

Supplemental Data to:

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Transcriptional Profile of *Salmonella enterica* subsp. *enterica* Serovar Weltevreden during Alfalfa Sprout Colonization

Table S1. Genes higher transcribed in M9-glucose medium in comparison to sprouts determined by RNA-seq analysis.

Category	Gene	Locus tag	Fold change	Function
Amino acid metabolism	<i>lysC</i>	SENTW_4304	26.36	Aspartokinase III
	<i>asnA</i>	SENTW_3982	23.72	Asparagine synthetase A
	<i>skd</i>	SENTW_3964	12.09	Shikimate 5-dehydrogenase
	<i>araD</i>	SENTW_0054	9.87	L-ribulose-5-phosphate 4-epimerase
	<i>ilvC</i>	SENTW_4005	9.86	Ketol-acid reductoisomerase
	<i>tyrA</i>	SENTW_2788	8.94	Chorismate mutase-T and prephenate dehydrogenase
	<i>aroF</i>	SENTW_2789	8.75	Phospho-2-dehydro-3-deoxyheptonate aldolase
	<i>thrB</i>	SENTW_4706	6.22	Homoserine kinase
	<i>ordL</i>	SENTW_3257	5.14	Putative oxidoreductase
	<i>pmrF, pqaB, yfbG, yfbH, yfbJ, yfbW</i>	SENTW_2421-2426	3.37	Putative sugar transferase, formyltransferase, polysaccharide deacetylase, transferase, hypothetical protein, hypothetical protein
	<i>trpA, trpB</i>	SENTW_1471-1472	3.31	Tryptophan synthase
	<i>ilvI, ilvH</i>	SENTW_0072-0073	3.18	Acetolactate synthase
	<i>hisA, hisC, hisB, hisH, hisF, hisI</i>	SENTW_2197-2203	3.1	Isomerise, aminotransferase, dehydratase, phosphate synthase subunit, isomerise, phosphate synthase subunit, pyrophosphatase protein
	Pathogenicity	<i>srfC, srfB1, srfB2</i>	SENTW_1611-1613	4.01
<i>invE, invG, invF</i>		SENTW_2986-2988	4.35	Invasion protein
<i>hofC, outE</i>		SENTW_0101-0102	5.69	Type IV pilin biogenesis protein, conserved protein with nucleoside triphosphate hydrolase domain
<i>sipC</i>		SENTW_2973	8.78	Effector protein
Motility	<i>yopP</i>	SENTW_2953	9.75	Secreted effector protein
	<i>fimA</i>	SENTW_0142	37.89	Putative fimbrin-like protein
	<i>fliK, fliJ</i>	SENTW_1108-1109	12.04	Flagellar protein; Otagelin Flags
	<i>fimH</i>	SENTW_4729	6.33	Uncharacterized fimbrial-like protein
	<i>stbC, stbB</i>	SENTW_0321-0322	4.65	Fimbrial chaperon protein, Outer membrane usher protein
	<i>cheR, cheB</i>	SENTW_1164-1163	6.75	Protein-glutamate methyltransferase; chemotaxis protein methyltransferase
	<i>cheA</i>	SENTW_1160	5.46	Chemotaxis protein
	<i>ygiX, ygiY</i>	SENTW_3311-3312	5.18	Transcriptional regulatory protein, sensor histidine kinase

