

Table S1. The inbred lines were comprised of 220 maize accessions selected to represent a wide range of diversity including 155 tropical and subtropical inbred lines from CIMMYT and 65 temperate inbreds from CAAS.

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G1	81565	81565	Mexican population	China-SCAU	Tropical/Subtropical	White	Flint
G2	C5 RIL 10	P1xP2 RIL 10	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Dent
G3	C5 RIL 108	P1xP2 RIL 108	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Semi-dent
G4	C5 RIL 115	P1xP2 RIL 115	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Semi-dent
G5	C5 RIL 124	P1xP2 RIL 124	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G6	C5 RIL 129	P1xP2 RIL 129	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G7	C5 RIL 13	P1xP2 RIL 13	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G8	C5 RIL 142	P1xP2 RIL 142	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G9	C5 RIL 146	P1xP2 RIL 146	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G10	C5 RIL 151	P1xP2 RIL 151	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Flint
G11	C5 RIL 153	P1xP2 RIL 153	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Dent
G12	C5 RIL 155	P1xP2 RIL 155	P1xP2 RIL	CIMMYT	Tropical/Subtropical	Light yellow	Dent
G13	C5 RIL 156	P1xP2 RIL 156	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Semi-dent
G14	C5 RIL 163	P1xP2 RIL 163	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Dent
G15	C5 RIL 164	P1xP2 RIL 164	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Semi-dent
G16	C5 RIL 165	P1xP2 RIL 165	P1xP2 RIL	CIMMYT	Tropical/Subtropical	White	Dent

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G17	C5 RIL 166	P1xP2 RIL 166	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G18	C5 RIL 169	P1xP2 RIL 169	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G19	C5 RIL 170	P1xP2 RIL 170	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G20	C5 RIL 176	P1xP2 RIL 176	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G21	C5 RIL 177	P1xP2 RIL 177	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Flint
G22	C5 RIL 178	P1xP2 RIL 178	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Flint
G23	C5 RIL 181	P1xP2 RIL 181	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G24	C5 RIL 182	P1xP2 RIL 182	P1xP2 RIL	CIMMY T	Tropical/Subtropical	White	Flint
G25	C6 RIL 184	CML444xMalawi RIL 184	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G26	C6 RIL 188	CML444xMalawi RIL 188	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G27	C6 RIL 19	CML444xMalawi RIL 19	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G28	C6 RIL 190	CML444xMalawi RIL 190	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G29	C6 RIL 194	CML444xMalawi RIL 194	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G30	C6 RIL 203	CML444xMalawi RIL 203	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G31	C6 RIL 212	CML444xMalawi RIL 212	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G32	C6 RIL 218	CML444xMalawi RIL 218	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G33	