK 585	116	20	2720	5	17096
Dekalb	DK 595BtX	103	19	2720	4	18309
Dekalb	DK 617	127	21	2750	5	22068
Dekalb	DK 618BtX	100	20	2760	3	17945
Dekalb	DK 626BtX	93	19	2800	25	16005
Doebler's	746 XY	109	21	2650	3	18794
Doebler's	75 X2	105	25	2700	2	18066
Doebler's	82 XP	108	23	2700	1	17218
Doebler's	851 XY	101	23	2700	7	17703
Doebler's	859 XY	85	24	2750	5	17945
Dyna gro	5322	98	21	2625	5	16733
Dyna gro	5407	86	18	2700	15	17945
Dyna gro	5456	113	22	2750	6	14186
Garst	8300 GLS	115	22	2630	2	16369
Garst	8220	116	30	2690	4	15156
Mid-Atlantic	MAX 9152	87	19	2625	14	15520
Mid-Atlantic	MA 9171	97	24	2650	15	16733
Mid-Atlantic	MAX 9173	111	23	2650	8	18915
Mycogen	2801	116	22	2725	10	17218
Mycogen	7250	101	20	2730	2	17218
Mycogen	2832 IMI	89	22	2745	10	17703
Mycogen	2853	112	23	2760	2	18915
Mycogen	2772	100	19	2785	19	17460
NK	N 70-D5	82	22	2720	5	21461
Pioneer	33 Y 18	89	21	2680	19	17339
Seedway	E 748	110	23	2650	6	20491
Seedway	E 774	117	22	2650	5	19036
Southern States	598 IT	75	19	2610	1	21340
Southern States	818	110	21	2650	3	17339
Southern States	676	102	19	2710	6	16005
Southern States	727	108	19	2720	3	16611
Southern States	726	96	23	2730	8	18794
Southern States	747	110	23	2750	10	20370
Southern States	793 A	78	22	2780	12	18188
Terra	TR 1136	124	25	2620	1	19885
Terra	TR 1157 *	85	20	2680	5	22553
Grand Mean		102	22	NA	7	18210

LSD .25 = 18 bushels; CV = 22%

Table 4. 1998 Maryland field corn hybrid trial results at Clarksville: full-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agway*	AG 773	108	21	2850	6	18430
Agway*	AG 795	88	22	2900	7	18309
Augusta	A 2062	94	23	2830	9	18188
Chemgro	7596	96	24	2900	6	13823
Chemgro	7796	123	24	2950	1	19036
Clark's	CL 785	107	22	2825	2	15278
Clark's	CL 789	100	21	2875	4	15399
Clark's	CL 797 *	105	24	2950	2	20249
Dekalb	DK 679	90	23	2885	6	16126
Dyna gro	5508	97	23	2825	2	20370
Dyna gro	5565	99	23	2850	21	15156
Dyna gro	5570	111	23	2900	6	17945
Mycogen	2888	106	24	2865	2	16733
NK	N 75-K6	120	23	2810	6	14671
NK	N 82-E9 *	114	23	2830	15	14550
Southern States	767	114	22	2800	2	14429
Southern States	797 IT	102	23	2820	7	17581
Southern States	897 *	123	24	2860	6	16854
Southern States	828	88	24	2870	5	16369
Grand Mean		104	23	NA	6	16815

LSD .25 = 18 bushels; CV = 22%

Table 5. 1998 Maryland field corn hybrid trial results at Keedysville: early-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Cargill	7770	91	18	2600	4	21175
Chemgro	6742	72	13	2500	4	21296
Chemgro	7047	88	15	2600	1	21054
Doebler's	596 XY	94	14	2500	2	20207
Doebler's	636 XY	89	16	2550	3	20933
Doebler's	642 XP	103	15	2550	2	23111
Garst	8585 GLSIT	93	15	2555	3	18755
Garst	8541 IT	113	17	2560	1	18392
Garst	8464	97	17	2570	1	20086
Mid-Atlantic	MA 9010	93	14	2450	0	19844
Mid-Atlantic	MAX 9110	97	15	2475	2	21296
Mid-Atlantic	MA 9141	82	16	2600	3	20691
NC+	4646	72	15	2425	7	18029
NC+	4578	92	18	2450	2	23232
NC+	4718	80	14	2490	11	19844
NC+	5697 *	73	17	2515	2	17545
Southern States	576	97	16	2570	4	18634
Southern States	627	102	15	2580	2	15609
Terra	TR 1066 *	92	15	2460	4	19118
Terra	TR 1088	86	14	2540	3	20328
Terra	TR 1158IT *	72	18	2600	3	22022
Grand Mean		89	16	NA	3	20057

LSD .25 = 15 bushels; CV = 22%

Table 6. 1998 Maryland field corn hybrid trial results at Keedysville: mid-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agripro	AP 9707 *	73	18	2750	4	19481
Agripro	AP 9828	85	18	2780	4	19118
Agripro	AP 9646	89	18	2780	5	20086
Agway	AG 657	94	15	2700	2	21175
Agway*	AG 663	86	14	2725	5	18513
Augusta	A 285	68	16	2720	2	21659
Cargill	8412	94	18	2720	3	18876
Chemgro	7171	63	16	2650	5	20086
Chemgro	7199	82	16	2650	4	16819
Chemgro	7294	85	17	2800	4	19239
Chemgro	7343	67	16	2800	2	18755
Dekalb	DK 551	95	14	2650	5	22264
Dekalb	DK 585	101	15	2720	1	18392
Dekalb	DK 595BtX	111	15	2720	3	20812
Dekalb	DK 617	112	16	2750	1	20328
Dekalb	DK 618BtX	79	17	2760	1	13673
Dekalb	DK 626BtX	98	15	2800	3	20812
Doebler's	746 XY	75	16	2650	3	19723
Doebler's	75 X2	79	18	2700	4	19481
Doebler's	82 XP	103	18	2700	2	21054
Doebler's	851 XY	97	18	2700	3	17787
Doebler's	859 XY	94	19	2750	4	19602
Dyna gro	5322	84	14	2625	1	17061
Dyna gro	5407	85	15	2700	2	18755
Dyna gro	5456	74	15	2750	3	23111
Garst	8300 GLS	75	16	2630	2	18271
Garst	8220	94	20	2690	1	20086
Mid-Atlantic	MAX 9152	83	17	2625	3	19481
Mid-Atlantic	MA 9171	109	20	2650	4	18513
Mid-Atlantic	MAX 9173	66	18	2650	2	19723
Mycogen	2801	84	16	2725	5	18755
Mycogen	7250	95	15	2730	4	20812
Mycogen	2832 IMI	112	15	2745	2	19481
Mycogen	2853	94	17	2760	3	21901
Mycogen	2772	84	14	2785	6	20933
NK	N 70-D5	87	16	2720	3	21175
Pioneer	33 Y 18	117	16	2680	2	19602
Seedway	E 748	73	16	2650	4	20570
Seedway	E 774	82	17	2650	1	17666
Southern States	598 IT	72	15	2610	2	20812
Southern States	818	84	18	2650	1	16093
Southern States	676	77	18	2710	4	18876
Southern States	727	77	16	2720	3	15851
Southern States	726	90	18	2730	2	15972
Southern States	747	76	18	2750	4	22264
Southern States	793 A	92	17	2780	8	19239
Terra	TR 1136	75	16	2620	2	20933
Terra	TR 1157 *	86	18	2680	3	20086
Grand Mean		87	17	NA	3	19453

