

2016 GEM Raleigh, NC Breeding Cross Observations
Segregating F1s

Pedigree	Silk	Anthesis	EHT	PHT	Disease Rep1	Disease Rep2	Aspect Rep1	Aspect Rep2	Cross again?	Comments
GEMS-0113/GEMS-0011	69	69	90	246	4.5	6	3	2		Some foliar disease, stalk rot susceptibility
GEMS-0011/GEMS-0200	70	70	111	264	6	6.5	1.5	4		Some foliar disease, stalk rot susceptibility
GEMS-0091/GEMS-0200	66	66	111	268	7	7	2	2		
GEMS-0227/GEMS-0091	65	66	83	249	5.5	6	2	2		Some foliar disease, stalk rot susceptibility; Too early for Raleigh
GEMS-0227/GEMS-0113	66	66	71	248	2	6	5	5		Some foliar disease, stalk rot susceptibility; Too early for Raleigh
GEMS-0027/GEMS-0227	64	65	103	279	6	6.5	2	2		Variable EHT, foliar disease susceptible
GEMS-0219/GEMS-0032	69	69	138	308	7	6.5	4	4	Y	High ear placement
GEMS-0227/GEMS-0032	70	70	101	281	6	6.5	2	2		Some foliar disease, stalk rot susceptibility
GEMS-0227/GEMS-0050	67	66	90	263	4	6	2	3		Some foliar disease, stalk rot susceptibility
GEMS-0255/GEMS-0050	70	71	123	291	6.5	7	3	5		High ear placement, some foliar disease susceptibility
GEMS-0200/GEMS-0255	71	71	119	296	8	8	4	4	M	High ear placement
GEMS-0256/GEMS-0050	70	69	116	274	6	6.5	2	3		Variable EHT, some foliar disease susceptibility
GEMS-0113/GEMS-0256	70	69	98	269	6.5	6	3	2		Some foliar disease, stalk rot susceptibility
GEMS-0113/GEMS-0258	70	69	114	283	5	5.5	4	5		Variable EHT, foliar disease and stalk rot susceptibility
GEMS-0258/GEMS-0219	68	68	133	305	7	6.5	4	5		High ear placement, some foliar disease, stalk rot susceptibility
GEMS-0220/GEMS-0258	69	69	128	301	6	6.5	4	5		High ear placement, foliar disease susceptibility
GEMS-0258/GEMS-0227	69	69	98	269	5	6.5	4	5		Foliar disease, stalk rot susceptibility
GEMS-0220/BR105:S16-(373-7)-008-011-#	68	69	124	296	6	6.5	2	3		Variable EHT
BR105:S16-(373-7)-008-011-#/GEMS-0227	67	69	112	300	6	7	4	2		Variable EHT
GEMS-0220/BR105:S16-042-001-#	71	70	115	293	4.5	5	4	5		Variable EHT, foliar disease susceptibility
BR105:S16-042-001-#/GEMS-0227	69	69	115	308	4	7.5	5	3		Variable EHT, foliar disease and stalk rot susceptibility
GEMS-0220/NC368/CML343-001-023-001-#	72	72	116	296	6	7	4	2		Variable EHT, foliar disease susceptibility
NC368/CML343-001-023-001-#/GEMS-0227	69	68.5	121	318	5.5	6.5	3	3		Variable EHT, foliar disease and stalk rot susceptibility
GEMS-0219/CML287	72	72	164	335	8	7.5	4	4	Y	High ear placement
GEMS-0220/CML287	74	73	156	325	8	8	4	4	Y	High ear placement, poor husk cover
GEMS-0227/CML287	71	71	134	323	7	7.5	4	4	Y	High ear placement
GEMS-0219/CML312	73	71	148	329	7.5	7.5	4	4	Y	High ear placement
