

Appendix J DEGs between the four deep-seeding tolerant inbred lines and deep-seeding intolerant lines sown under 20 cm depth

Note: a, gene ID, chromosome name and position were based on maize B73 reference genome version 3; b, positive and negative values indicated the genes were up-regulated and down-regulated in deep-sowing tolerant inbred lines compared with deep-sowing intolerant inbred lines.

Gene ID	Chr ^a	Start ^a	Stop ^a	log ₂ (Fold change) ^b	<i>P</i> value	Gene description
GRMZM2G410700	1	17716651	17718180	1.347227223	0.004115223	Cytochrome P450 family, homolog in rice related to organ length
GRMZM2G070849	1	51395397	51397668	-1.627192444	0.000473565	MYB family transcription factor
GRMZM2G040115	2	2036471	2039854	-1.590692104	1.38E-11	Broad Complex BTB domain
GRMZM2G096546	2	5306431	5308418	-1.02944041	2.83E-11	Plant-specific domain TIGR family protein
GRMZM2G106413	2	6980501	6981214	-1.955752995	2.03E-10	Wound induced protein
GRMZM2G141081	2	149197052	149201004	-1.268699685	0.000185248	Major facilitator superfamily antiporter
GRMZM2G153445	2	188755090	188755661	-3.201721066	8.67E-12	Uncharacterized protein
GRMZM2G081017	2	190138344	190140267	-2.222637871	2.09E-15	Fasciclin domain containing protein
GRMZM2G080466	2	190149383	190151399	-1.063665976	3.35E-13	Uncharacterized protein
AC204539.4_FG003	2	190210208	190213076	-1.403742299	0.001371638	Profilin domain containing protein
GRMZM2G134340	2	190213795	190217073	-2.484249617	9.64E-11	Uncharacterized protein
GRMZM2G052507	2	223631394	223634693	-1.211912419	0.000248401	Putative Serine Carboxypeptidase
GRMZM2G142179	3	2629088	2630607	1.399774785	0.0000715	AP2 domain containing protein
GRMZM2G078839	3	2719691	2728544	1.122117087	1.07E-13	Vacuolar ATP synthase subunit E
GRMZM2G303044	3	5956323	5957602	-3.355320147	9.12E-52	Thioredoxin superfamily protein
GRMZM2G364272	3	9326312	9327029	1.549386255	0.000109497	Uncharacterized protein
GRMZM5G871126	3	9387614	9393164	1.116654242	0.00283778	Aminoacyl-tRNA synthetase
AC206350.3_FG00	3	15441632	15442720	-1.054552712	7.82E-09	Disease resistance-responsive family protein

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GRMZM2G162527	3	17191199	17194774	-2.058965351	6.55E-21	Short chain dehydrogenase/reductase family domain
GRMZM2G034534	3	18085239	18087275	-2.312476389	1.23E-11	Alpha/beta-Hydrolases superfamily protein
AC233872.1_FG003	3	18228180	18230298	1.070076149	0.000000979	Mitochondrial glycoprotein
GRMZM2G395983	3	21863842	21865121	1.271773874	0.006529959	Uncharacterized protein
GRMZM5G807064	3	168962328	168966124	-1.171617525	0.003711411	Broad Complex BTB domain
GRMZM2G022931	3	210588269	210590012	1.235816839	1.06E-19	FASCICLIN-like arabinogalactan-protein 11
GRMZM2G370193	3	214875160	214876290	1.047016599	3.62E-08	Uncharacterized protein
GRMZM2G150280	3	216336048	216337715	1.362239923	0.0000547	CBS domain containing membrane protein
GRMZM2G177384	3	216337997	216339775	1.039182019	0.00000215	Cytochrome P450, Arabidopsis homolog related to hypocotyl length
GRMZM2G459828	4	40043233	40048838	-5.408346406	8.44E-41	40S ribosomal protein
GRMZM2G325285	5	1715366	1722042	1.642773734	0.000138615	Heavy chain subunit of clathrin
GRMZM2G023049	5	1722577	1727831	1.28139854	1.22E-10	Lipase class 3 family protein
GRMZM2G130053	5	7119675	7121677	-1.515284971	2.61E-10	Cysteine protease 1
GRMZM2G029436	5	11534608	11542284	-1.235669153	0.006353893	Encodes a cullin that is a component of SCF ubiquitin ligase complexes, the Arabidopsis homolog related to auxin signaling, photomorphogenesis, and organ growth
GRMZM2G006329	5	14485065	14489055	-1.459875708	3.7E-09	Pleckstrin homology domain-containing protein
GRMZM2G469414	5	57234376	57240744	-1.687284408	0.0000093	Putative NB-ARC domain-containing disease resistance protein
GRMZM2G361993	5	60955199	60956616	1.25168998	0.0000188	Auxin-responsive SAUR gene family
GRMZM2G399136	5	61552109	61553070	-1.191895049	0.001502537	Heat shock protein DnaJ
GRMZM2G014826	5	155564685	155568640	-1.329678638	1.33E-11	Tetraspanin family protein
GRMZM2G150363	5	200743141	200745544	1.52985792	0.00102884	Nine-cis-epoxycarotenoid dioxygenase
GRMZM2G347836	5	200826547	200829426	1.06144039	0.00687494	Phosphatidic acid phosphatase (PAP2) family protein