LSD .25 = 15 bushels; CV = 22%

Table 7. 1998 Maryland field corn hybrid trial results at Keedysville: full-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agway*	AG 773	74	16	2850	3	19239
Agway*	AG 795	103	17	2900	2	19602
Augusta	A 2062	80	19	2830	4	18513
Chemgro	7596	93	17	2900	5	21659
Chemgro	7796	91	18	2950	1	18513
Clark's	CL 785	68	16	2825	4	19844
Clark's	CL 789	84	18	2875	3	18513
Clark's	CL 797 *	87	18	2950	3	20933
Dekalb	DK 679	90	18	2885	7	22264
Dyna gro	5508	94	16	2825	1	21296
Dyna gro	5565	96	19	2850	4	20691
Dyna gro	5570	83	17	2900	2	19239
Mycogen	2888	88	19	2865	5	22869
NK	N 75-K6	62	18	2810	6	19723
NK	N 82-E9 *	67	19	2830	5	21659
Southern States	767	94	16	2800	1	20086
Southern States	797 IT	77	19	2820	1	18634
Southern States	897 *	81	20	2860	4	22264
Southern States	828	92	18	2870	0	20328
Grand Mean		84	18	NA	3	20309

LSD .25 = 15 bushels; CV = 22%

Table 8. 1998 Maryland field corn hybrid trial results at Poplar Hill: early-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Cargill	7770	146	21	2600	1	21901
Chemgro	6742	121	18	2500	0	20933
Chemgro	7047	133	18	2600	1	23111
Doebler's	596 XY	132	16	2500	0	20449
Doebler's	636 XY	121	19	2550	0	21175
Doebler's	642 XP	149	20	2550	2	18755
Garst	8585 GLSIT	121	18	2555	1	22022
Garst	8541 IT	144	18	2560	3	22385
Garst	8464	138	20	2570	0	21175
Mid-Atlantic	MA 9010	132	17	2450	1	16456
Mid-Atlantic	MAX 9110	135	17	2475	0	23111
Mid-Atlantic	MA 9141	136	19	2600	0	21538
NC+	4646	136	18	2425	1	19602
NC+	4578	127	20	2450	1	20691
NC+	4718	126	17	2490	0	17787
NC+	5697 *	130	19	2515	1	20933
Southern States	576	141	16	2570	0	22385
Southern States	627	138	17	2580	0	21659
Terra	TR 1066 *	141	16	2460	2	22264
Terra	TR 1088	121	17	2540	0	22385
Terra	TR 1158IT *	140	19	2600	0	17424
Grand Mean		134	18	NA	1	20864

LSD .25 = 14 bushels; CV = 13%

Table 9. 1998 Maryland field corn hybrid trial results at Poplar Hill: mid-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agripro	AP 9707 *	141	22	2750	1	21780
Agripro	AP 9828	123	23	2780	2	22869
Agripro	AP 9646	132	20	2780	0	23474
Agway	AG 657	140	19	2700	0	21659
Agway*	AG 663	124	17	2725	1	22022
Augusta	A 285	114	17	2720	0	23595
Cargill	8412	128	23	2720	1	22869
Chemgro	7171	146	20	2650	0	21901
Chemgro	7199	133	19	2650	1	22627
Chemgro	7294	122	19	2800	2	22869
Chemgro	7343	115	19	2800	0	22627
Dekalb	DK 551	126	18	2650	1	24079
Dekalb	DK 585	140	17	2720	0	20933
Dekalb	DK 595BtX	170	19	2720	0	20812
Dekalb	DK 617	113	18	2750	0	23837
Dekalb	DK 618BtX	146	18	2760	0	19723
Dekalb	DK 626BtX	140	18	2800	0	21901
Doebler's	746 XY	157	20	2650	0	21659
Doebler's	75 X2	156	20	2700	0	21417
Doebler's	82 XP	151	20	2700	0	21659
Doebler's	851 XY	128	22	2700	1	22748
Doebler's	859 XY	145	23	2750	1	21417
Dyna gro	5322	128	18	2625	1	21296
Dyna gro	5407	122	18	2700	1	21780
Dyna gro	5456	147	19	2750	0	21538
Garst	8300 GLS	154	20	2630	0	22990
Garst	8220	160	23	2690	1	19602
Mid-Atlantic	MAX 9152	121	23	2625	2	22990
Mid-Atlantic	MA 9171	156	23	2650	1	22022
Mid-Atlantic	MAX 9173	126	19	2650	0	22506
Mycogen	2801	142	19	2725	1	20933
Mycogen	7250	144	19	2730	1	22990
Mycogen	2832 IMI	158	19	2745	1	23474
Mycogen	2853	127	19	2760	1	21659
Mycogen	2772	153	18	2785	1	19481
NK	N 70-D5	143	18	2720	1	23232
Pioneer	33 Y 18	149	20	2680	1	18997
Seedway	E 748	146	21	2650	1	21054
Seedway	E 774	137	19	2650	3	22748
Southern States	598 IT	135	18	2610	1	21054
Southern States	818	127	19	2650	1	20328
Southern States	676	134	16	2710	1	22143
Southern States	727	127	18	2720	1	20933
Southern States	726	148	20	2730	2	21538
Southern States	747	148	22	2750	2	20691
Southern States	793 A	122	20	2780	3	23232
Terra	TR 1136	151	18	2620	1	22143
Terra	TR 1157 *	151	19	2680	2	22627
Grand Mean		139	20	NA	1	21926

LSD .25 = 14 bushels; CV = 13%

Table 10. 1998 Maryland field corn hybrid trial results at Poplar Hill: full-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agway*	AG 773	147	20	2850	1	21659
Agway*	AG 795	141	23	2900	2	22264
Augusta	A 2062	147	23	2830	2	21417
Chemgro	7596	148	19	2900	2	23232
Chemgro	7796	147	21	2950	1	22627
Clark's	CL 785	148	19	2825	2	22748
Clark's	CL 789	148	20	2875	1	20207
Clark's	CL 797 *	163	21	2950	0	23353
Dekalb	DK 679	144	22	2885	0	20933
Dyna gro	5508	130	21	2825	1	22264
Dyna gro	5565	145	22	2850	1	21659
Dyna gro	5570	161	19	2900	2	21417
Mycogen	2888	142	23	2865	0	21659
NK	N 75-K6	139	21	2810	1	23232
NK	N 82-E9 *	154	20	2830	1	22264
Southern States	767	148	19	2800	0	21538
Southern States	797 IT	140	19	2820	1	22990
Southern States	897 *	167	22	2860	1	18392
Southern States	828	151	20	2870	0	21054
Grand Mean		148	21	NA	1	21837