GEMS-0220/CML312	71	71	133	326	7	8	4	4	Y	High ear placement
GEMS-0227/CML343	71	71	118	305	7.5	7.5	4	3	Y	High ear placement
GEMS-0202/CML373	71	69	125	298	8	7.5	4	4	Y	High ear placement
GEMS-0219/CML373	69	69	129	303	8	7.5	4	4	Y	High ear placement
GEMS-0220/CML373	71	70	120	294	8	8	4	4	Y	High ear placement
GEMS-0227/CML373	70	69	105	283	7.5	7.5	1.5	1.5		Variable EHT
GEMS-0227/CML494	70	70	130	308	7	7.5	4	4	Y	High ear placement
GEMS-0113/La Posta Seq C7 F64-1-1-1-1-B-B-B	71	70	128	305	8	8	4	4	Y	High ear placement
La Posta Seq C7 F64-1-1-1-1-B-B-B/GEMS-0219	71	70	146	321	8	8	4	4	Y	High ear placement
GEMS-0220/La Posta Seq C7 F64-1-1-1-1-B-B-B	71	70	140	313	8	7.5	4	4	Y	High ear placement
GEMS-0227/La Posta Seq C7 F64-1-1-1-1-B-B-B	69	69	115	300	8	8	1.5	2		Variable EHT
La Posta Sequia C7 F71-1-1-1-2-B-B-B/GEMS-0219	69	69	140	309	8	7.5	4	4	Y	High ear placement
GEMS-0227/La Posta Sequia C7 F71-1-1-1-2-B-B-B	70	70	119	309	8	7.5	4	4	Y	High ear placement

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GEMN-0043/GEMN-0135	74	73	124	294	7	7.5	4	4	M	High ear placement, stalk rot susceptibility
GEMN-0137/GEMN-0043	71	72	121	280	7	7.5	5	4		High ear placement, foliar disease and stalk rot susceptibility
GEMN-0043/GEMN-0178	71	71	120	302	7	7.5	4	4		High ear placement, stalk rot susceptibility
GEMN-0043/GEMN-0213	75	75	125	292	7	7.5	5	5		High ear placement, stalk rot susceptibility
GEMN-0043/GEMN-0232	73	73	122	282	7	7.5	4	5		Variable EHT, stalk rot susceptibility
GEMN-0242/GEMN-0043	74	73	134	318	7.5	8	5	5		High ear placement, stalk rot susceptibility
GEMN-0043/GEMN-0254	69	69	106	272	7	7	3	2		Some stalk rot susceptibility
GEMN-0257/GEMN-0043	71	71	129	293	7.5	7.5	4	4	M	High ear placement
GEMN-0043/GEMN-0259	71	71	132	304	7	7	5	5		High ear placement, stalk rot susceptibility
GEMN-0048/GEMN-0095	65	65	84	254	5.5	6	4	5		Foliar disease, stalk rot susceptibility; too early for Raleigh
GEMN-0119/GEMN-0048	73	72	124	310	7.5	8	4	4	M	High ear placement
GEMN-0048/(89291.LH59)	68	67	112	287	8	7	4	3		Variable EHT
(89291.PHG47)/GEMN-0048	68	67	117	289	7	7	3	3		
GEMN-0048/GEMN-0135	70	69	100	282	7.5	7.5	1.5	1.5		
GEMN-0137/GEMN-0048	69	69	106	275	7.5	7.5	2	2		
GEMN-0048/GEMN-0208	72	72	126	301	8	7.5	4	4	Y	High ear placement, stalk rot susceptibility
GEMN-0048/GEMN-0213	71	71	106	290	7.5	8	5	3		Variable EHT, stalk rot susceptibility
GEMN-0048/GEMN-0232	70	70	110	289	8	7	2	2		Variable EHT
GEMN-0242/GEMN-0048	71	71	113	298	8	7.5	4	2		Variable EHT, stalk rot susceptibility
GEMN-0048/GEMN-0257	71	70	111	281	8	8	1.5	2		