C6 RIL 219	CML444xMalawi RIL 219	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G34	C6 RIL 23	CML444xMalawi RIL 23	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G3 5	C6 RIL 230	CML444xMalawi RIL 230	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G3 6	C6 RIL 234	CML444xMalawi RIL 234	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G3 7	C6 RIL 239	CML444xMalawi RIL 239	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G3 8	C6 RIL 24	CML444xMalawi RIL 24	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G3 9	C6 RIL 241	CML444xMalawi RIL 241	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G4 0	C6 RIL 243	CML444xMalawi RIL 243	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G4 1	C6 RIL 249	CML444xMalawi RIL 249	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G4 2	C6 RIL 25	CML444xMalawi RIL 25	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G4 3	C6 RIL 258	CML444xMalawi RIL 258	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G4 4	C6 RIL 267	CML444xMalawi RIL 267	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G4 5	C6 RIL 268	CML444xMalawi RIL 268	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G4 6	C6 RIL 272	CML444xMalawi RIL 272	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G4 7	C6 RIL 273	CML444xMalawi RIL 273	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G4 8	C6 RIL 283	CML444xMalawi RIL 283	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G4 9	C6 RIL 289	CML444xMalawi RIL 289	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G5 0	C6 RIL 29	CML444xMalawi RIL 29	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G5 1	C6 RIL 293	CML444xMalawi RIL 293	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G5 2	C6 RIL 298	CML444xMalawi RIL 298	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G5 3	C6 RIL 3	CML444xMalawi RIL 3	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G5 4	C6 RIL 303	CML444xMalawi RIL 303	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G5 5	C6 RIL 32	CML444xMalawi RIL 32	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G5 6	C6 RIL 324	CML444xMalawi RIL 324	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G5 7	C6 RIL 327	CML444xMalawi RIL 327	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G5 8	C6 RIL 337	CML444xMalawi RIL 337	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G5 9	C6 RIL 341	CML444xMalawi RIL 341	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 0	C6 RIL 348	CML444xMalawi RIL 348	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 1	C6 RIL 352	CML444xMalawi RIL 352	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 2	C6 RIL 356	CML444xMalawi RIL 356	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G6 3	C6 RIL 36	CML444xMalawi RIL 36	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G6 4	C6 RIL 361	CML444xMalawi RIL 361	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 5	C6 RIL 367	CML444xMalawi RIL 367	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G6 6	C6 RIL 379	CML444xMalawi RIL 379	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G6 