LSD .25 = 14 bushels; CV = 13%

Table 11. 1998 Maryland field corn hybrid trial results at Wye: early-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Cargill	7770	136	21	2600	1	23474
Chemgro	6742	119	15	2500	3	22627
Chemgro	7047	106	15	2600	1	24684
Doebler's	596 XY	118	15	2500	2	23353
Doebler's	636 XY	116	17	2550	1	23111
Doebler's	642 XP	134	19	2550	1	22990
Garst	8585 GLSIT	115	17	2555	1	24079
Garst	8541 IT	128	18	2560	4	22990
Garst	8464	135	19	2570	2	22143
Mid-Atlantic	MA 9010	104	16	2450	1	22506
Mid-Atlantic	MAX 9110	126	18	2475	2	24079
Mid-Atlantic	MA 9141	125	18	2600	0	23595
NC+	4646	141	18	2425	1	22385
NC+	4578	120	19	2450	1	22990
NC+	4718	141	17	2490	0	22264
NC+	5697 *	137	20	2515	3	22143
Southern States	576	121	15	2570	3	22506
Southern States	627	147	16	2580	2	23716
Terra	TR 1066 *	128	18	2460	3	23111
Terra	TR 1088	113	18	2540	2	23232
Terra	TR 1158IT *	133	19	2600	1	22748
Grand Mean		126	18	NA	2	23082

LSD .25 = 15 bushels; CV = 15%

Table 12. 1998 Maryland field corn hybrid trial results at Wye: mid-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agripro	AP 9707 *	125	21	2750	1	22748
Agripro	AP 9828	132	24	2780	1	22506
Agripro	AP 9646	120	23	2780	2	23232
Agway	AG 657	125	18	2700	1	22022
Agway*	AG 663	146	18	2725	2	23595
Augusta	A 285	137	18	2720	2	19723
Cargill	8412	142	23	2720	3	22627
Chemgro	7171	127	19	2650	0	23837
Chemgro	7199	123	19	2650	0	22990
Chemgro	7294	128	20	2800	0	24926
Chemgro	7343	150	19	2800	1	23958
Dekalb	DK 551	122	15	2650	1	25168
Dekalb	DK 585	110	14	2720	2	22506
Dekalb	DK 595BtX	129	17	2720	2	22264
Dekalb	DK 617	138	18	2750	0	26015
Dekalb	DK 618BtX	134	18	2760	1	23353
Dekalb	DK 626BtX	156	18	2800	2	23474
Doebler's	746 XY	131	18	2650	2	22022
Doebler's	75 X2	131	23	2700	2	22264
Doebler's	82 XP	135	23	2700	1	24321
Doebler's	851 XY	140	23	2700	1	22748
Doebler's	859 XY	129	24	2750	2	22990
Dyna gro	5322	110	15	2625	2	23474
Dyna gro	5407	132	18	2700	2	21901
Dyna gro	5456	142	19	2750	2	23595
Garst	8300 GLS	130	20	2630	2	22385
Garst	8220	99	22	2690	1	22869
Mid-Atlantic	MAX 9152	117	22	2625	2	22869
Mid-Atlantic	MA 9171	137	23	2650	2	23111
Mid-Atlantic	MAX 9173	129	22	2650	1	22506
Mycogen	2801	136	18	2725	1	24079
Mycogen	7250	147	19	2730	6	21901
Mycogen	2832 IMI	121	19	2745	1	23837
Mycogen	2853	134	19	2760	0	22748
Mycogen	2772	127	17	2785	1	22748
NK	N 70-D5	139	18	2720	1	24321
Pioneer	33 Y 18	144	20	2680	1	22869
Seedway	E 748	129	22	2650	1	23474
Seedway	E 774	123	21	2650	1	24200
Southern States	598 IT	122	18	2610	3	22990
Southern States	818	124	19	2650	1	22385
Southern States	676	122	18	2710	1	22990
Southern States	727	131	17	2720	1	22627
Southern States	726	107	19	2730	2	23595
Southern States	747	131	23	2750	1	22506
Southern States	793 A	122	20	2780	1	22748
Terra	TR 1136	137	19	2620	2	23595
Terra	TR 1157 *	137	22	2680	2	23716
Grand Mean		130	20	NA	1	23111

LSD .25 = 15 bushels; CV = 15%

Table 13. 1998 Maryland field corn hybrid trial results at Wye: full-maturity group.

Brand	Hybrid	Bu/acre at 15.5% Moisture	% Moisture at harvest	MGDD's	% Lodging at harvest	Plants/acre
Agway*	AG 773	141	21	2850	1	22627
Agway*	AG 795	117	23	2900	6	22990
Augusta	A 2062	118	23	2830	1	21296
Chemgro	7596	129	23	2900	4	23353
Chemgro	7796	128	24	2950	2	23474
Clark's	CL 785	127	19	2825	1	23837
Clark's	CL 789	124	23	2875	2	23958
Clark's	CL 797 *	145	23	2950	2	23837
Dekalb	DK 679	131	24	2885	3	23716
Dyna gro	5508	113	19	2825	1	24079
Dyna gro	5565	136	23	2850	3	22506
Dyna gro	5570	123	23	2900	2	22264
Mycogen	2888	138	24	2865	2	24200
NK	N 75-K6	117	21	2810	2	24200
NK	N 82-E9 *	148	20	2830	1	23716
Southern States	767	127	19	2800	2	22869
Southern States	797 IT	128	21	2820	2	22748
Southern States	897 *	116	22	2860	1	23111
Southern States	828	115	21	2870	3	24442
Grand Mean		127	22	NA	2	23328

LSD .25 = 15 bushels; CV = 15%

Table 14. Summary of 1998 Maryland field corn hybrid trial results: early-maturity group.

Brand	Hybrid	Percent Relative Yield			
		Poplar Hill	Wye	Clarksville	Keedysville
Cargill	7770	109	108	111	101
Chemgro	6742	90	95	95	81
Chemgro	7047	99	84	106	98
Doebler's	596 XY	99	94	87	105
Doebler's	636 XY	91	92	100	100
Doebler's	642 XP	111	107	103	115
Garst	8585 GLSIT	91	92	88	104
Garst	8541 IT	108	102	102	127
Garst	8464	103	107	112	109
Mid-Atlantic	MA 9010	99	82	98	104
Mid-Atlantic	MAX 9110	101	100	89	108
Mid-Atlantic	MA 9141	102	99	70	91
NC+	4646	102	112	105	81
NC+	4578	95	95	100	103
NC+	4718	94	112	98	90
NC+	5697 *	97	109	120	82
Southern States	576	105	96	85	108
Southern States	627	103	117	101	114
Terra	TR 1066 *	105	102	109	103
Terra	TR 1088	91	90	118	96
Terra	TR 1158IT *	104	106	104	80
Grand Mean		100	100	100	100

Table 15. Summary of 1998 Maryland field corn hybrid trial results: mid-maturity group.

