

**Supplementary Table 3** Response of drought stress on the major step expression of genes associated with galactose metabolism in young tassel

Bin ID	Gene ID	X178	Yu12	Chang7-2	Ye478	B73	Dan340	annotation
A1	GRMZM2G052336	1.81	-1.54		-2.38	-2.23	-2.87	UDP-D-glucose/UDP-D-galactose 4-epimerase 1
	GRMZM2G038598	1.51			-1.20			UDP-D-glucose/UDP-D-galactose 4-epimerase 2
A2	GRMZM2G150906			-1.02		2.11		Raffinose synthase
	GRMZM2G302873					1.29		Seed imbibition 2
	GRMZM2G340656	3.58		1.90		1.21		Glycosyltransferase
	GRMZM2G050177				-1.38	-2.26		Glycosyltransferase
	GRMZM2G037265			-1.25	-1.27		-1.53	Glycosyltransferase
	GRMZM2G311756	-1.01			-2.10			Glycosyltransferase
	GRMZM2G047292				-1.68	-1.08		Glycosyltransferase
	GRMZM2G127147				-1.41		Raffinose synthase	
A3	GRMZM2G095126	2.61				1.14		Alpha-galactosidase 1
	GRMZM2G077389			1.85				Alpha-galactosidase 2
	GRMZM2G346455					-1.84		Alpha-galactosidase 1
	GRMZM2G305996	2.50						Melibiase
	GRMZM2G146463			-1.02				Alpha-galactosidase 1
A4	GRMZM2G005664					-7.68		NO found
	GRMZM2G119689	-4.94	-2.19	-1.90	-1.01	-2.58		(mn1-miniature seed1)

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	GRMZM2G089836		-1.09	-3.09		-2.32	-1.06	(ivr2-invertase2)
	GRMZM2G076056					-1.94		NO found
	GRMZM2G095725	-2.48	-1.55		-1.78	-1.64	-1.06	Cell wall invertase 2
	GRMZM2G174274	-1.95						Rho GTPase activating protein with PAK-box/P21-Rho-binding domain
A5	GRMZM2G428518			-1.39	-1.52	-1.91		Glycosyl hydrolases family 31 protein
	GRMZM2G100828	1.31						Heteroglycan glucosidase 1
A6	GRMZM2G169943	7.75						NAD(P)-linked oxidoreductase
	GRMZM2G178533	1.59						NAD(P)-linked oxidoreductase
	GRMZM2G111954			-2.38		-3.23		NAD(P)-linked oxidoreductase
	GRMZM2G415579	-3.28		-2.34				NAD(P)-linked oxidoreductase
	GRMZM2G087507						-1.85	NAD(P)-linked oxidoreductase
	GRMZM2G048121	-2.24						NAD(P)-linked oxidoreductase
	GRMZM5G893782		-1.04					NAD(P)-linked oxidoreductase
A7	GRMZM2G180262					3.32		Calmodulin (CAM)-binding protein
	GRMZM2G013271					2.94		(ofp22-ovate-transcription factor 22)

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	GRMZM2G084130					2.07		(dof24-C2C2-Dof-transcription factor 24)
	GRMZM2G371793	1.45				1.75	1.26	HAD superfamily subfamily IIIB acid phosphatase
	GRMZM2G078648					1.27		Zinc finger protein
	GRMZM2G327260					1.3		NO found
	GRMZM2G349407					1.06		MBOAT (membrane bound O-acyl transferase) protein
	GRMZM2G404603		2.27					NO found
	GRMZM2G166776				2			NO found
	GRMZM2G080375	2.10						Phosphofructokinase 3
	GRMZM2G076584				-2.56		1.94	Glycosyl hydrolase
	GRMZM2G481261	1.46					1.53	2Fe-2S ferredoxin-like superfamily protein
	GRMZM2G179274						1.25	Sequence-specific DNA binding transcription factors
	GRMZM2G166330						1.07	SGNH hydrolase-type esterase superfamily protein

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	GRMZM2G327692						1.09	Dehydration-induced protein (ERD15)
	GRMZM2G359076						8.57	NO found
	GRMZM5G816636			2.60				Phosphofructokinase 3
	GRMZM2G424112					-4.29		Peptidoglycan-binding domain-containing protein LysM
	GRMZM2G160710	-8.67		-1.20		-3.81		Heavy metal transport/detoxification superfamily protein
	GRMZM2G053779		-1.94		-1.48	-3.52	-2.32	Cupredoxin superfamily protein
	GRMZM2G017991	-2.68	-1.14	-2.38		-2.61	-1.9	Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein
	GRMZM2G398807	-1.07	-1.24	-1.24	-1.39	-2.20	-1.22	Bifunctional inhibitor/lipid-transfer protein/seed storage 2S albumin superfamily protein
	GRMZM2G085945	-1.92				-1.92		Zinc finger protein 8
	GRMZM2G044882	-2.46	-1.09		-1.44	-1.53	-2.21	Li-tolerant lipase 1
	GRMZM2G007615					-1.42		NO found

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	GRMZM2G058588	-2.06		-1.23	-1.26	-1.34		(sbp28-SBP-transcription factor 28)
	GRMZM2G339907	-1.67			-1.35	-1.14		Late embryogenesis abundant (LEA) hydroxyproline-rich glycoprotein
	GRMZM2G009892	-4.59		-1.66	-1.55	-1.14		(nactf32-NAC-transcription factor 32)
	GRMZM2G069694		-2.06	-4.34	-1.81		-1.25	Protein of unknown function (DUF506)
	GRMZM2G078050			-2.54				Protein of unknown function (DUF679)
	GRMZM2G018876	-1.22		-2.09				(STO) B-box zinc finger family protein
	GRMZM2G417597	2.07		-2.02				(bhlh6-Bhlh-transcription factor 6)
	GRMZM2G139193	-1.75		-1.45				Early nodulin-like protein 9
	GRMZM2G132069	1.66		-1.26				Phosphofructokinase 3
	GRMZM2G074017	4.45			-1.22		-1.83	F1F0-ATPase inhibitor protein putative
	GRMZM2G040559	1.19						NO found
	GRMZM2G071575	1.04						Glycosylphosphatidylinositol-anchored lipid protein transfer 1

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	GRMZM2G146015	-1.37						Early nodulin-like protein 20
	GRMZM2G060544	-1.22	1.38					(lbd5-LBD-transcription factor 5)
	GRMZM2G130358	-1.09						Ribosomal protein L31
	GRMZM2G567452	-1.06						NO found
	GRMZM2G041175				-2.72			Tetraspanin8
	GRMZM2G085238				-1.17			NO found
	GRMZM2G137869		-1.03					(ofp37-OVATE-transcription factor 37)

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