7	C6 RIL 39	CML444xMalawi RIL 39	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 8	C6 RIL 390	CML444xMalawi RIL 390	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G6 9	C6 RIL 395	CML444xMalawi RIL 395	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G7 0	C6 RIL 40	CML444xMalawi RIL 40	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G7 1	C6 RIL 400	CML444xMalawi RIL 400	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 2	C6 RIL 402	CML444xMalawi RIL 402	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 3	C6 RIL 403	CML444xMalawi RIL 403	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 4	C6 RIL 42	CML444xMalawi RIL 42	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 5	C6 RIL 47	CML444xMalawi RIL 47	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 6	C6 RIL 53	CML444xMalawi RIL 53	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G7 7	C6 RIL 83	CML444xMalawi RIL 83	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G7 8	C6 RIL 85	CML444xMalawi RIL 85	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Semi-dent
G7 9	C6 RIL 95	CML444xMalawi RIL 95	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Dent
G8 0	C6 RIL 97	CML444xMalawi RIL 97	CML444xMalawi RIL	CIMMY T	Tropical/Subtropical	White	Flint
G8 1	CA_BI_02_06	(Huangzao4xMo17)x Huangzao4 BC4F2 HS7-6-R11	(Huangzao4xMo17)xHuangzao4 BC4F2 HS7-6-R11	China-CAAS	Temperate	Yellow	Semi-dent
G8 2	CA_BI_02_08	(Huangzao4xMo17)x Huangzao4 BC4F2 HS7-8-R15	(Huangzao4xMo17)xHuangzao4 BC4F2 HS7-8-R15	China-CAAS	Temperate	Yellow	Dent
G8 3	CA_BI_03_04	(Chang7-2xSH15)xChang7-2 BC4F2 HS11-4-R5	(Chang7-2xSH15)xChang7-2 BC4F2 HS11-4-R5	China-CAAS	Temperate	Yellow	Dent
G8 4	CA_BI_04_01	(Chang7-2xQi319)xChang7-2 BC4F2 HS12-1-R1	(Chang7-2xQi319)xChang7-2 BC4F2 HS12-1-R1	China-CAAS	Temperate	Yellow	Dent
G8 5	CA_BI_04_08	(Chang7-2xQi319)xChang7-2 BC4F2 HS12-9-R10	(Chang7-2xQi319)xChang7-2 BC4F2 HS12-9-R10	China-CAAS	Temperate	Yellow	Semi-dent
G8 6	CA_BI_05_01	(Ye478xJi1037)xYe478 BC4F2 HS14-1-R1	(Ye478xJi1037)xYe478 BC4F2 HS14-1-R1	China-CAAS	Temperate	Yellow	Dent
G8 7	CA_BI_06_02	(Ye478xSH15)xYe478 BC4F2 HS15-2-R5	(Ye478xSH15)xYe478 BC4F2 HS15-2-R5	China-CAAS	Temperate	Yellow	Dent
G8 8	CA_BI_06_03	(Ye478xSH15)xYe478 BC4F2 HS15-3-R8	(Ye478xSH15)xYe478 BC4F2 HS15-3-R8	China-CAAS	Temperate	Yellow	Dent

Ent ry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G89	CA_BI_06_04	(Ye478xSH15)xYe478 BC4F2 HS15-4-R10	(Ye478xSH15)xYe478 BC4F2 HS15-4-R10	China-CAAS	Temperate	Yellow	Dent
G90	CA_BI_06_05	(Ye478xSH15)xYe478 BC4F2 HS15-5-R11	(Ye478xSH15)xYe478 BC4F2 HS15-5-R11	China-CAAS	Temperate	Yellow	Dent
G91	CA_BI_06_06	(Ye478xSH15)xYe478 BC4F2 HS15-6-R13	(Ye478xSH15)xYe478 BC4F2 HS15-6-R13	China-CAAS	Temperate	Yellow	Dent
G92	CA_BI_06_07	(Ye478xSH15)xYe478 BC4F2 HS15-7-R14	(Ye478xSH15)xYe478 BC4F2 HS15-7-R14	China-CAAS	Temperate	Yellow	Dent
G93	CA_BI_06_08	(Ye478xSH15)xYe478 BC4F2 HS15-8-R15	(Ye478xSH15)xYe478 BC4F2 HS15-8-R15	China-CAAS	Temperate	Yellow	Semi-dent