Brand	Hybrid	Poplar Hill	Wye	Clarksville	Keedysville
		Percent Relative Yield			
Agripro	AP 9707 *	101	96	67	84
Agripro	AP 9828	89	102	94	99
Agripro	AP 9646	95	92	87	103
Agway	AG 657	101	96	103	109
Agway*	AG 663	90	112	108	100
Augusta	A 285	82	105	104	79
Cargill	8412	92	109	117	109
Chemgro	7171	105	98	78	72
Chemgro	7199	96	94	106	94
Chemgro	7294	88	98	117	98
Chemgro	7343	83	115	104	77
Dekalb	DK 551	91	94	102	110
Dekalb	DK 585	101	84	115	117
Dekalb	DK 595BtX	122	100	101	128
Dekalb	DK 617	81	106	125	129
Dekalb	DK 618BtX	106	104	99	91
Dekalb	DK 626BtX	101	120	92	113
Doebler's	746 XY	113	101	107	86
Doebler's	75 X2	113	101	103	91
Doebler's	82 XP	109	104	106	119
Doebler's	851 XY	93	108	99	112
Doebler's	859 XY	105	99	83	109
Dyna gro	5322	93	84	96	97
Dyna gro	5407	88	101	84	98
Dyna gro	5456	106	109	111	85
Garst	8300 GLS	111	100	113	86
Garst	8220	115	76	114	109
Mid-Atlantic	MAX 9152	87	90	86	96
Mid-Atlantic	MA 9171	113	105	95	126
Mid-Atlantic	MAX 9173	91	99	109	76
Mycogen	2801	103	104	114	97
Mycogen	7250	104	113	99	110
Mycogen	2832 IMI	114	93	87	129
Mycogen	2853	92	103	110	109
Mycogen	2772	111	97	98	97
NK	N 70-D5	103	107	80	100
Pioneer	33 Y 18	108	111	87	135
Seedway	E 748	106	99	108	85
Seedway	E 774	99	95	115	94
Southern States	598 IT	98	94	74	84
Southern States	818	92	96	108	97
Southern States	676	97	94	101	89
Southern States	727	92	101	106	88
Southern States	726	107	82	94	104
Southern States	747	107	101	108	88
Southern States	793 A	88	94	77	107
Terra	TR 1136	109	105	122	87
Terra	TR 1157 *	109	105	83	99
Grand Mean		100	100	100	100

Table 16. Summary of 1998 Maryland field corn hybrid trial results: full-maturity group.

Brand	Hybrid	Poplar Hill	Wye	Clarksville	Keedysville
		Percent Relative Yield			
Agway*	AG 773	99	111	104	88
Agway*	AG 795	95	92	84	122
Augusta	A 2062	99	93	90	95
Chemgro	7596	100	101	92	110
Chemgro	7796	99	100	118	108
Clark's	CL 785	100	100	102	80
Clark's	CL 789	100	97	96	99
Clark's	CL 797 *	110	114	101	103
Dekalb	DK 679	98	103	86	106
Dyna gro	5508	88	89	93	111
Dyna gro	5565	98	107	95	113
Dyna gro	5570	109	96	106	99
Mycogen	2888	96	108	101	104
NK	N 75-K6	94	92	115	73
NK	N 82-E9 *	104	116	109	80
Southern States	767	100	100	109	112
Southern States	797 IT	95	101	98	91
Southern States	897 *	113	91	118	96
Southern States	828	102	90	84	109
Grand Mean		100	100	100	100

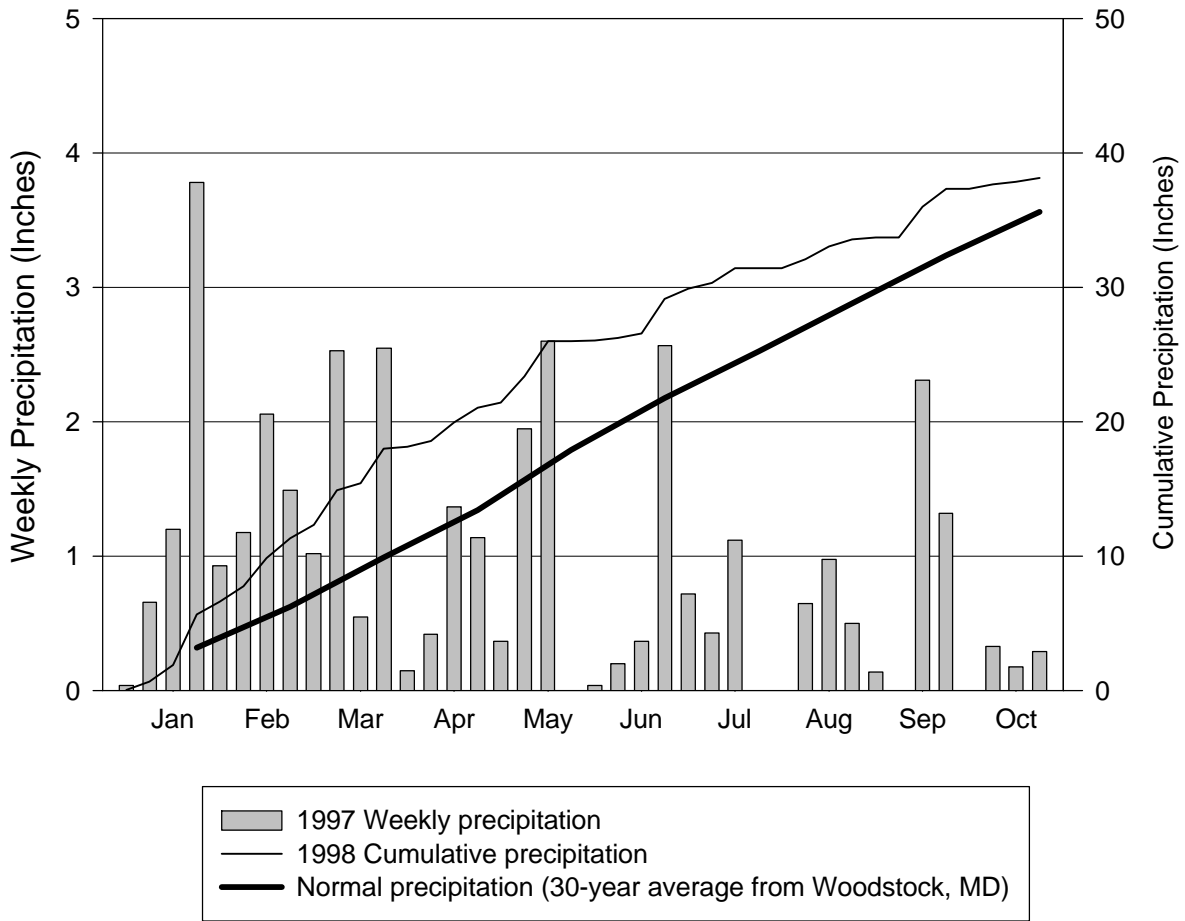


Figure 1. 1998 Precipitation at Clarksville.