GEMN-0259/GEMN-0048	69	69	105	283	7.5	7	5	3		Variable EHT, stalk rot susceptibility
GEMN-0095/GEMN-0097	67	66	93	258	4.5	6	3	5		Foliar disease; too early for Raleigh
GEMN-0097/GEMN-0135	68	67	103	276	6.5	7.5	2	1.5		Variable EHT
GEMN-0137/GEMN-0097	68	67	104	278	5.5	7	3	4		Variable EHT, stalk rot susceptibility
GEMN-0097/GEMN-0213	69	69	106	288	7.5	7.5	3	1.5		Variable EHT
GEMN-0232/GEMN-0097	67	67	113	290	6.5	7	3	2	Y	Variable EHT
GEMN-0097/GEMN-0242	69	68	100	278	7	7.5	3	4		Variable EHT, stalk rot susceptibility
GEMN-0257/GEMN-0097	70	70	111	291	7	7	2	2	M	Variable EHT, stalk rot susceptibility
GEMN-0097/GEMN-0259	68	68	105	273	6.5	6.5	5	3		Stalk rot susceptibility
GEMN-0124/GEMN-0104	71	72	114	276	8	8	2.5	2.5		Variable EHT
GEMN-0104/GEMN-0137	71	72	121	290	8	8	3	4	Y	Variable EHT
GEMN-0213/GEMN-0104	76	77	135	314	8	8	4	4	M	High ear placement
GEMN-0104/GEMN-0232	72	72	140	309	8	8	4	4	Y	High ear placement
GEMN-0242/GEMN-0104	75	75	128	305	8	8	4	4		High ear placement, stalk rot susceptibility
GEMN-0104/GEMN-0254	74	74	116	285	8	8	3	3		Variable EHT, stalk rot susceptibility
GEMN-0257/GEMN-0104	75	75	136	315	8	7.5	4	4	M	High ear placement
GEMN-0104/GEMN-0259	73	73	124	310	8	7.5	5	5		High ear placement
GEMN-0213/GEMN-0137	74	74	128	320	8	8	5	4	M	High ear placement, stalk rot susceptibility
GEMN-0124/GEMN-0135	74	73	105	281	8	7.5	2	1.5		Variable EHT
GEMN-0158/GEMN-0124	68	67	104	274	8	8	3	2		Variable EHT, stalk rot susceptibility

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Pedigree	Silk	Anthesis	EHT	PHT	Disease Rep1	Disease Rep2	Aspect Rep1	Aspect Rep2	Cross again?	Comments
GEMN-0178/GEMN-0124	69	69	116	290	8	8	3	4		Variable EHT, stalk rot susceptibility
GEMN-0124/GEMN-0208	72	72	133	299	8	7.5	4	4	Y	High ear placement, stalk rot susceptibility
GEMN-0213/GEMN-0124	74	72	115	288	8	7.5	3	3		Variable EHT, stalk rot susceptibility
GEMN-0124/GEMN-0232	71	72	124	288	8	8	4	4	Y	High ear placement, stalk rot susceptibility
GEMN-0242/GEMN-0124	73	72	115	283	8	8	4		M	High ear placement
GEMN-0124/GEMN-0254	71	71	103	269	7.5	7.5	1.5	3		Stalk rot susceptibility
GEMN-0257/GEMN-0124	72	72	121	295	7.5	7.5	2	4	Y	Variable EHT
GEMN-0124/GEMN-0259	73	72	115	281	8	8	5	4		Variable EHT, stalk rot susceptibility
(89291.LH59)/GEMN-0124	67	67	117	276	7.5	7.5	5	3		High ear placement, some stalk rot susceptibility
(89291.PHG47)/GEMN-0124	67	66	119	285	8	7.5	5	5		High ear placement, some stalk rot susceptibility
GEMN-0135/GEMN-0137	74	73	111	290	8	8	2.5	2	Y	Variable EHT
GEMN-0232/GEMN-0135	74	73	121	308	8	8	4	4	Y	High ear placement