G94	CA_BI_07_05	(Ye478xZhongzi01)xYe478 BC4F2 HS16-6-R8	(Ye478xZhongzi01)xYe478 BC4F2 HS16-6-R8	China-CAAS	Temperate	Yellow	Dent
G95	CA_BI_07_06	(Ye478xZhongzi01)xYe478 BC4F2 HS16-7-R9	(Ye478xZhongzi01)xYe478 BC4F2 HS16-7-R9	China-CAAS	Temperate	Yellow	Dent
G96	CA_BI_07_07	(Ye478xZhongzi01)xYe478 BC4F2 HS16-8-R10	(Ye478xZhongzi01)xYe478 BC4F2 HS16-8-R10	China-CAAS	Temperate	Yellow	Dent
G97	CA_BI_07_10	(Ye478xZhongzi01)xYe478 BC4F2 HS16-11-R14	(Ye478xZhongzi01)xYe478 BC4F2 HS16-11-R14	China-CAAS	Temperate	Yellow	Dent
G98	CA_BI_07_11	(Ye478xZhongzi01)xYe478 BC4F2 HS16-12-R15	(Ye478xZhongzi01)xYe478 BC4F2 HS16-12-R15	China-CAAS	Temperate	Yellow	Dent
G99	CA_BI_11_03	(Ye478?Ji1037)?Ye478 BC4F2-54-8 Lx54-8	(Ye478?Ji1037)?Ye478 BC4F2-54-8 Lx54-8	China-CAAS	Temperate	Yellow	Dent
G100	CA_BI_12_01	(Ye478?SH15)?Ye478 BC4F2-63-3 Lx63-3	(Ye478?SH15)?Ye478 BC4F2-63-3 Lx63-3	China-CAAS	Temperate	Yellow	Dent
G101	CA_BI_12_02	(Ye478?SH15)?Ye478 BC4F2-69-11 Lx69-11	(Ye478?SH15)?Ye478 BC4F2-69-11 Lx69-11	China-CAAS	Temperate	Yellow	Semi-dent
G102	CA_BI_12_03	(Ye478?SH15)?Ye478 BC4F2-69-12 Lx69-12	(Ye478?SH15)?Ye478 BC4F2-69-12 Lx69-12	China-CAAS	Temperate	Yellow	Semi-dent
G103	CA_BI_23_01	(Qi205?Dan340) BC2F4-1-26-1 XZY372-1	(Qi205?Dan340) BC2F4-1-26-1 XZY372-1	China-CAAS	Temperate	Yellow	Dent
G104	CA_BI_23_02	(Qi205?Dan340) BC2F4-1-27-1 XZY420-1	(Qi205?Dan340) BC2F4-1-27-1 XZY420-1	China-CAAS	Temperate	Yellow	Dent
G105	CA_BI_23_03	(Qi205?Dan340) BC2F4-1-47-1 XZY405-1	(Qi205?Dan340) BC2F4-1-47-1 XZY405-1	China-CAAS	Temperate	Yellow	Dent
G106	CA_BI_23_04	(Qi205?Dan340) BC2F4-1-61-1 XZY357-1	(Qi205?Dan340) BC2F4-1-61-1 XZY357-1	China-CAAS	Temperate	Yellow	Dent

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G1 07	CA_BI_23_05	(Qi205?Dan340) BC2F4-1-106-1 XZY407-1	(Qi205?Dan340) BC2F4-1-106-1 XZY407-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 08	CA_BI_24_01	(Dan340?Tai9537) BC2F4-1-9-1 XZY468-1	(Dan340?Tai9537) BC2F4-1-9-1 XZY468-1	China-CAAS	Temperate	Yellow	Dent
G1 09	CA_BI_24_02	(Dan340?Tai9537) BC2F4-1-49-1 XZY429-1	(Dan340?Tai9537) BC2F4-1-49-1 XZY429-1	China-CAAS	Temperate	Yellow	Dent
G1 10	CA_BI_24_03	(Dan340?Tai9537) BC2F4-1-58-1 XZY419-1	(Dan340?Tai9537) BC2F4-1-58-1 XZY419-1	China-CAAS	Temperate	Yellow	Dent
G1 11	CA_BI_26_01	(Qi319?Hai9-21) BC2F4-1-17-1 XZY460-1	(Qi319?Hai9-21) BC2F4-1-17-1 XZY460-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 12	CA_BI_26_02	(Qi319?Hai9-21) BC2F4-1-32-1 XZY481-1	(Qi319?Hai9-21) BC2F4-1-32-1 XZY481-1	China-CAAS	Temperate	Yellow	Dent
G1 13	CA_BI_26_03	(Qi319?Hai9-21) BC2F4-1-50-1 XZY411-1	(Qi319?Hai9-21) BC2F4-1-50-1 XZY411-1	China-CAAS	Temperate	Yellow	Dent
G1 14	CA_BI_26_04	(Qi319?Hai9-21) BC2F4-1-87-1 XZY356-1	(Qi319?Hai9-21) BC2F4-1-87-1 XZY356-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 15	CA_BI_26_05	(Qi319?Hai9-21) BC2F4-1-116-1 XZY403-1	(Qi319?Hai9-21) BC2F4-1-116-1 XZY403-1	China-CAAS	Temperate	Yellow	Dent