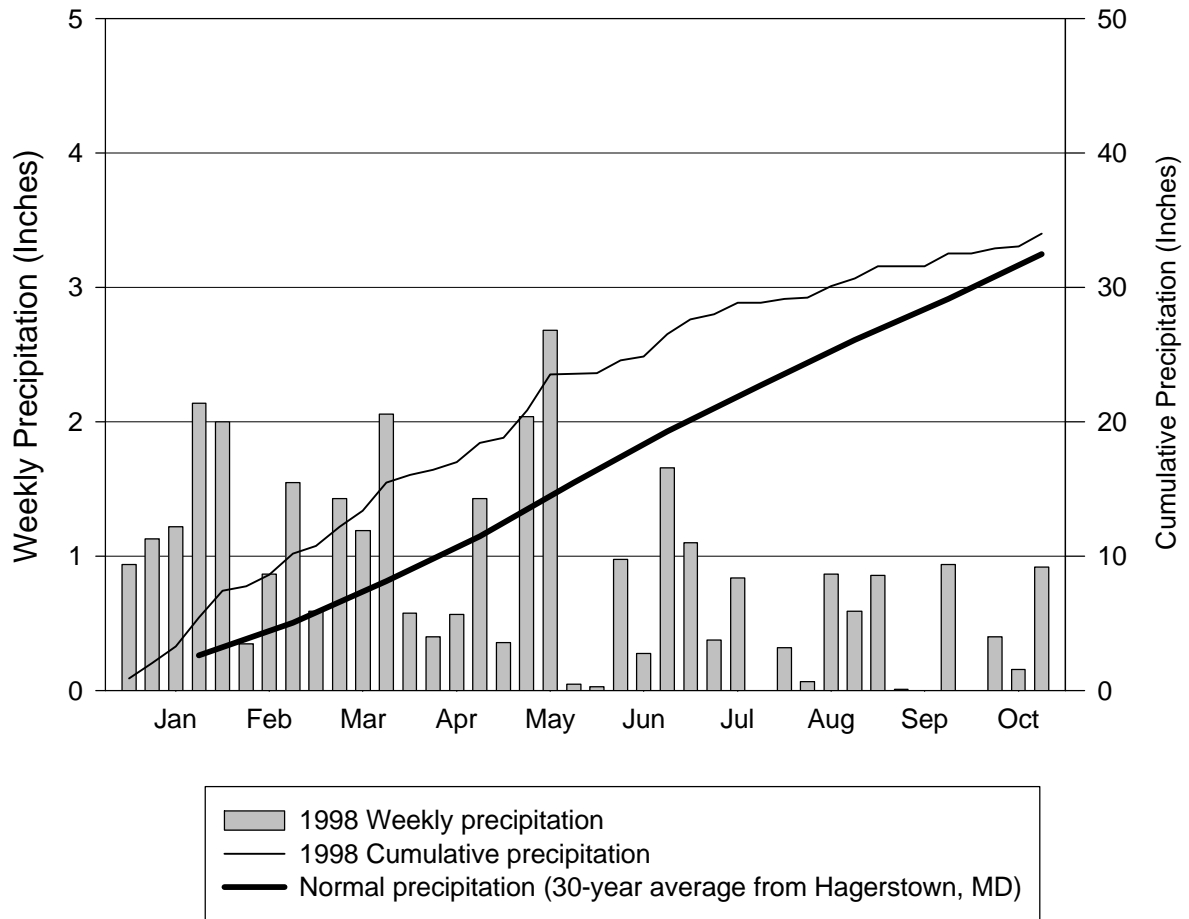


Figure 2. 1998 Precipitation at Keedysville.

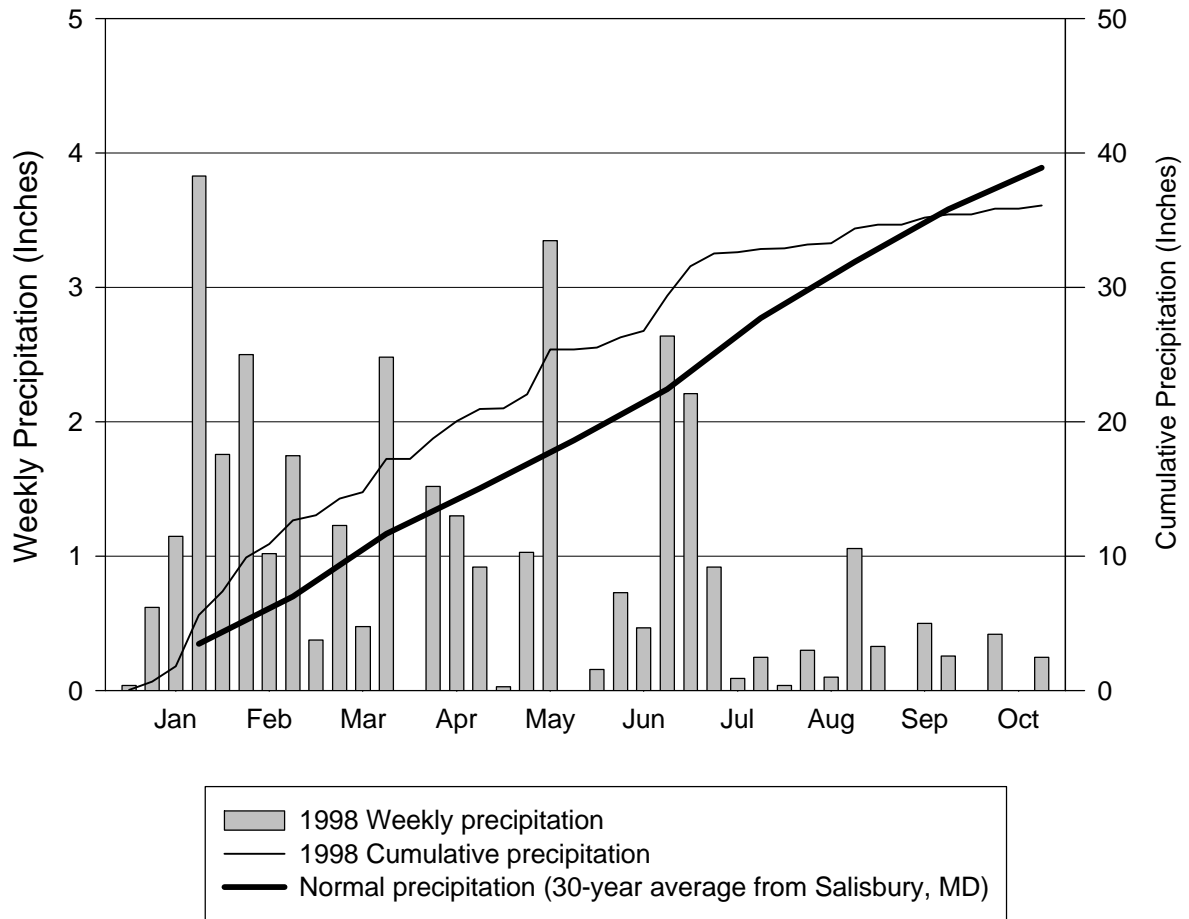


Figure 3. 1998 Precipitation at Poplar Hill.

