

# **Online Material**

**Appendix 1.** General combining ability (GCA) estimates of female parents, parental rankings (according to the GCA) and estimates of family-level inbreeding depression ( $FID_k$ ) due to selfing (SELF) for DBH at different ages from planting. The results pertain to the 26 parents that are represented in both the SELF and Polymix (POL) cross types.

Parent Code	4 years			6 years			10 years		
	GCA	Ranking	$FID_k$	GCA	Ranking	$FID_k$	GCA	Ranking	$FID_k$
297	10.673	18	3.559 (0.333)	12.995	18	3.242 (0.249)	17.154	20	1.991 (0.116)
299	11.399	3	2.763 (0.242)	13.747	4	3.821 (0.278)	18.111	10	3.535 (0.195)
314	10.140	26	2.240 (0.221)	12.610	24	1.320 (0.105)	17.557	13	1.791 (0.102)
330	10.622	20	2.161 (0.203)	12.905	21	1.985 (0.154)	16.936	21	3.008 (0.178)
340	10.379	25	3.670 (0.354)	12.336	25	3.990 (0.323)	16.474	25	3.434 (0.208)
487	10.790	15	3.903 (0.362)	13.069	14	3.595 (0.275)	17.517	14	4.666 (0.266)
501	10.836	12	3.506 (0.324)	12.999	17	3.812 (0.293)	17.357	16	3.399 (0.196)
508	10.978	8	1.488 (0.136)	13.648	5	1.821 (0.133)	18.390	5	1.980 (0.108)
511	10.809	14	2.312 (0.214)	13.181	11	3.421 (0.259)	17.388	15	5.035 (0.290)
513	10.929	11	2.586 (0.237)	12.963	20	2.599 (0.201)	17.161	19	2.820 (0.164)
514	11.241	4	2.999 (0.267)	14.464	3	4.442 (0.307)	20.638	1	4.794 (0.232)
516	10.412	24	1.538 (0.148)	13.089	13	-0.153 (-0.011)	18.248	9	-0.995 (-0.052)
518	10.722	17	3.501 (0.326)	12.726	23	3.748 (0.294)	16.488	24	5.304 (0.322)
519	10.627	19	2.666 (0.251)	12.980	19	2.394 (0.184)	16.926	22	-0.167 (-0.010)
520	11.801	1	1.998 (0.169)	14.545	1	2.970 (0.204)	20.620	2	4.486 (0.218)
530	10.735	16	2.476 (0.231)	12.743	22	1.797 (0.141)	16.828	23	2.795 (0.166)
533	10.821	13	3.473 (0.321)	13.015	16	4.170 (0.320)	17.311	17	3.991 (0.230)
536	11.042	5	1.829 (0.166)	13.491	7	0.134 (0.010)	18.281	7	0.104 (0.006)
538	10.960	9	0.498 (0.045)	13.172	12	-0.212 (-0.016)	18.370	6	-0.192 (-0.010)
539	10.950	10	2.340 (0.214)	13.057	15	2.304 (0.176)	17.255	18	0.218 (0.013)
540	11.713	2	2.598 (0.222)	14.526	2	4.038 (0.278)	19.544	3	3.182 (0.163)
543	11.011	6	3.157 (0.287)	13.515	6	2.514 (0.186)	18.280	8	-0.110 (-0.006)
544	10.511	22	2.178 (0.207)	12.176	26	0.512 (0.042)	14.992	26	-0.140 (-0.009)
548	11.004	7	3.336 (0.303)	13.456	8	2.655 (0.197)	18.021	11	-0.280 (-0.015)
549	10.534	21	2.294 (0.218)	13.304	9	2.616 (0.197)	17.607	12	1.909 (0.108)
550	10.465	23	1.795 (0.171)	13.193	10	1.705 (0.129)	18.455	4	1.956 (0.106)

The GCA estimate of each parent is based on the data from the POL crosses, and it is given in cm on an absolute scale (i.e. after adding the least-squares mean of the POL crosses to the BLUP of the parent effect).  $FID_k$  is given in cm on an absolute scale, as well as on a relative scale in parenthesis. Relative values of  $FID_k$  were calculated as  $FID_k/\text{maximum}$ , with “maximum” =  $LSM_{(pol)} + \hat{g}_{k(pol)}$  when POL outperformed SELF, or “maximum” =  $LSM_{(self)} + \hat{g}_{k(self)}$  when SELF outperformed POL (Ågren and Schemske, 1993; Dudash et al., 1997).

**Appendix 2.** General combining ability (GCA) estimates of female parents, parental rankings (according to the GCA estimates) and family-level inbreeding depression ( $FID_k$ ) due to open pollination (OP) for DBH at ages 4 and 6 from planting. The results pertain to the 48 parents that are represented in both the OP and Polymix (POL) cross types.