GEMN-0135/GEMN-0242	76	74	129	303	7.5	8	5	4	M	High ear placement
GEMN-0254/GEMN-0135	72	71	116	294	7	8	2	2		Variable EHT
GEMN-0135/GEMN-0257	76	74	139	320	8	7.5	4	4	Y	High ear placement
GEMN-0259/GEMN-0135	76	74	118	298	7.5	7.5	5	3		High ear placement, some stalk rot susceptibility
GEMN-0137/GEMN-0242	73	73	121	286	7	8	4	4	M	High ear placement, some stalk rot susceptibility
GEMN-0254/GEMN-0137	70	70	110	275	7.5	8	2	3		Variable EHT
GEMN-0137/GEMN-0257	73	73	145	315	8	8	4	4	Y	High ear placement
GEMN-0232/GEMN-0213	75	75	143	321	8	7.5	4	5	M	High ear placement
GEMN-0213/GEMN-0242	77	76	138	318	7	8	5	5		High ear placement, stalk rot susceptibility
GEMN-0254/GEMN-0213	74	73	126	308	7	8	5	4	M	High ear placement, stalk rot susceptibility
GEMN-0213/GEMN-0257	76	75	146	320	7.5	7	5	4	M	High ear placement, stalk rot susceptibility
GEMN-0259/GEMN-0213	78	76	149	319	8	8	5	5		High ear placement, stalk rot susceptibility
GEMN-0242/GEMN-0232	74	74	136	309	7	7.5	5	4	M	High ear placement
GEMN-0232/GEMN-0254	71	71	120	295	8	7.5	3	3	Y	Variable EHT
GEMN-0257/GEMN-0232	72	73	150	315	8	8	4	4	Y	High ear placement
GEMN-0232/GEMN-0259	72	72	128	293	8	8	5	4		High ear placement, stalk rot susceptibility
GEMN-0254/GEMN-0242	73	72	124	304	8	7.5	5	4		High ear placement, stalk rot susceptibility
GEMN-0242/GEMN-0257	74	74	140	315	7.5	8	4	4	M	High ear placement, some stalk rot susceptibility
GEMN-0259/GEMN-0242	75	73	125	301	7.5	7.5	5	4		High ear placement, stalk rot susceptibility
GEMN-0254/GEMN-0257	71	71	123	293	8	7.5	5	4	M	High ear placement
GEMN-0254/GEMN-0259	72	71	110	300	8	7.5	5	4		Stalk rot susceptibility
GEMN-0257/GEMN-0259	73	73	144	326	8	8	5	5		High ear placement
BR106:T33aN20-040-002-#/GEMN-0119	73	73	122	320	7.5	8	4	4	M	High ear placement
BR106:T33aN20-040-002-#/GEMN-0124	69	68	88	260	8	8	3	2		Stalk rot susceptibility
BR106:T33aN20-040-002-#/GEMN-0257	73	72	115	302	7.5	8	2	2		Variable EHT
GEMN-0048/CML449	70	70	126	300	7.5	7.5	4	4	Y	High ear placement
GEMN-0048/CML375	69	69	110	276	7.5	7.5	1	1.5		Variable EHT
DK HBA1/KSC10	69	67	132	300	7	7	5	4		High ear placement, foliar disease susceptibility

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Segregating F1s**

Pedigree	Silk	Anthesis	EHT	PHT	Disease Rep1	Disease Rep2	Aspect Rep1	Aspect Rep2	Cross again?	Comments
(CML313.LH185)/(DK HBA1.CML422)	70	69	107	295	7.5	7.5	2.5	4		Variable EHT
(DK HBA1.CML422)/(DK MM402A.CML395)	70	69	127	301	7	7.5	4	5		Variable EHT, stalk rot susceptibility
(DK MM402A.CML395)/(CML422.LH185)	68	67	114	278	7	7.5	4	3		Variable EHT, stalk rot susceptibility