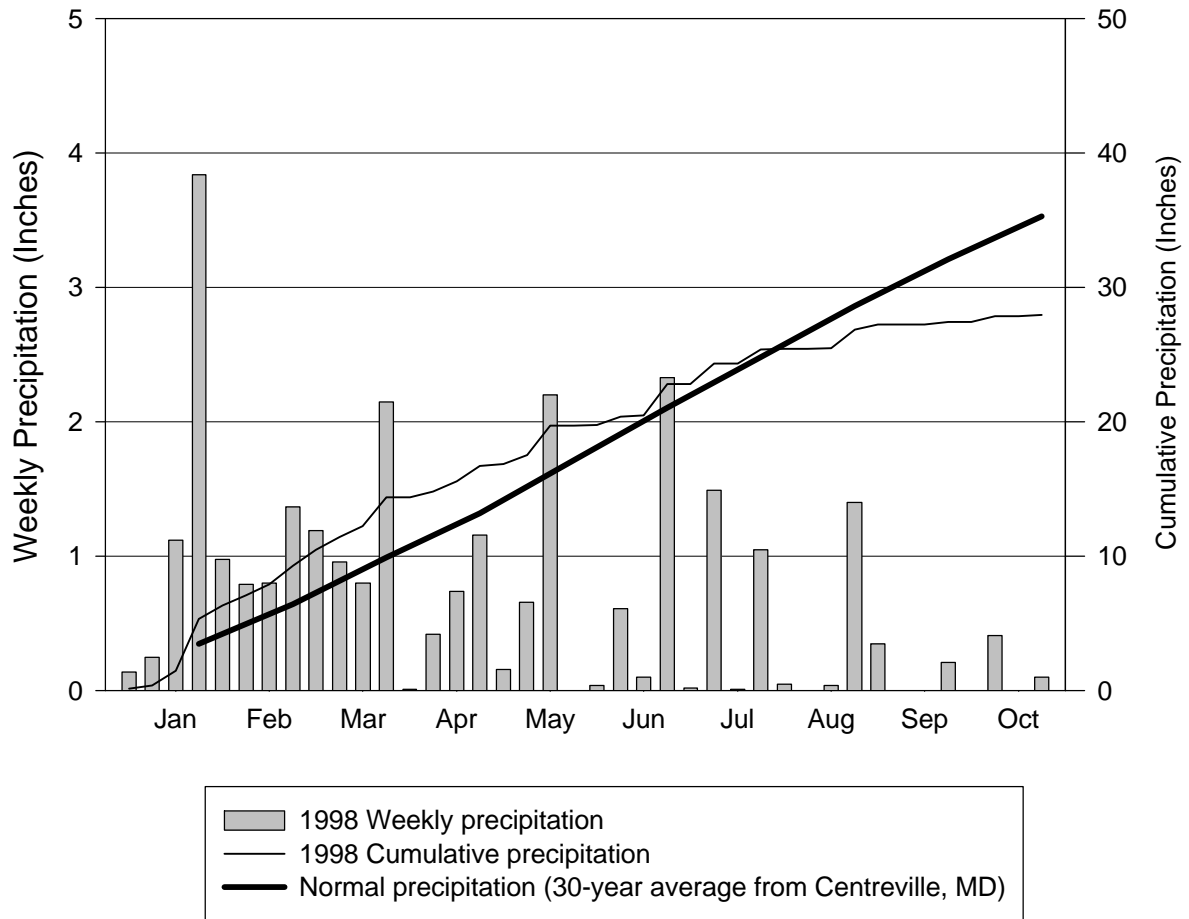


Figure 4. 1998 Precipitation at Wye.