Cofactors and energy production	<i>tar</i>	SENTW_1162	4.07	Methyl-accepting chemotaxis protein II, aspartate sensor receptor	
	<i>yfcS</i>	SENTW_0164	15.72	Pili chaperone protein	
	<i>yfiD</i>	SENTW_1232	4.32	Autonomous glycyl radical cofactor	
	<i>ygbK, pdxA3, kdgT</i>	SENTW_0126-0128	6.61	2-keto-3-deoxygluconate permease, putative inner membrane protein, 4-hydroxythreonine-4-phosphate dehydrogenase	
Regulators	<i>ynhD, ynhC, sufS</i>	SENTW_1840-1842	3.85	Cysteine desulfurase/selenocysteine lyase, desulfurase activator, desulfurase ATPase	
	<i>panE</i>	SENTW_2762	6.36	2-dehydropantoate 2-reductase	
	<i>cbiB, cbiA</i>	SENTW_2158-2159	5.51	Cobyrinic acid A,C-diamide synthase	
	SENTW_3738, <i>celR</i>	SENTW_3738, 2840	30.52	Regulatory protein	
	<i>prpR</i>	SENTW_0349	13.6	Propionate catabolism operon regulatory protein	
	<i>sprB1</i>	SENTW_2954	7.7	Transcriptional regulator	
	<i>xapR1</i>	SENTW_2598	6.99	Transcriptional regulator	
	<i>treR</i>	SENTW_4560	6.16	Transcriptional Regulator	
	<i>hilD1</i>	SENTW_2964	5.48	Transcriptional regulator	
	<i>yhjB</i>	SENTW_3706	5.34	Transcriptional regulator	
	<i>fhlA</i>	SENTW_2947	4.84	Formate hydrogenlyase transcriptional activator	
	<i>budR</i>	SENTW_2764	4.66	Transcriptional regulator	
	<i>ywbl</i>	SENTW_4356	4.53	Probable RuBisCO transcriptional regulator	
	<i>alcR</i>	SENTW_0345	4.45	HTH-type transcriptional activator	
	<i>hilD3</i>	SENTW_2955	4.34	Transcriptional regulator	
	Transporters	<i>glnL</i>	SENTW_4090	3.95	Nitrogen regulation protein
		<i>basR</i>	SENTW_4379	3.82	DNA-binding transcriptional regulator
		SENTW_4300	2.52	DeoR family regulatory protein	
<i>srlR,</i>		SENTW_2924	2.38	DNA-binding transcriptional repressor	
<i>gutM</i>		SENTW_2923	6.05	Glucitol operon activator protein	
<i>caiF</i>		SENTW_0019	5.74	Transcriptional activatory protein	
<i>citB, citA</i>		SENTW_4760-4761	5.21	Response regulator, sensor kinase (Citrate fermentation)	
<i>yegO3, mdtC, yegB,</i>		SENTW_2253-2257	4.24	Multidrug efflux system subunit, signal transduction histidine-protein kinase,	
<i>baeS, baeR</i>				DNA-binding transcriptional regulator	
<i>ail</i>		SENTW_0330	∞	Outer membrane protein	
<i>gatA</i>		SENTW_3389	∞	PTS system	
<i>yjfI</i>		SENTW_4477	∞	inner membrane protein	
<i>iroC</i>		SENTW_2862	20.15	Multidrug resistance protein	