G1 16	CA_BI_27_01	(Qi319?TS6047) BC2F4-1-31-1 XZY454-1	(Qi319?TS6047) BC2F4-1-31-1 XZY454-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 17	CA_BI_27_02	(Qi319?TS6047) BC2F4-1-42-1 XZY348-1	(Qi319?TS6047) BC2F4-1-42-1 XZY348-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 18	CA_BI_27_03	(Qi319?TS6047) BC2F4-1-59-1 XZY463-1	(Qi319?TS6047) BC2F4-1-59-1 XZY463-1	China-CAAS	Temperate	Yellow	Dent
G1 19	CA_BI_27_04	(Qi319?TS6047) BC2F4-1-63-1 XZY345-1	(Qi319?TS6047) BC2F4-1-63-1 XZY345-1	China-CAAS	Temperate	Yellow	Semi-dent
G1 20	CA_BI_28_01	(Qi319?Shen118) BC2F4-2-10-1 XZY476-1	(Qi319?Shen118) BC2F4-2-10-1 XZY476-1	China-CAAS	Temperate	Yellow	Dent
G1 21	CA_BI_28_02	(Qi319?Shen118) BC2F4-2-51-1 XZY359-1	(Qi319?Shen118) BC2F4-2-51-1 XZY359-1	China-CAAS	Temperate	Yellow	Dent
G1 22	CA_BI_28_03	(Qi319?Shen118) BC2F4-2-66-1 XZY342-1	(Qi319?Shen118) BC2F4-2-66-1 XZY342-1	China-CAAS	Temperate	Yellow	Dent
G1 23	CA_BI_28_04	(Qi319?Shen118) BC2F4-2-81-1 XZY404-1	(Qi319?Shen118) BC2F4-2-81-1 XZY404-1	China-CAAS	Temperate	Yellow	Dent
G1 24	CA_BI_28_05	(Qi319?Shen118) BC2F4-2-180-1 XZY364-1	(Qi319?Shen118) BC2F4-2-180-1 XZY364-1	China-CAAS	Temperate	Yellow	Dent

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G1 25	CA_BI_ 29_01	(Qi319?Cai11-8) BC2F4-1-6-1 XZY409-1	(Qi319?Cai11-8) BC2F4-1-6-1 XZY409-1	China- CAAS	Temperate	Yellow	Dent
G1 26	CA_BI_ 29_02	(Qi319?Cai11-8) BC2F4-1-22-1 XZY425-1	(Qi319?Cai11-8) BC2F4-1-22-1 XZY425-1	China- CAAS	Temperate	Yellow	Dent
G1 27	CA_BI_ 30_01	(Ye478?Cai11-8) BC2F4-1-43-1 XZY501-1	(Ye478?Cai11-8) BC2F4-1-43-1 XZY501-1	China- CAAS	Temperate	Yellow	Dent
G1 28	CA_BI_ 30_02	(Ye478?Cai11-8) BC2F4-1-45-1 XZY506-1	(Ye478?Cai11-8) BC2F4-1-45-1 XZY506-1	China- CAAS	Temperate	Yellow	Dent
G1 29	CA_BI_ 30_03	(Ye478?Cai11-8) BC2F4-1-57-1 XZY505-1	(Ye478?Cai11-8) BC2F4-1-57-1 XZY505-1	China- CAAS	Temperate	Yellow	Dent
G1 30	CA_BI_ 30_04	(Ye478?Cai11-8) BC2F4-1-147-1 XZY470-1	(Ye478?Cai11-8) BC2F4-1-147-1 XZY470-1	China- CAAS	Temperate	Yellow	Dent
G1 31	CA_BI_ 31_01	(Ye478?B84) BC2F4-1-30-1 XZY444- 1	(Ye478?B84) BC2F4-1-30-1 XZY444-1	China- CAAS	Temperate	Yellow	Dent
G1 32	CA_BI_ 31_02	(Ye478?B84) BC2F4-1-31-1 XZY492- 1	(Ye478?B84) BC2F4-1-31-1 XZY492-1	China- CAAS	Temperate	Yellow	Dent
G1 33	CA_BI_ 31_03	(Ye478?B84) BC2F4-1-65-1 XZY452- 1	(Ye478?B84) BC2F4-1-65-1 XZY452-1	China- CAAS	Temperate	Yellow	Dent
G1 34	CA_BI_ 31_04	(Ye478?B84) BC2F4-1-71-1 XZY507- 1	(Ye478?B84) BC2F4-1-71-1 XZY507-1	China- CAAS	Temperate	Yellow	Dent
G1 35	CA_BI_ 32_01	(Ye478?Hai9-21) BC2F4-2-21-1 XZY382-1	(Ye478?Hai9-21) BC2F4-2-21-1 XZY382-1	China- CAAS	Temperate	Yellow	Dent
G1 36	CA_BI_ 32_02	(Ye478?Hai9-21) BC2F4-2-23-1 XZY423-1	(Ye478?Hai9-21) BC2F4-2-23-1 XZY423-1	China- CAAS	Temperate	Yellow	Dent
G1 37	CA_BI_ 32_03	(Ye478?Hai9-21) BC2F4-2-40-1 XZY504-1	(Ye478?Hai9-21) BC2F4-2-40-1 XZY504-1	China- CAAS	Temperate	Yellow	Semi- dent
G1 38	CA_BI_ 32_04	(Ye478?Hai9-21) BC2F4-2-60-1 XZY385-1	(Ye478?Hai9-21) BC2F4-2-60-1 XZY385-1	China- CAAS	Temperate	Yellow	Dent
G1 39	CA_BI_ 32_05	(Ye478?Hai9-21) BC2F4-2-79-1 XZY399-1	(Ye478?Hai9-21) BC2F4-2-79-1 XZY399-1	China- CAAS	Temperate	Yellow	Dent
G1 40	CA_BI_ 33_01	(Ye478?TS6047) BC2F4-1-24-1 XZY400-1	(Ye478?TS6047) BC2F4-1-24-1 XZY400-1	China- CAAS	Temperate	Yellow	Dent