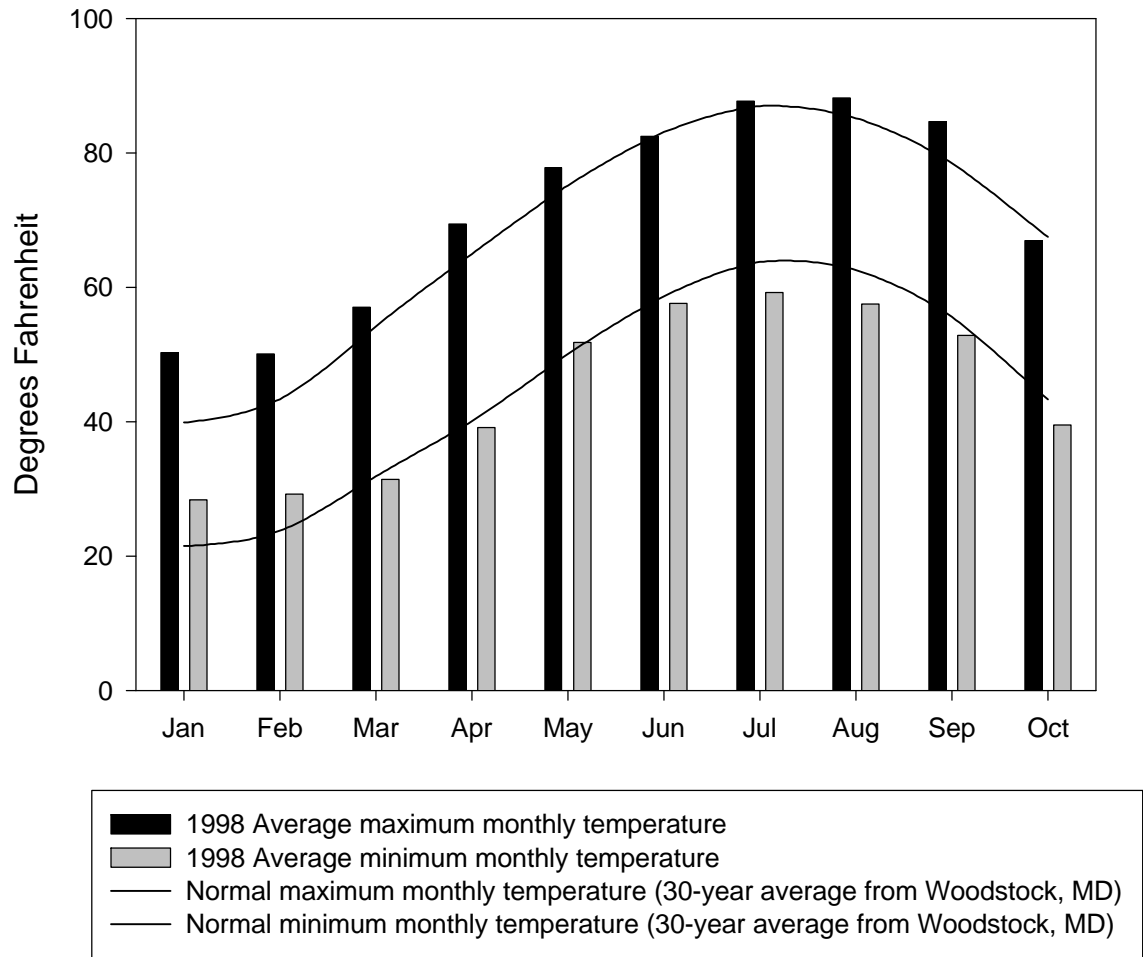


Figure 5. Clarksville Temperatures.

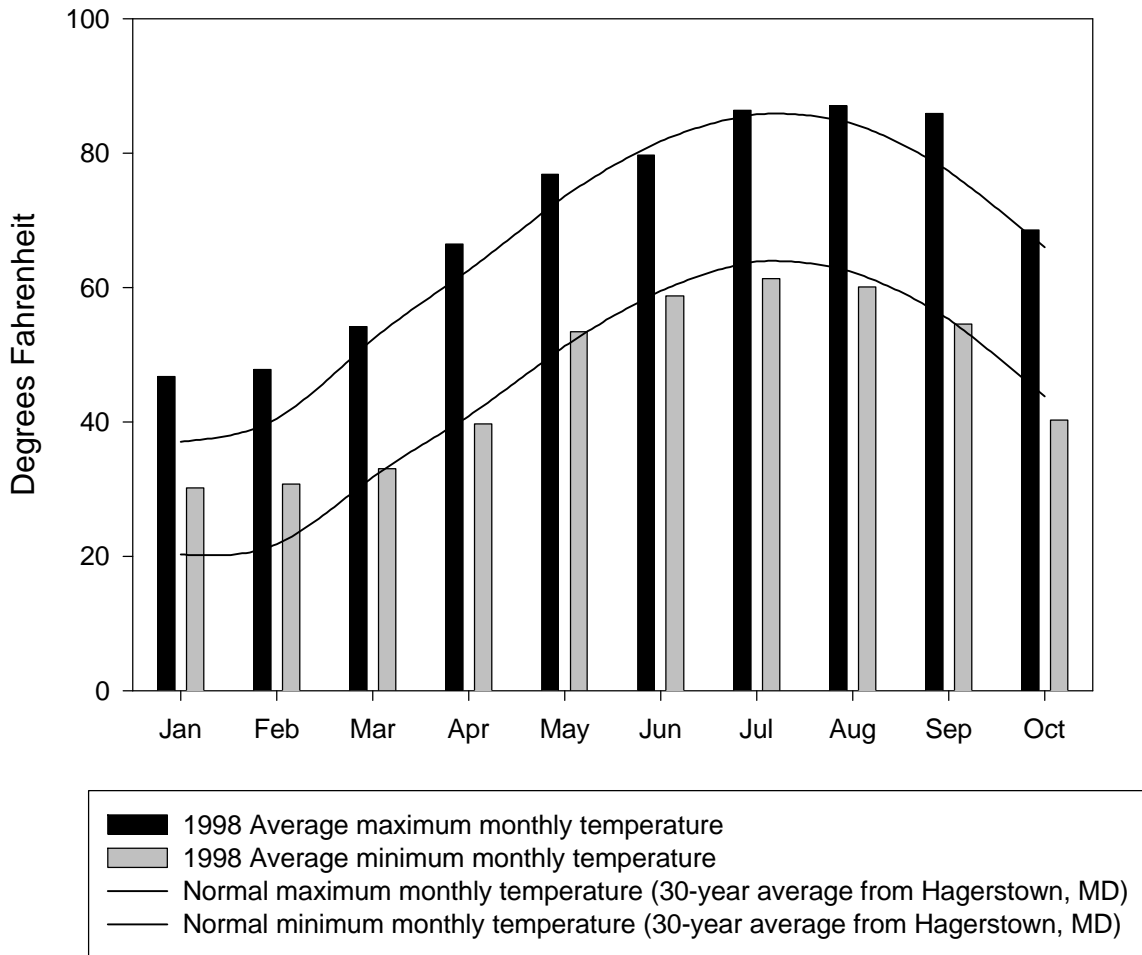


Figure 6. Keedysville Temperatures.