	<i>psaA, CYSA, sitC, sitD</i>	SENTW_2949-2952	13.47	ABC transporter, Chelated iron transport
	<i>ompC</i>	SENTW_2395	12.11	Putative outer membrane
	<i>pucJ</i>	SENTW_3736	9.35	Putative xanthine permease
	<i>cyaB, cyaD, srpC</i>	SENTW_2856-2858	9.32	Putative type I secretion protein
	<i>nirC</i>	SENTW_4222	8.87	Probable nitrite transporter
	<i>yfgF</i>	SENTW_2686	8.75	Innermembrane protein
	<i>sfbA</i>	SENTW_0496	7.82	Lipoprotein
	<i>nmpC</i>	SENTW_1635	7.65	Outer membrane pore protein
	<i>yjfL</i>	SENTW_4477	7.26	Inner membrane protein
	<i>ydiM</i>	SENTW_1851	7.19	Inner membrane transport protein
	<i>nhaC</i>	SENTW_1654	6.99	Uncharacterized Na(+)/H(+) antiporter
	<i>artJ</i>	SENTW_4458	6.45	Arginine-binding periplasmic protein
	<i>ptlG</i>	SENTW_4420	5.64	Putative multidrug resistance protein
	<i>sfbB, sfbC</i>	SENTW_0497-0498	5.33	Methionine import ATP-binding protein, lipoprotein
	<i>yebL</i>	SENTW_1193	5.26	High-affinity zinc uptake system protein znuA
	<i>ydjN1</i>	SENTW_1845	5.12	Putative L-cystine uptake protein
	<i>ybbL, ybbM</i>	SENTW_0488-0489	5.09	Spermidine/putrescine import ATP-binding protein, innermembrane protein
	<i>yojI</i>	SENTW_2391	4.9	Lipid A export ATP-binding/permease protein
	<i>modA, modB</i>	SENTW_0755-0756	4.81	Molybdate-binding periplasmic protein
	<i>yceE</i>	SENTW_0365	4.53	Multidrug resistance protein
	<i>yahN</i>	SENTW_0347	4.31	Putative threonine efflux protein
	<i>yjgN</i>	SENTW_4583	4.21	Inner membrane protein
	<i>exbB</i>	SENTW_3291	4.18	Biopolymer transport protein
	<i>tet</i>	SENTW_4826	4.13	High-affinity glucose transporter
	<i>kefB</i>	SENTW_4243	4.12	Efflux system protein
	<i>tehA, theB</i>	SENTW_1596-1597	3.89	Tellurite resistance/ dicarboxylate transporter
	<i>znuB, znuC</i>	SENTW_1191-1192	3.7	Zinc import ATP-binding protein
	<i>sgaT</i>	SENTW_4486	5.08	PTS system
	<i>yejB, dppC</i>	SENTW_2351-2352	3.2	Permease
	<i>yadI</i>	SENTW_0143	4.3	Putative PTS system IIA component
	<i>fruA3</i>	SENTW_2336	7.93	PTS system, fructose-specific IIBC component
	<i>kdgT</i>	SENTW_0632	5.26	2-keto-3-deoxygluconate permease 2
Lipid metabolism	<i>dacD</i>	SENTW_2186	10.64	DD-carboxypeptidase
	<i>pduP</i>	SENTW_2175	16.97	Retinal dehydrogenase

Carbohydrate metabolism	<i>ppiC</i>	SENTW_4006	11.08	Peptidyl-prolyl cis-trans isomerase C
	<i>fucA</i>	SENTW_3083	∞	L-fuculose-1-phosphate aldolase
	<i>fucK</i>	SENTW_3086	5.32	L-fuculokinase
	<i>rhaD</i>	SENTW_4132	5.28	Rhamnulose-1-phosphate aldolase
	<i>citF, citX, citG</i>	SENTW_0010-0012	4.78	Citrate lyase alpha chain, holo-ACP synthase, triphosphoribosyl-dephospho-CoA synthase
	<i>yrbE</i>	SENTW_4537	33.45	Oxidoreductase
	<i>pcm, surE, truD, ygbO, ygbP</i>	SENTW_3013-3017	2.26	Protein-L-isoaspartate(D-aspartate) O-methyltransferase, stationary phase survival protein, tRNA pseudouridine13 synthase, 2-C-methyl-D-erythritol 2,4-cyclodiphosphate synthase, 2-C-methyl-D-erythritol 4-phosphate cytidyltransferase
	<i>galM, galK</i>	SENTW_0747-0748	2.92	Galactokinase
	<i>gutQ</i>	SENTW_2925	3.48	D-arabinose 5-phosphate isomerase
	<i>gatZ</i>	SENTW_3388	3.99	Putative tagatose 6-phosphate kinase 1
	<i>adhE</i>	SENTW_1446	7.92	Aldehyde-alcohol dehydrogenase
	<i>fruK, fruB</i>	SENTW_2337-2338	7.4	PTS system, fructose-specific IIA component, fructose-1-phosphate kinase
	<i>yhcJ</i>	SENTW_1049	∞	Putative N-acetylmannosamine-6-phosphate epimerase
	<i>yafB</i>	SENTW_0216	7.26	2,5-diketo-D-gluconate reductase B
Nucleotide metabolism	<i>purE, purK</i>	SENTW_0518-0519	3.77	Carboxylase, hydrolase
	<i>allD</i>	SENTW_0513	13.87	Ureidoglycolate dehydrogenase
Genetic information processing				
– Replication and repair	<i>ftsY1</i>	SENTW_3662	5.33	Cell division protein
	<i>ykgM</i>	SENTW_0454	30.63	50S ribosomal protein
Phage genes	U 50	SENTW_0968	∞	Probable tail fiber assembly protein
	SENTW_2536	SENTW_2536	∞	Bacteriophage
	SENTW_2553	SENTW_2552-2553	∞	Salmonella phage
	V, W	SENTW_2822-2823	∞	Phage
	SENTW 2831, gpT1, gpT3	SENTW_2831-2833	965.42	Family phage tail tape measure protein
	FI	SENTW_2828	7.05	Major tail sheath protein
	<i>B, sid</i>	SENTW_4602-4603	6.66	Capsid morphogenesis protein from phage; Late control gene B protein
	SENTW 2808, P	SENTW_2808-2809	5.47	2
	K, I	SENTW_1285-1286	4.71	Tail assembly protein K, tail assembly protein
	J	SENTW_1287	4.39	Host specificity protein

