

Table S1. Other time-dependent toxicity of neonicotinoids in aquatic organisms. Bold numbers indicate that the chemical follows Haber's rule.

Taxa	Species	Chemical	n (1/slope)	Regression Parameters			ΔLC_{50}	No. c Tested	Exposure Time (days)	Reference
				Intercept	Slope	R ²				
Diptera	<i>Aedes aegypti</i>	ACM	1.09	6.037	-0.914	0.99	3	5	3	Ahmed and Matsumura 2012
Diptera	<i>Aedes aegypti</i>	DIN	1.12	4.994	-0.889	1.0	3	5	3	Ahmed and Matsumura 2012
Amphipoda	<i>Gammarus pulex</i>	IMI	1.05	6.671	-0.948	1.0	8	5	28	Roessink et al. 2013
Coleoptera	<i>Hippodamia convergens</i>	IMI	0.97	0.289	-1.035	0.95	na	7	3	Kaakeh et al. 1996
Diptera	<i>Chironomus riparius</i>	IMI	1.13	3.051	-0.884	1.0	14	8	10	Chandran et al. 2018
Ephemeroptera	<i>Cloeon dipterum</i>	IMI	1.16	4.393	-0.860	0.76	3	7	4	Van den Brink et al. 2016
Ephemeroptera	<i>Cloeon dipterum</i>	IMI	1.01	5.539	-0.991	0.25	2	7	4	Van den Brink et al. 2016
Ephemeroptera	<i>Cloeon dipterum</i>	IMI	6.45 *	2.861	-0.155	0.11	2	7	28	Van den Brink et al. 2016
Hemiptera	<i>Plea minutissima</i>	IMI	0.69	6.642	-1.450	1.0	4	5	28	Roessink et al. 2013
Cladocera	<i>Daphnia magna</i>	THC	0.32	6.777	-3.114	0.77	na	3	29	Beketov & Liess 2008
Diptera	<i>Culex pipiens</i>	THC	0.43	5.389	-2.327	0.86	na	3	14	Beketov & Liess 2008
Diptera	<i>Simulium latigolium</i>	THC	0.63	4.650	-1.595	0.74	na	4	11	Beketov & Liess 2008
Trichoptera	<i>Notidobia ciliaris</i>	THC	0.91	3.980	-1.101	0.47	na	5	15	Beketov & Liess 2008
Ephemeroptera	<i>Cloeon dipterum</i>	THC **	0.81	1.733	-1.231	0.99	3	7	28	Van den Brink et al. 2016
Amphipoda	<i>Gammarus kischineffensis</i>	TMX	0.80	12.939	-1.254	0.87	3	10	4	Demirci et al. 2018
Diptera	<i>Aedes aegypti</i>	TMX	0.68	7.769	-1.472	0.68	3	5	3	Ahmed and Matsumura 2012
Ephemeroptera	<i>Cloeon dipterum</i>	TMX	0.88	6.035	-1.139	0.76	3	7	4	Van den Brink et al. 2016
Ephemeroptera	<i>Cloeon dipterum</i>	TMX	1.01	3.117	-0.986	0.88	4	7	28	Van den Brink et al. 2016
Ephemeroptera	<i>Cloeon dipterum</i>	TMX **	1.08	4.276	-0.927	0.95	5	7	4	Van den Brink et al. 2016
Ephemeroptera	<i>Cloeon dipterum</i>	TMX **	1.06	2.975	-0.946	0.95	4	7	28	Van den Brink et al. 2016

* unreliable value due to poor fit ($r^2 = 0.11$); ** EC50 data; CLO = clothianidin; IMI = imidacloprid; THC = thiacloprid; TMX = thiamethoxam.

Table S2. Other time-dependent toxicity of neonicotinoids in terrestrial organisms. Bold numbers indicate that the chemical follows Haber's rule.

Taxa	Species	Comments	Chemical	n (1/slope)	Regression Parameters			ΔLC_{50}	No. c tested	Exposure Time (days)	Reference
					Intercept	Slope	R ²				
Hymenoptera	<i>Apis mellifera</i>		ACM	0.48	24.942	-2.068	1.0	na	2	3	Laurino et al. 2011
Hymenoptera	<i>Apis mellifera</i>		CLO	1.08	5.402	-0.926	1.0	6	6	10	Hesketh et al. 2016
Hymenoptera	<i>Apis mellifera</i>		CLO	1.14	4.811	-0.875	0.99	6	3	10	Heard et al. 2017
Hymenoptera	<i>Bombus terrestris</i>		CLO	0.53	7.615	-1.923	1.0	2	3	10	Heard et al. 2017
Hymenoptera	<i>Osmia bicornis</i>		CLO	0.27	14.496	-3.711	0.82	1.4	3	10	Heard et al. 2017
Diptera	<i>Drosophila melanogaster</i>	Adults	IMI	0.36	28.849	-2.773	1.0	2	5	8	Frantzios et al 2014
Diptera	<i>Drosophila melanogaster</i>	Larvae	IMI	0.44	22.082	-2.266	1.0	3	5	8	Frantzios et al 2014
Hemiptera	<i>Nilaparvata lugens</i>		IMI	0.33	31.051	-3.015	1.0	1	6	2	Preetha et al. 2010b
Isoptera	<i>Reticulitermes flavipes</i>	Loam	IMI	1.15	5.947	-0.866	0.85	na	7	21	Ramakrishnan et al. 2000
Hymenoptera	<i>Apis mellifera</i>		TMX	0.95	4.561	-1.051	0.85	13	7	3	Laurino et al. 2011

CLO = clothianidin; IMI = imidacloprid; THC = thiacloprid; TMX = thiamethoxam.