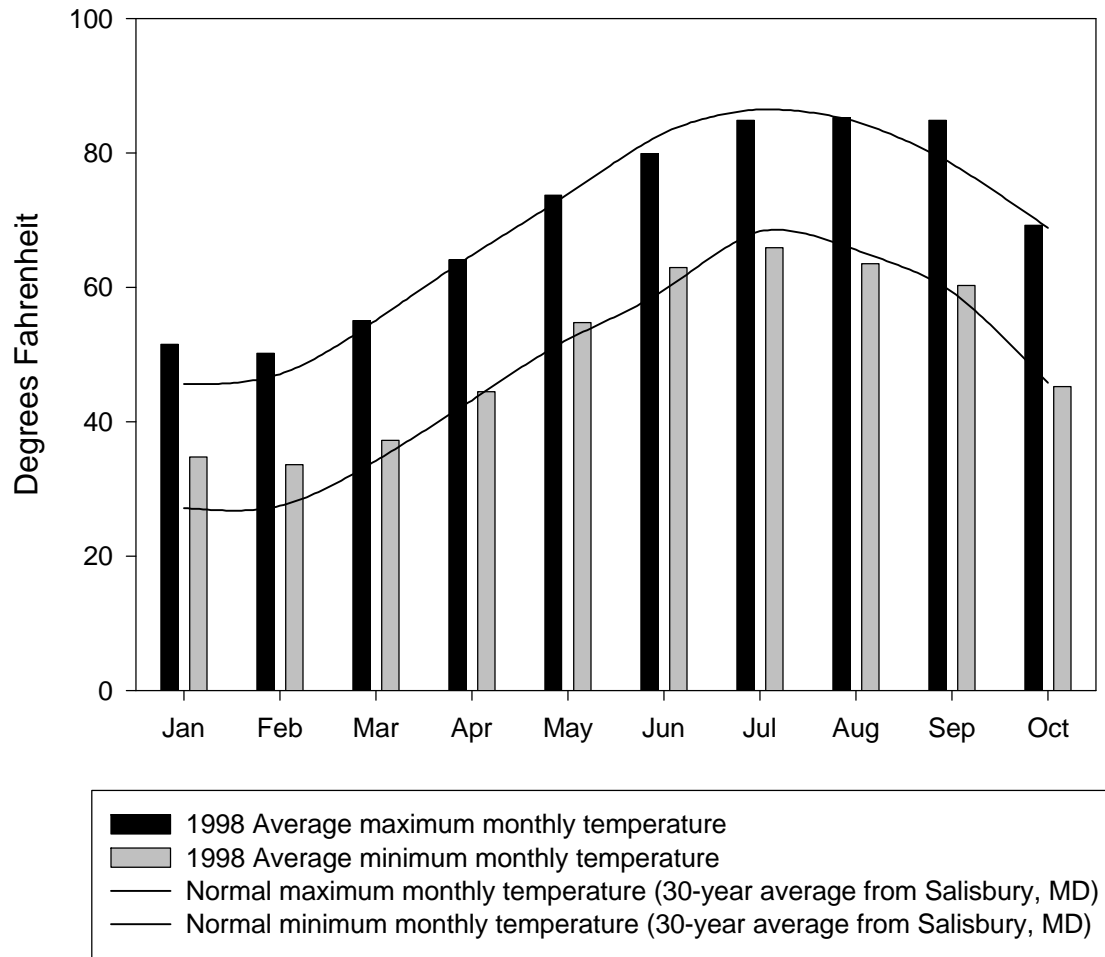


Figure 7. Poplar Hill Temperatures.

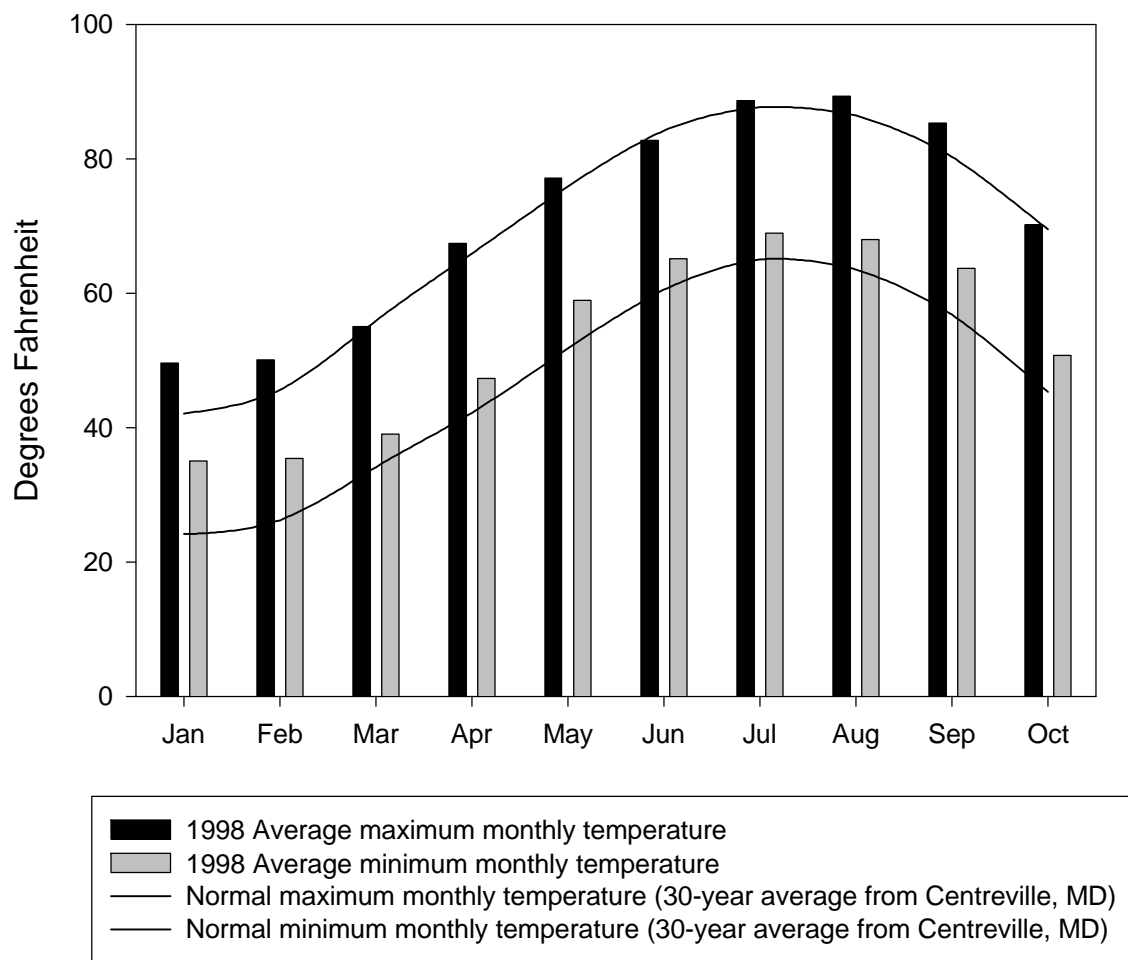


Figure 8. Wye Temperatures.

Table 13. Participating companies in the 1998 Maryland field corn hybrid trials.	
Brand	Address
AgriPro	AgriPro Seeds, Inc., RR 1 Box 404, Princeton, IL 61356
Agway	Agway Farm Research Center, 6978 NY Rt. 80, Tully, NY 13159
Augusta	Augusta Seed Co., Rt. 2 Box 16B, Mt. Solon, VA 22843
Cargill	Cargill Hybrid Seeds, P.O. Box 5645, Minneapolis, MN 55440
Chemgro	Chemgro, P.O. Box 218, East Petersburg, PA 17520
Clarks	Clark Seeds, Inc., P.O. Box 219, Kenton, DE 19955
DeKalb	DeKalb Genetics Corp., 3100 Sycamore Rd., DeKalb, IL 60115
Doebler's	Doebler's PA Hybrids, Inc., RR #1, Box 424, Jersey Shore, PA 17740
Dyna Gro	Ag-Chem, Inc., P.O. Box 2178, Salisbury, MD 21802
Garst	2369 330 th St. Slater, IA 50244
HyTest	HyTest, P.O. Box 3147, 454 Railroad Ave., Shiremanstown, PA 17011
Mid-Atlantic	Mid-Atlantic Seeds, 2083 Springwood Rd. #163, York, PA 17403
Mycogen	Mycogen Seeds, 1340 Corporate Center, P.O. Box 21428, St. Paul, MN 55121-1428
NC+	NC+ Hybrids, P.O. Box 4408, Lincoln, NE 68504
NK	Hoffman Seeds, Inc., 144 Main St., Landisville, PA 17538
Pioneer	Pioneer Hi-Bred Int., Inc., P.O. Box 280, Mount Joy, PA 17552
Seedway	Seedway, Inc., P.O. Box 250, Hall, NY 14463
Southern States	Southern States Coop., Inc., W. Broad St., P.O. Box 26234, Richmond, VA 23260
Terra	600 4 th St. Sioux City IA 51102-6000