G1 41	CA_BI_ 33_02	(Ye478?TS6047) BC2F4-1-29-1 XZY495-1	(Ye478?TS6047) BC2F4-1-29-1 XZY495-1	China- CAAS	Temperate	Yellow	Flint
G1 42	CA_BI_ 33_03	(Ye478?TS6047) BC2F4-1-30-1 XZY484-1	(Ye478?TS6047) BC2F4-1-30-1 XZY484-1	China- CAAS	Temperate	Yellow	Dent

Ent ry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G1 43	CA_BI_ 33_04	(Ye478?TS6047) BC2F4-1-82-1 XZY371-1	(Ye478?TS6047) BC2F4-1-82-1 XZY371-1	China- CAAS	Temperate	Yellow	Dent
G1 44	CA_BI_ 33_05	(Ye478?TS6047) BC2F4-1-101-1 XZY448-1	(Ye478?TS6047) BC2F4-1-101-1 XZY448-1	China- CAAS	Temperate	Yellow	Dent
G1 45	CA_BI_ 34_01	(Jinhuang96B?Qi319) BC2F3-68 Q- 1-68	(Jinhuang96B?Qi319) BC2F3-68 Q-1-68	China- CAAS	Temperate	Yellow	Semi- dent
G1 46	CML103	CML103	P44C4F101-3-#1-1-B-###	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 47	CML108	CML108	P44(STE)C1F59-3-1-4-4-BB	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 48	CML127	CML127	((P47/MPSWCB4)11//((MPSWCB4/VEG20)- 1/4/MP702//PI209135/P1162927/3/-1-3-2-B1-2-1-4-B1-B1#B1	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 49	CML132	CML132	B1#B1-(KC12F2/C31)-86-4-6-1-1-5#B1	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 50	CML133	CML133	P44C4F182-2-1-2-2#B1#B1-2-2-8-B1-B1#B1	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 51	CML135	CML135	(P47C1F26-1-#B1-1/P47C1F187-1#B1-3)2-4-1#B1-30-1-B1-B1- B1#B1	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 52	CML139	CML139	MP78:518-15-B1-B1#B1	CIMMY T	Tropical/Subtropi cal	Yellow	Semi-flint
G1 53	CML144	CML144	P62C5F182-2-1-2-BB-3-1-##	CIMMY T	Tropical/Subtropi cal	White	Flint
G1 54	CML159	CML159	P63C2F5-1-3-1-B-2-1-1-B-#	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 55	CML161	CML161	G25QC18H520-1-1#-1-2#-5-3-B-1-BBBB-#	CIMMY T	Tropical/Subtropi cal	Yellow	Flint
G1 56	CML162	CML162	G25QC1F18-8-1-2-BB-2-BBB	CIMMY T	Tropical/Subtropi cal	Yellow	Flint
G1 57	CML163	CML163	G26QH31-2-2-#-2-2-1-B-1-BB-#	CIMMY T	Tropical/Subtropi cal	Yellow	Dent
G1 58	CML171	CML171	G25QS4B-H13-5-B-1-1-2-B-1-BBB	CIMMY T	Tropical/Subtropi cal	Yellow	Flint
G1 59	CML185	CML185	P68C1F221-3-3-2-3-BBB	CIMMY T	Tropical/Subtropi cal	White	Dent
G1 60	CML191	CML191	G34QH146-1-1-4-B	CIMMY T	Tropical/Subtropi cal	Yellow	Flint

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G1 61	CML192	CML192	G34QH174-3-1-2-BB	CIMMY T	Tropical/Subtropical	Yellow	Dent
G1 62	CML201	CML201	MSR85-1S3-1-1-BB	CIMMY T	Tropical/Subtropical	White	Dent
G1 63	CML202	CML202	ZSR923S4BULK-5-1-BB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 64	CML206	CML206	[EV7992#/EVPO44SRBC3]#BF37SR-2-3SR-2-4-3-BB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 65	CML216	CML216	[MSR:131]-3-3-3-5-BB	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 66	CML219	CML219	[EV8730SR(BC6)]-171-1-1-2-#-B	CIMMY T	Tropical/Subtropical	White	Flint
G1 67	CML287	CML287	(P24F26/27F1)-4-1-B-1-1-BB-F	CIMMY T	Tropical/Subtropical	Yellow	Flint
G1 68	CML311 MBR	CML311MBR	MAS[MSR/312]-117-2-2-1-B*4-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 69	CML316	CML316	P500C0F114-1-1-B*3	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 70	CML322	CML322	89[L/LMBR]17-B-5-3-1-4-B*4	CIMMY T	Tropical/Subtropical	White	Flint