	<i>nohA</i> , 2, <i>vhtJ</i> , 4a, 4b, 5 6	SENTW_1203-1208	3.01	Gifsy-1 prophage DNA packaging protein, terminase, Gifsy-1 prophage head to tail joining protein, head-tail preconnector-like protein, head-tail preconnector protein GP5 [contains: scaffold protein GP6 (head protein GP6)]
Anaerobic metabolism	5, 8	SENTW_2531-2532	2.96	Coat protein, scaffolding protein
	<i>ccmC</i> , <i>ccmD</i> , <i>ccmE</i> , <i>ccmF</i> , <i>ccmG</i> , <i>ccmH</i>	SENTW_2375-2380	∞	Heme exporter
	<i>hybF</i> , <i>hybE</i> , <i>hybD</i> , <i>hybC</i> , <i>hybB</i> , <i>hybA</i>	SENTW_3276-3281	3.99	Hydrogenase nickel insertion, hydrogenase 2-specific chaperone, endopeptidase , hydrogenase subunits
	<i>hypB</i> , <i>hypC</i> , <i>hypD</i> , <i>hypE</i>	SENTW_2943-2946	5.6	Hydrogenase nickel incorporation protein, Hydrogenase isoenzymes formation protein, Hydrogenase isoenzymes formation protein, hydrogenase expression/formation protein
	<i>fdhF1</i>	SENTW_4371	5.33	Formate dehydrogenase H
Iron metabolism	<i>dmsC</i>	SENTW_1716	4.77	Anaerobic dimethyl sulfoxide reductase chain
	<i>dmsA</i>	SENTW_4391	4.3	Anaerobic dimethyl sulfoxide reductase subunit A
	<i>hydH</i>	SENTW_4281	8.45	Sensor kinase
	<i>hypA</i>	SENTW_2942	5.99	Hydrogenase nickel incorporation protein
	<i>fes</i>	SENTW_0562	66.91	Enterochelin esterase
	<i>fepA</i>	SENTW_2865	22.68	Ferric enterobactin receptor
	<i>feoA</i>	SENTW_3601	6.99	Ferrous iron transport protein A
	<i>fixC</i> , <i>fixX</i>	SENTW_0029	27.7	Putative oxidoreductase; Ferredoxin-like protein
	<i>iroB</i>	SENTW_2861	13.07	Putative glucosyltransferase
	Nitrogen/sulfur metabolism	<i>glnK</i>	SENTW_0448	∞
<i>nirD</i> , <i>nirB</i>		SENTW_4223-4224	4.13	Nitrite reductase (NAD(P)H)
<i>cysG</i>		SENTW_4221	8.06	Siroheme synthase
<i>ttrC</i> , <i>ttrA</i>		SENTW_1829-1830	6.55	Tetrathionate reductase
<i>torD</i> , <i>yyaE</i> , <i>dmsB</i> , <i>ynfH</i>		SENTW_0587-0590	2.56	Putative component of anaerobic dehydrogenase, Periplasmic nitrate reductase (molybdopterin oxidoreductase), molybdopterin-containing oxidoreductase iron sulfur subunit, molybdopterin-containing oxidoreductase membrane anchor subunit
<i>dapB</i>		SENTW_0013	6.45	Dihydrodipicolinate reductase
SENTW_0381, <i>sbcC</i> , <i>sbcD</i>		SENTW_0379-0381	48.08	Exoclease subunit
Exoenzyme	<i>ycfO</i>	SENTW_2044	6.58	Beta-N-acetylhexosaminidase
	<i>exoO</i>	SENTW_2568	5.11	Endodeoxyribonuclease
	Unclassified	<i>crcB</i>	SENTW_0609	8.89
SENTW_2009		SENTW_2009	∞	putative oxidoreductase