GRMZM2G046587	5	200881599	200885907	1.286579912	0.000256798	Inorganic pyrophosphatase activity
GRMZM2G045883	5	208944482	208949818	1.387566839	0.001767149	bHLH DNA-binding superfamily protein
GRMZM2G318662	5	213313364	213317055	1.374177048	0.003920351	Uncharacterized protein
GRMZM2G017868	5	213337811	213344001	1.374105417	0.002376022	Nudix hydrolase homolog
GRMZM2G318635	5	213340251	213350414	-1.077498525	0.001751545	Tetratricopeptide repeat (TPR)-like superfamily protein
GRMZM2G119769	5	213387250	213390312	1.693914337	0.00022405	SNF1 kinase interactor-like protein, related to plant height, auxin and light in other plant species
AC195587.4_FG004	6	78774141	78783661	1.634377066	1.96E-09	Alpha/beta-Hydrolases superfamily protein
GRMZM2G074479	7	8056369	8065662	-1.212398709	4.21E-19	Ubiquitin-conjugating enzyme
GRMZM2G382273	7	28278050	28283085	1.376782426	0.000629359	WRKY transcription factor
AC195147.3_FG008	7	168121926	168122396	4.390307726	3.98E-24	Uncharacterized protein
GRMZM2G058681	8	6243736	6257400	2.234220188	1.99E-10	Zinc finger C3HC4 type domain containing protei
GRMZM2G407273	8	12213808	12216296	1.381458799	0.002276989	Bowman-Birk type bran trypsin inhibitor precursor
GRMZM2G112865	8	168609085	168612860	1.105597268	0.000215057	50S ribosomal protein L17
GRMZM2G700806	8	169075365	169078714	1.079502127	0.001098224	Uncharacterized protein
GRMZM5G872256	9	134152466	134154240	-1.354373961	0.000000159	Glycosyl transferase 8 domain containing protein
GRMZM2G178880	9	151561291	151565140	1.281504683	1.57E-09	Cellulose synthase-like family A
GRMZM2G178960	9	151582532	151586407	1.193442473	0.000178264	Ribulose-phosphate 3-epimerase
GRMZM5G833332	9	151665851	151667733	1.22495186	0.00083191	Uncharacterized protein
GRMZM2G057514	9	152330061	152332084	1.325660811	0.0000216	Cytochrome P450 family
GRMZM2G057243	9	152353213	152359196	1.118907302	3.05E-12	Carotenoid cleavage dioxygenase
GRMZM2G317931	9	153934171	153939686	-1.127962562	0.000433628	Encodes a substrate receptor for CRL4-CDD complexes
GRMZM2G172586	10	2639262	2640147	-1.405427368	0.003210007	ZF-HD protein dimerisation region containing protein

GRMZM2G320305	10	2693389	2697471	-1.334258023	0.004765107	Ferredoxin--NADP reductase
GRMZM2G156150	10	4469326	4472165	-1.335418379	0.004958502	CBL-interacting protein kinase family protein
GRMZM2G029039	10	142218302	142221256	1.439278834	0.002151618	F-box domain and kelch repeat containing protein
GRMZM2G029242	10	142222065	142225975	-1.155032309	0.000281824	Tyrosine protein kinase domain containing protein
GRMZM2G405662	10	146674441	146675684	-1.560764954	0.000095	Heavy metal-associated domain containing protein
GRMZM2G092427	10	147325724	147327040	2.01778068	0.000000446	Light harvesting complex photosystem II, sensitive to light
GRMZM2G092571	10	147332132	147334795	1.180172138	0.0000744	DHHC zinc finger domain containing protein isoform 1