Parent Code	4 years			6 years		
	GCA	Ranking	$FID_k$	GCA	Ranking	$FID_k$
297	10.673	32	2.208 (0.207)	12.995	28	0.906 (0.070)
299	11.399	4	1.214 (0.106)	13.747	9	1.309 (0.095)
314	10.140	48	0.849 (0.084)	12.610	41	0.004 (0.0)
330	10.622	36	1.214 (0.114)	12.905	35	1.081 (0.084)
340	10.379	42	2.744 (0.264)	12.336	45	2.018 (0.164)
349	10.711	29	0.578 (0.054)	12.579	42	0.535 (0.043)
464	10.648	34	-0.364 (-0.033)	13.122	22	-0.668 (-0.048)
487	10.790	24	3.371 (0.312)	13.069	24	2.024 (0.155)
501	10.836	21	2.566 (0.237)	12.999	27	2.288 (0.176)
503	10.772	25	2.375 (0.220)	12.939	34	2.306 (0.178)
506	10.708	30	-0.301 (-0.027)	13.134	21	-0.171 (-0.013)
507	10.679	31	2.198 (0.206)	12.490	43	0.536 (0.043)
508	10.978	15	0.400 (0.036)	13.648	10	0.788 (0.058)
509	11.237	7	1.867 (0.166)	13.865	7	1.562 (0.113)
510	11.224	8	0.318 (0.028)	13.892	6	0.483 (0.035)
511	10.809	23	0.779 (0.072)	13.181	19	1.506 (0.114)
512	11.187	10	0.136 (0.012)	13.970	5	0.410 (0.029)
513	10.929	19	2.543 (0.233)	12.963	32	2.436 (0.188)
514	11.241	6	3.010 (0.268)	14.464	4	2.711 (0.187)
515	10.452	40	1.917 (0.183)	12.433	44	1.074 (0.086)
516	10.412	41	0.216 (0.021)	13.089	23	-0.436 (-0.032)
518	10.722	28	2.922 (0.272)	12.726	39	2.616 (0.206)
519	10.627	35	0.585 (0.055)	12.980	30	0.289 (0.022)
520	11.801	1	1.354 (0.115)	14.545	1	1.624 (0.112)
521	11.199	9	2.186 (0.195)	13.361	15	-0.217 (-0.016)
523	10.376	43	0.441 (0.042)	13.488	13	0.319 (0.024)
524	10.229	45	-0.236 (-0.022)	12.986	29	-0.593 (-0.044)
526	10.216	46	-0.021 (-0.002)	12.275	46	-0.616 (-0.048)
530	10.735	27	1.542 (0.144)	12.743	38	1.075 (0.084)
531	10.996	14	1.706 (0.155)	12.958	33	1.586 (0.122)
532	10.936	18	-0.084 (-0.008)	12.892	36	0.014 (0.001)
533	10.821	22	2.769 (0.256)	13.015	26	2.561 (0.197)
536	11.042	11	2.733 (0.247)	13.491	12	1.106 (0.082)
537	11.290	5	-0.330 (-0.028)	13.854	8	-0.235 (-0.017)
538	10.960	16	0.940 (0.086)	13.172	20	0.824 (0.063)
539	10.950	17	1.097 (0.100)	13.057	25	0.274 (0.021)
540	11.713	2	1.480 (0.126)	14.526	2	1.733 (0.119)
541	11.656	3	0.347 (0.030)	14.519	3	0.654 (0.045)
542	10.908	20	-0.435 (-0.038)	12.975	31	-0.370 (-0.028)
543	11.011	12	0.555 (0.050)	13.515	11	0.490 (0.036)
544	10.511	38	0.351 (0.033)	12.176	47	0.070 (0.006)
545	10.320	44	-0.237 (-0.022)	12.807	37	0.047 (0.004)
547	10.142	47	0.569 (0.056)	12.166	48	-0.012 (-0.001)
548	11.004	13	2.623 (0.238)	13.456	14	1.394 (0.104)
549	10.534	37	1.488 (0.141)	13.304	16	1.001 (0.075)
550	10.465	39	0.585 (0.056)	13.193	18	0.902 (0.068)
551	10.747	26	0.853 (0.079)	13.227	17	0.637 (0.048)
553	10.667	33	-0.173 (-0.016)	12.687	40	-0.644 (-0.048)

The GCA estimate of each parent is based on the data from the POL crosses, and it is given in cm on an absolute scale (i.e. after adding the least-squares mean of the POL crosses to the BLUP of the parent effect).  $FID_k$  is given in cm on an absolute scale, as well as on a relative scale in parenthesis. Relative values of  $FID_k$  were calculated as  $FID_k/\text{maximum}$ , with “maximum” =  $LSM_{(pol)} + \hat{g}_{k(pol)}$  when POL outperformed OP, or “maximum” =  $LSM_{(op)} + \hat{g}_{k(op)}$  when OP outperformed POL (Ågren and Schemske, 1993; Dudash et al., 1997).