

Appendix I DEGs between 2 cm and 20 cm sowing depth treatments for the four deep-seeding tolerant inbred lines

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 response to deep-sowing treatment.

Gene ID	Chr ^a	Start ^a	End ^a	Log ₂ (Fold Change) ^b	P value	Gene description
GRMZM2G166445	1	12496033	12497816	1.025272813	1.60843E-07	EPF/EPFL gene family
GRMZM2G024099	1	18187897	18189714	1.826797593	8.18278E-30	Eukaryotic aspartyl protease family protein
GRMZM2G017536	1	47993857	47998056	1.264101508	0.001658138	TRM superfamily,homolog in rice related to dwarf and organ length
GRMZM2G350312	1	65662828	65666055	-1.00982753	0.006900179	bHLH DNA-binding superfamily protein
GRMZM2G074138	1	76617591	76623828	-1.07964538	3.37409E-10	Alpha/beta-Hydrolases superfamily,homolog in rice related to organ length
GRMZM2G155329	1	293118119	293119647	-1.43828787	1.9577E-15	Chalcone flavanone isomerase I
GRMZM2G366681	1	296067675	296069043	-1.10002147	9.07257E-15	Uncharacterized protein
GRMZM2G469313	2	19390329	19392986	1.433848961	0.001147939	Receptor-like protein kinase
GRMZM2G083888	2	42589461	42590525	-1.14167333	0.000426845	Uncharacterized protein
AC191283.3_FG004	2	115393595	115399222	-1.38206157	2.1385E-05	Leucine-rich repeat protein kinase family protein
GRMZM2G470914	3	5850533	5854573	1.009512222	7.48176E-07	Uncharacterized protein
GRMZM2G303044	3	5956323	5957602	-1.45167116	0.000966597	Thioredoxin superfamily protein
AC206350.3_FG005	3	15441632	15442720	-1.53526661	1.36597E-09	Disease resistance-responsive family protein
GRMZM2G401581	3	15447726	15449051	1.680143255	4.37033E-12	Histone H3.2
GRMZM2G162527	3	17191199	17194774	1.133243054	2.67907E-05	Short chain dehydrogenase/reductase family domain
GRMZM2G037130	3	18192065	18193118	-1.26969784	1.42478E-06	Uncharacterized protein
GRMZM2G139617	3	158390857	158397844	1.292445534	1.75767E-05	DEK terminal domain containing protein,
GRMZM2G081102	3	158562948	158568434	1.054024946	8.67807E-14	Ribosomal protein

GRMZM2G024806	3	186886605	186888845	-1.32407324	2.19849E-05	F-box domain containing protein
GRMZM2G157927	3	214832691	214834785	-1.62943542	6.96556E-07	Zinc finger C3-H type family protein
GRMZM2G126260	3	214980803	214985892	1.435778092	3.62338E-12	Putative auxin efflux carrier PIN10
GRMZM2G130333	3	216556131	216559740	-1.5282364	3.19872E-08	Aspartic proteinase
GRMZM2G044104	4	5154347	5155431	-1.49925819	1.89018E-05	Dirigent-like protein
GRMZM2G154523	4	5460337	5462342	-1.16651026	1.65654E-14	Phospholipase A
GRMZM2G160541	4	143404315	143408521	-1.82725336	1.47553E-27	Phenylalanine ammonia-lyase
GRMZM2G124566	4	155831893	155833246	1.52247527	0.001677107	Growth-regulating factor, homolog in rice related to dwarf and organ length
GRMZM2G023081	5	1728111	1729390	-1.47348289	8.77522E-05	Cys-rich domain containing protein
GRMZM2G133407	5	1817501	1820935	-1.32916685	6.12402E-07	Alpha/beta-Hydrolases superfamily
AC159612.1_FG007	5	4583377	4584977	1.33019689	6.73821E-14	Glucan endo-1,3-beta-glucosidase
GRMZM2G130053	5	7119675	7121677	-2.77226569	1.09074E-17	Cysteine protease 1
GRMZM2G129865	5	7140188	7141900	-1.15032225	0.009058674	Anther-specific proline-rich protein APG precursor
GRMZM2G165530	5	193599656	193606677	-1.74951322	1.42145E-08	Major facilitator superfamily protein
GRMZM2G036092	5	207554896	207556510	1.124988061	8.82707E-16	bHLH DNA-binding superfamily protein
GRMZM2G128131	5	212793192	212797973	-1.29899849	1.23648E-05	Late embryogenesis abundant protein
GRMZM2G119769	5	213387250	213390312	-1.3583582	0.002571398	SNF1 kinase interactor-like protein, related to plant height, auxin and light in other plant species
GRMZM2G030731	7	165283016	165284039	1.110273203	6.77071E-15	60S ribosomal protein L27
GRMZM2G127031	7	165337344	165341000	-1.40222316	0.000355144	Protein kinase superfamily protein
GRMZM2G036134	7	171029922	171032363	2.159676619	5.40577E-17	Uncharacterized protein
GRMZM2G326328	7	171099116	171107066	1.412036179	1.15524E-05	Uncharacterized protein
GRMZM2G156632	8	12275985	12276693	-1.40306296	2.30156E-19	Bowman-Birk type bran trypsin inhibitor precursor
GRMZM2G112912	8	168604611	168605586	1.454675505	1.60884E-14	Core histone H2A/H2B/H3/H4 domain containing protein

GRMZM5G872256	9	134152466	134154240	-1.14888703	0.00145782	Glycosyl transferase 8 domain containing protein
GRMZM2G150408	9	152309005	152310938	1.168845586	0.003978938	Eisosome protein
GRMZM2G150058	9	152314247	152316624	1.053875138	1.07315E-11	Ribosomal protein
GRMZM2G089421	9	152399689	152401927	1.213167611	4.55622E-13	Translation protein SH3-like family protein
GRMZM2G042920	10	142141640	142143666	1.032602608	4.15322E-07	bHLH DNA-binding superfamily protein
GRMZM2G029039	10	142218302	142221256	1.497962245	2.72551E-05	F-box domain and kelch repeat containing protein
GRMZM2G030009	10	142271338	142272919	1.274723856	0.008045463	Uncharacterized protein
GRMZM2G069389	10	147366969	147369460	1.687974997	2.60544E-05	Uncharacterized protein