(CML313.DK MM402A)/(TZI8.LH57)	71	70	125	303	7.5	7.5	4	3		Variable EHT, stalk rot susceptibility
(TZI8.LH57)/(CML313.LH189Ht)	71	70	115	283	7.5	8	4	5		Stalk rot susceptibility
(89291.CML277):NS701	72	69	134	301	6.5	6.5	3	5		High ear placement, some stalk rot susceptibility, lodged
(CML277.N3-2-3-3):NS701	70	70	135	302	5.5	6.5	5	5		High ear placement, some stalk rot susceptibility, lodged
(La Posta Seq C7 F7-1-1-1-2/GEMS-0091):S40x	69	68	121	271	6.5	6.5	4	3		Variable EHT, some stalk rot susceptibility
(GEMS-0113/La Posta SeqC7 F71-1-1-1-2):S40x	71	70	142	300	7	7.5	5	4		High ear placement, some stalk rot susceptibility, lodged
(CML343/GEMS-0032):S40x	71	70	131	304	7	7.5	4	4	M	High ear placement, some stalk rot susceptibility, lodged
(CML343/N3-2-3-3):S40x	69	69	115	279	7.5	7	3.5	4	M	Stalk rot susceptibility
(GEMS-113/CML373):S40x	68	68	108	271	7	7	3	2		Stalk rot susceptibility
(LH195/CML494):S40x	69	68	116	276	7	6.5	4	3		High ear placement, some stalk rot susceptibility
(CML494/GEMS-0032):S40x	71	72	141	310	7.5	7.5	4	4	Y	High ear placement
(GEMN-0097/89291):N40x	67	67	123	306	7	7	3.5	4		Variable EHT, stalk rot susceptibility
(GEMN-0097/CML449):N40x	68	67	116	312	7.5	7	2	2		Variable EHT, some foliar disease, stalk rot susceptibility
(CA00370/GEMN-0097):N40x	69	69	124	319	7.5	7	2	2		Variable EHT, some foliar disease, stalk rot susceptibility
(GEMN-0158/ATL100):N40x	69	69	124	308	7.5	7.5	2.5	3		Variable EHT
Canilla-VEN 981:N40x	75	73	136	330	8	8	4	4	Y	High ear placement, some stalk rot susceptibility
Cubano Amarillo-UCA 12:N40x	74	72	150	336	8.5	8	4	4	Y	High ear placement, some stalk rot susceptibility
Comun-VAL 343:N40x	71	71	128	312	8	8	4	4	Y	High ear placement, some stalk rot susceptibility
La Posta Seq C7 F64-1-1-1-2:S40a	70	70	140	304	8	7.5	4	4		High ear placement
La Posta Seq C7 F64-1-1-1-2:S40b	71	69	118	271	8	7.5	4	4		High ear placement
La Posta Seq C7 F71-1-1-1-2:S40a	69	67	119	288	7.5	8	4	2		Variable/High ear placement
La Posta Seq C7 F71-1-1-1-2:S40b	70	69	124	283	7.5	8	4	4		High ear placement
LH132.PHG39	70	69	94	263	4					
LH283.LH287	63	64	75	226	7	6.5				
LH195/LH210	68	67	117	269	6.5	6.5				
LH195/LH212Ht	68	67	104	270	7.5	7				
MBS2975/MBS9703	66	66	96	253	5	6				
DK68-04	64	63	94	240	6	7				
P1498	65	64	91	254	7	7.5				
P1745R	67	67	108	281	7.5	7.5				
P2088R	68	67	100	281	7	7.5				
Pioneer 3394	67	67	108	255	5.5					

GEM Raleigh legend:

Aspect ratings used a 1-5 scale, with 1 = best, 5 = trash.
Disease rated on a 1-9 scale, with 9 = best and 1 = dead.