	SENTW_2697, <i>ratA1</i>	SENTW_2697-2698	3472.88	
	<i>ybhA</i> , SENTW_4094, <i>hemN3</i>	SENTW_4093-4095	3.44	Hydrolase, hypothetical protein, coproporphyrinogen III oxidase
	<i>yjbF</i> , <i>yjbG</i> , <i>yjbH</i>	SENTW_4308-4310	3.82	Uncharacterized lipoprotein, hypothetical protein, putative lipoprotein
	<i>degS</i>	SENTW_3478	8.72	Serine protease
	<i>yqcB</i> , <i>yqcC</i>	SENTW_3074-3075	7.13	Putative RNA pseudouridylate synthase, Hypothetical protein
	<i>yghU</i>	SENTW_3272	6.12	Putative glutathione S-transferase
	<i>hsdR</i>	SENTW_4636	6.01	Type I restriction-modification system
	<i>ydfZ</i>	SENTW_1702	5.64	Putative selenoprotein
	<i>yjdB</i>	SENTW_1576	2.53	Putative metal dependent hydrolase
	<i>yrfG</i>	SENTW_3592	4.94	Putative hydrolase of the HAD superfamily
	<i>yaiV</i>	SENTW_0357	4.91	Putative DNA-binding transcriptional regulator
	<i>ydiF</i>	SENTW_1856	4.53	Coenzyme A transferase
	<i>yaiH</i>	SENTW_0358	4.5	Penicillin-binding protein
	<i>traI</i> , <i>traD</i>	SENTW_4777-4778	4.47	Conjugal transfer protein, conjugal transfer nickase/helicase
	<i>yggA</i>	SENTW_3182	4.37	Arginine exporter protein
	<i>phoN</i>	SENTW_4403	4.22	Nonspecific acid phosphatase precursor
	SENTW_5538, <i>insD</i>	SENTW_5538-5539	4.2	Transposase
Hypothetical proteins	<i>ycgK</i>	SENTW_1202	∞	Uncharacterized protein
	<i>ydjL</i>	SENTW_1927	∞	hypothetical protein, only in <i>Choleraesius</i> str. SC-B67
		SENTW_1197-1198	80.26	Hypothetical protein, Hypothetical phage protein
		SENTW_1978	44.79	Hypothetical protein
	<i>yodA</i>	SENTW_1965	20.52	Hypothetical protein
		SENTW_1608	20.15	Hypothetical protein
	<i>ygaW</i>	SENTW_2890	20.15	Hypothetical protein
	SENTW_1610, <i>ydcX</i>	SENTW_1609	20.03	Hypothetical protein
	<i>Mmab</i>	SENTW_2174	16.97	Hypothetical protein
		SENTW_4395	15.97	Hypothetical protein
	<i>yrfB</i> , <i>yrfC</i> , <i>yrfD</i>	SENTW_3584-3586	15.84	Hypothetical protein
	<i>yhhT</i>	SENTW_3675	14.11	Hypothetical protein
		SENTW_0014	13.3	Hypothetical protein
		SENTW_5520	12.61	Hypothetical protein
	<i>ybeD</i>	SENTW_0616	12.19	Hypothetical protein
		SENTW_1247	11.29	Hypothetical protein