G1 71	CML330	CML330	89[SUWAN8422]/[P47S3/MP78:518]#-7-1-1-1-1-B-#-BB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 72	CML341	CML341	LPSEQC3-H1-2-2-1-1-##-BB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 73	CML402	CML402	AC8222-6-2-2-B-##-2-BBB-1-#-B*9	CIMMY T	Tropical/Subtropical	White	Flint
G1 74	CML411	CML411	P28C7-S4-#-BBBBBBBBBBBB	CIMMY T	Tropical/Subtropical	Yellow	Dent
G1 75	CML418	CML418	G15C22H100#-2-2-6-1-2-BBBBB	CIMMY T	Tropical/Subtropical	White	Flint
G1 76	CML442	CML442	[M37W/ZM607#BF37SR-2-3SR-6-2-X]-8-2-X-1-BBB	CIMMY T	Tropical/Subtropical	White	Dent
G1 77	CML444	CML444	P43C9-1-1-1-1-1-BBBB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 78	CML468	CML468	P28C9F113-3-1-4-B*7	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent

Ent ry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G1 79	CML474	CML474	SW92145-2EV-13-1-BB	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent
G1 80	CML479	CML479	(P24STE-5/24STE-17)-BBBB-##-B-3-B-1-B*4	CIMMY T	Tropical/Subtropical	Yellow	Flint
G1 81	CML5	CML5	P21C5F133-1-B-##-B	CIMMY T	Tropical/Subtropical	White	Dent
G1 82	CML504	CML504	[COMPE2/P43SR//COMPE2]F#-20-1-1-B-1-BB-6-BB	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 83	CML505	CML505	[Ent320:92SEW2-77/[DMRESR-W]EarlySel-#I-2-4-B/CML386]-B-11-3-B-2-#-B*4	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 84	CML507	CML507	[[[K64R/G16SR]-39-1/[K64R/G16SR]-20-2]-5-1-2-B*4/CML390]-B-38-1-B-7-#-B*6	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 85	CML508	CML508	[89[G27/TEWTSRPool]#-278-2-X-B/[COMPE2/P43SR//COMPE2]F#-20-1-1]-B-32-2-B-4-#-2-B*5	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 86	CML509	CML509	[Ent52:92SEW1-2/[DMRESR-W]EarlySel-#L-2-1-B/CML386]-B-22-1-B-4-#-1-B*4	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 87	CML511	CML511	[CML389/CML176]-B-29-2-2-B*5	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 88	CML68	CML68	P32C5F71-2-2-2-1-B1-8-B1-B1#B1	CIMMY T	Tropical/Subtropical	White	Flint
G1 89	CML80	CML80	G32C19H233-2-#1-B-####B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 90	CML84	CML84	G32C19H512-2-#1-B-####-6-B	CIMMY T	Tropical/Subtropical	White	Dent
G1 91	CML85	CML85	P34C5F21-2-#1-2-2-#	CIMMY T	Tropical/Subtropical	White	Semi-flint
G1 92	CML89	CML89	P34C5F188-1-#2-9-1-###	CIMMY T	Tropical/Subtropical	White	Flint
G1 93	CML94	CML94	P42C4F130-1-1-B-##	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 94	CML96	CML96	P42C4F233-1-#2-B-#*6-2-B	CIMMY T	Tropical/Subtropical	White	Dent
G1 95	CML97	CML97	P42C4F236-1-1-B-#	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 96	CML98	CML98	P42C4F268-1-1-B-##	CIMMY T	Tropical/Subtropical	White	Semi-dent

Ent ry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G1 97	CML99	CML99	P42(STE)C1F39-2-2-1-1-BB	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 98	CMT_L_081	ZM521B-66-4-1-1-BB-B-B-B	ZM521B-66-4-1-1-BB-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G1 99	CMT_L006	DTPYC9-F11-2-3-1-2-B	DTPYC9-F11-2-3-1-2-B	CIMMY T	Tropical/Subtropical	Yellow	Flint
