

Effects of Clothianidin Pesticide Application on the Strength of Honey Bee Colonies and Stress-Related Genes in the Vicinity of Rice Fields in the Republic of Korea

Supplementary materials

Table S1: Primer of the genes for qPCR [32].

Classification	Name		Primer Sequence (5'-3')	bp	Accession No
<i>Phase I detoxification genes</i>	<i>CYP9Q1</i>	F	AACATCCTGGCCAAGTGCAG	94	LOC410492
		R	CATTCTTAGCGACCGGGTTG		
	<i>CYP9Q2</i>	F	GCATAGGGAACAGATTTCGCG	104	LOC408452
		R	TTCCAACGGGATTCTGTCC		
	<i>CYP9Q3</i>	F	GAGGAAGTGCATTGGCGAAC	89	LOC408453
		R	AGCCGATCCTCACGTTACAC		
	<i>CYP6AS3</i>	F	GAGGATGATGCTTTCGCCAG	91	LOC726690
		R	AATGCGCAAAACGAGCACCG		
	<i>CYP336A1</i>	F	AACACGGAGGCGTGTTAACG	120	LOC724211
		R	CGTCCGTGCATATTTGCCC		
	<i>CbE</i>	F	GCCGATGTCCCGGTCATAAT	109	LOC726134
		R	CGTGCGTGGGTAGATATTCG		
	<i>Este4</i>	F	CGCCCCGATCTTTGCATGT	104	LOC409801
		R	TTTCGCTGATCGGCTCGTCT		
<i>Phase II detoxification genes</i>	<i>Gstd1</i>	F	AAACATCGGCACGGCGCTAT	109	LOC409490
		R	GGAGACAGTGGATACGATGC		
	<i>Gsts1</i>	F	TACGGTTCCAATGATGAAGAAGC	111	LOC552304
		R	CTTGAATGCATGATCCTTTTCCC		
	<i>Gsts4</i>	F	AGCTGCCCCACGTTGGAAATC	121	LOC411045
		R	GCGTCGATCTGCAACGTATC		
<i>Phase III detoxification genes</i>	<i>ABCCS</i>	F	CGCTTTGCGGATTAGCAACG	102	LOC410944
		R	GAAGGAGGAACGCGTTTGTG		
	<i>ABCD1</i>	F	GTAAGCCTTGAGGCAGAAGC	96	LOC411685
		R	TTTCGCAAGAGATGCCACCC		
	<i>ABCG20</i>	F	CGTGTGGGCTATATGCCACA	96	LOC724865
		R	TGTACTCATGCCAGCACACC		
<i>Heat shock response genes</i>	<i>Hsp70</i>	F	ATCAACCTGGCGTCTTGATTG	118	LOC410620
		R	TGAGGTACACCTCTAGGTGC		
	<i>Hsp90</i>	F	GCGACAGAATGAAGTGCCATG	146	LOC408928
		R	CAGAATCAAGTGGCAGGCTTG		
<i>Oxidative stress genes</i>	<i>Cat</i>	F	CATAGACATCGTCTTGCCCC	101	LOC443552
		R	ATAGTCGCTTGCCATCACG		
	<i>Sod1</i>	F	GGTTGTACAAGTGTGGTGC	119	LOC409398
		R	GCAACACCACTTGCATCTGC		
	<i>Tpx1</i>	F	ACCAGTTGGGAGGTCTGTTG	93	LOC409954
		R	TTCCAGCCAGCTGGACATAC		
	<i>Gtpx2</i>	F	GGTCAAGAACCAGGAACCTC	134	LOC726269
		R	GCTTGTGTCTTCAACCACTTC		
	<i>NOS</i>	F	GGCGAATTAGGTGGAGAACG	99	LOC503861
		R	AGCAAAAGTATCGGCTGCCC		

<i>Development-related genes</i>	<i>JhE</i>	F	TACTGACGGTGAAAAAGCAGC	148	LOC406066
		R	ATCATCTGCATGACACACACC		
	<i>mTOR</i>	F	GGTTGGGTACCGCATTGTGA	112	LOC409393
		R	AACCTGGGGCCATTCTTAGC		
	<i>IRS</i>	F	CGCGATGCCAAGTCCATTAG	136	LOC408438
		R	GAAGCCTTCTTGGGATGCTG		
	<i>FoxO</i>	F	TAGCTGGTAGCCTCGCAGAA	150	LOC727091
		R	AGGACGATCCTGACGACAAG		
	<i>Vg</i>	F	TCAGTAACCAATGCGAGGGC	137	LOC406088
		R	CGACATCTCGGTGTCCAATC		
		R	CAGAATCAAGTGGCAGGCTTG		
<i>Reference gene</i>	<i>Actin</i>	F	CGAAAGATTCCGTTGTCCCG	147	LOC406122
		R	CCAGAAAGGACAGTGTGGC		