	SENTW_4598-4600	10.99	Hypothetical protein
	SENTW_4419	10.28	Hypothetical protein
	SENTW_4620	10.08	Hypothetical protein
	SENTW_3740	9.87	Hypothetical protein
<i>yaeQ, yaeJ</i>	SENTW_0206-0207	9.53	Hypothetical protein, peptidyl-tRNA hydrolase domain protein
<i>yddG</i>	SENTW_1637	9.51	Hypothetical protein
<i>creD</i>	SENTW_4695	9.33	Hypothetical protein
<i>yhjU, yhjT, yhjS</i>	SENTW_3725-3726	9.23	Hypothetical protein
	SENTW_3729		
<i>yjiJ</i>	SENTW_4626	8.64	Hypothetical protein
	SENTW_1531	8.6	Hypothetical protein
<i>yfeN</i>	SENTW_2602	8.5	Hypothetical protein
	SENTW_3286	8.06	Hypothetical protein
<i>yfcC</i>	SENTW_4571	8.06	Hypothetical protein
	SENTW_2995	7.72	Hypothetical protein
<i>yaaI</i>	SENTW_4714	7.52	Hypothetical protein
	SENTW_1331	7.26	Hypothetical protein
	SENTW_3025	7.32	Hypothetical protein
	SENTW_4303	7.05	Hypothetical protein
<i>ybhM</i>	SENTW_0788	6.99	Hypothetical protein
SENTW_2784, <i>yfiO</i>	SENTW_2783-2784	6.68	Hypothetical protein; putative outer membrane protein
	SENTW_1058	6.31	Hypothetical protein
	SENTW_2125	6.13	Hypothetical protein
<i>yjcC</i>	SENTW_4348	6.09	Hypothetical protein
	SENTW_1634	6.05	Hypothetical protein
	SENTW_4302	6.05	Hypothetical protein
<i>ydiZ</i>	SENTW_1887	5.91	Hypothetical protein
	SENTW_4617	5.84	Hypothetical protein
	SENTW_0093	5.78	Hypothetical protein
	SENTW_1142	5.69	Hypothetical protein
<i>ypeC</i>	SENTW_2590	5.64	Hypothetical protein
<i>yjbQ</i>	SENTW_4335	5.49	Hypothetical protein
	SENTW_0631	5.44	Hypothetical protein
<i>ynjA</i>	SENTW_2894	5.44	Hypothetical protein

	SENTW_5514	5.33	Hypothetical protein
<i>iroE</i>	SENTW_2864	5.28	Hypothetical protein
	SENTW_1529	5.14	Hypothetical protein
<i>yqfB</i>	SENTW_3164	4.97	Hypothetical protein
	SENTW_4346	4.89	Hypothetical protein
	SENTW_4739	4.88	Hypothetical protein
<i>dedD,folC</i>	SENTW_2490-2491	4.85	Hypothetical protein, dihydrofolate:folylpolyglutamate synthetase
	SENTW_1884	4.84	Hypothetical protein
<i>ygaC</i>	SENTW_2891	4.71	Hypothetical protein
	SENTW_3623	4.69	Hypothetical protein
	SENTW_3868	4.64	Hypothetical protein
<i>yczH</i>	SENTW_0306	4.57	Hypothetical protein
<i>yeaJ</i>	SENTW_1942	4.55	Hypothetical protein
<i>trpH</i>	SENTW_1476	4.55	Hypothetical protein
<i>iicA</i>	SENTW_4625	4.47	Hypothetical protein
<i>ppdC, ygdB, ppdB, ppdA</i>	SENTW_3106-3109	4.44	Hypothetical proteins
	SENTW_0483	4.43	Hypothetical protein
	SENTW_1250	4.43	Hypothetical protein
<i>ymfB</i>	SENTW_1709	4.35	Hypothetical protein
	SENTW_0033	4.34	Hypothetical protein
	SENTW_2500	4.32	Hypothetical protein
	SENTW_3902	4.27	Hypothetical protein
	SENTW_2720	4.22	Hypothetical protein
<i>yfeD</i>	SENTW_2595	4.19	Hypothetical protein
	SENTW_4301	3.79	Hypothetical protein
<i>yqaA, yqaB</i>	SENTW_2911-2912	2.78	Hypothetical protein, fructose-1-phosphatase
CP83,SENTW 2802, <i>exoX</i>	SENTW_2800-2802	5.4	Putative exonuclease, Hypothetical protein, Hypothetical protein