G2 00	CMT_L007	CL-02841 Ac8928-40-1-1-1-1-B	CL-02841Ac8928-40-1-1-1-1-B	CIMMY T	Tropical/Subtropical	Yellow	Dent
G2 01	CMT_L008	CL-04934 (P49C2H12-5-4xP23C2-11-1)-2-2-2-B*10	CL-04934(P49C2H12-5-4xP23C2-11-1)-2-2-2-B*10	CIMMY T	Tropical/Subtropical	White	Semi-dent
G2 02	CMT_L009	LAMA2002-10-1-B	LAMA2002-10-1-B	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent
G2 03	CMT_L010	LAMA2002-20-6-B	LAMA2002-20-6-B	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent
G2 04	CMT_L011	MBR C6 Bc F234-1-B-#-1-1-B-B-B-B-B	MBR C6 Bc F234-1-B-#-1-1-B-B-B-B-B	CIMMY T	Tropical/Subtropical	White	Flint
G2 05	CMT_L012	Cuba/Guad C3 F53-3-1-1-B-B-B	Cuba/Guad C3 F53-3-1-1-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G2 06	CMT_L013	LAMA2002-60-9-B	LAMA2002-60-9-B	CIMMY T	Tropical/Subtropical	Yellow	Dent
G2 07	CMT_L014	SW1SR/COMPE1-W###52#-19-5-1-B*5	SW1SR/COMPE1-W###52#-19-5-1-B*5	CIMMY T	Tropical/Subtropical	White	Flint
G2 08	CMT_L015	La Posta Seq.C4 F140-1-1-1	La Posta Seq.C4 F140-1-1-1	CIMMY T	Tropical/Subtropical	White	Flint
G2 09	CMT_L016	761B B2 Bco x751B-B-1-1-B-B-B-B-B	761B B2 Bco x751B-B-1-1-B-B-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G2 10	CMT_L017	Cuba/Guad C3 F125-2-2-1-B-B-B	Cuba/Guad C3 F125-2-2-1-B-B-B	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent
G2 11	CMT_L018	P591c4 1y2 GEN F3-1-1-2-B-B-B	P591c4 1y2 GEN F3-1-1-2-B-B-B	CIMMY T	Tropical/Subtropical	Yellow	Semi-dent
G2 12	CMT_L019	CML-311/MBRC3BcF55-3-1-1-B-B-B	CML-311/MBRC3BcF55-3-1-1-B-B-B	CIMMY T	Tropical/Subtropical	White	Flint
G2 13	CMT_L020	P590 C7 Blancos F57-1-3-1-B-B-B	P590 C7 Blancos F57-1-3-1-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent
G2 14	CMT_L080	[CML390/CML206]-BB-2-4-BBBB-B-B	[CML390/CML206]-BB-2-4-BBBB-B-B-B	CIMMY T	Tropical/Subtropical	White	Semi-dent

Entry	Brief Name	Sample Name	Pedigree	Origin	Environmental Adaptation	Kernel Color	Kernel Texture
G2 15	CMT_L2 00	CML222/CML144//CML159//POOL 15QPMRSR-B-3-B-B	CML222/CML144//CML159//POOL15QPMRSR-B-3-B-B	CIMMY T	Tropical/Subtropical	White	Semi-flint
G2 16	CMT_L2 07	CML445/CML144//CML159//POOL 15QPMRSR-B-36-B-B	CML445/CML144//CML159//POOL15QPMRSR-B-36-B-B	CIMMY T	Tropical/Subtropical	White	Flint
G2 17	CMT_L2 08	CML221/CML144//CML159//POOL 15QPMRSR-B-48-B-B	CML221/CML144//CML159//POOL15QPMRSR-B-48-B-B	CIMMY T	Tropical/Subtropical	White	Semi-flint
G2 18	CMT_L2 15	CML216/CML144//CML159//POOL 15QPMRSR-B-22-B-B	CML216/CML144//CML159//POOL15QPMRSR-B-22-B-B	CIMMY T	Tropical/Subtropical	White	Semi-flint
G2 19	CMT_L2 18	DTPYC9-F46-3-9-1-1-B-B	DTPYC9-F46-3-9-1-1-B-B	CIMMY T	Tropical/Subtropical	Yellow	Flint
G2 20	CMT_L2 19	La Posta Seq C7-F64-2-6-2-1-B-B-B	La Posta Seq C7-F64-2-6-2-1-B-B-B	CIMMY T	Tropical/Subtropical	White	Flint

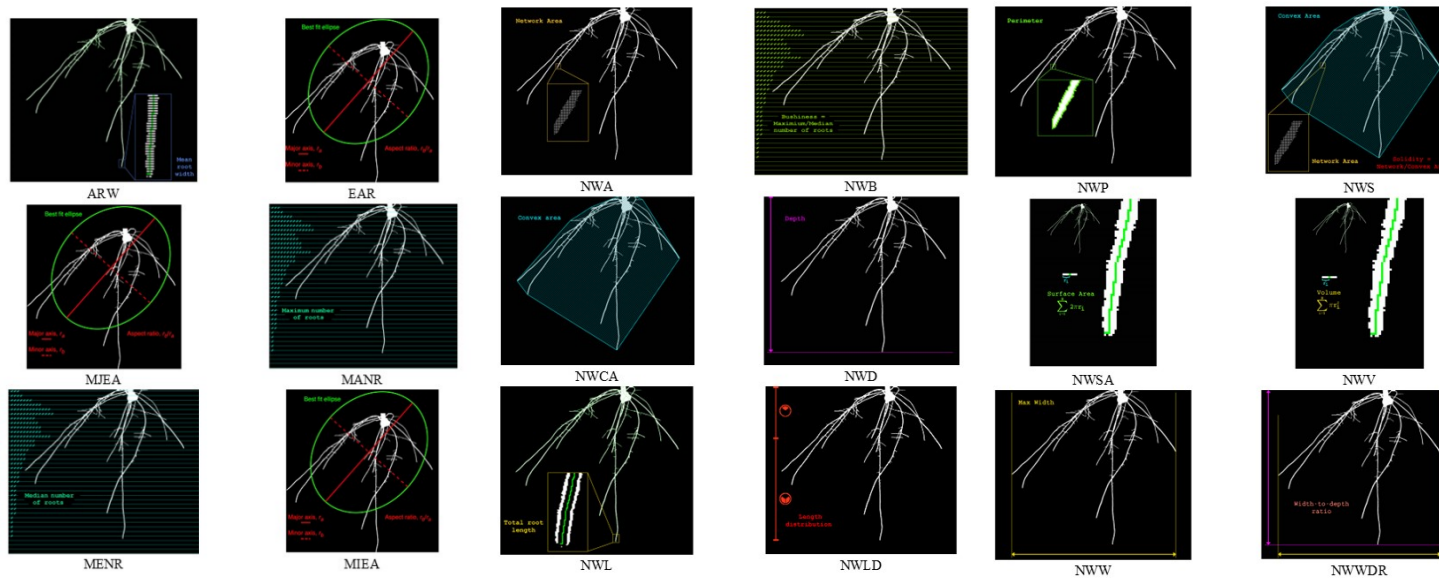


Figure S1. A vertical line sweep, which evaluated the number of roots that crossed a horizontal line and then calculated the median of all values for the network's extent.