

SUPPLEMENTARY MATERIAL

Table SM1. Statistical results of Xn assay (Fig. 1). Pairwise comparisons of SWD mortality by Tukey test between different Xn concentrations at 24 and 48 h (A), and between different times within the same Xn concentration (expressed as CFU/ml) (B). Significant p values ($p < 0.05$) are indicated in bold italic and highlighted in yellow colour. C: control.

A) Comparisons between different Xn concentrations at the same time							
Time	Concentration	Q-value	p-value	Time	Concentration	Q-value	p-value
24h	C-10 ⁵	0.93	0.998	48h	C-10 ⁵	0.93	0.998
	C-10 ⁷	6.33	0.002		C-10 ⁷	9.91	0.0001
	C-10 ⁹	14.62	0.0001		C-10 ⁹	19.17	0.0001
	10 ⁵ -10 ⁷	5.40	0.010		10 ⁵ -10 ⁷	8.98	0.0001
	10 ⁵ -10 ⁹	13.69	0.0001		10 ⁵ -10 ⁹	18.24	0.0001
	10 ⁷ -10 ⁹	8.29	0.0001		10 ⁷ -10 ⁹	9.26	0.0001
B) Comparisons between different times within the same Xn concentration							
Concentration	Time	Q-value	p-value	Concentration	Time	Q-value	p-value
C	24h-48h	0.93	0.998	10 ⁷	24h-48h	4.50	0.052
10 ⁵		0.93	0.998	10 ⁹		5.48	0.009

Table SM2. Statistical results of bioinsecticides administration assays (both single - Fig. 2 - and combined - Fig. 3 - treatments). Pairwise comparisons of SWD mortality by Tukey test between different times within the same treatment (A) and between different treatments at 16, 24, 32 and 48 h (B). Significant p values ($p < 0.05$) are indicated in bold italic and highlighted in yellow colour. Bt: *Bacillus thuringiensis*; Xn: *Xenorhabdus nematophila*; Sec: *X. nematophila* secretion; C: control

A) Comparisons between different times within the same treatment							
Treatment	Time	Q-value	p-value	Treatment	Time	Q-value	p-value
Bt	C-16h	11.30	<i>3.08E-05</i>	Bt/Xn _{t0}	C-16h	21.03	<i>3.08E-05</i>
	C-24h	14.97	<i>3.08E-05</i>		C-24h	21.84	<i>3.08E-05</i>
	C-32h	16.70	<i>3.08E-05</i>		C-32h	22.04	<i>3.08E-05</i>
	C-48h	19.02	<i>3.08E-05</i>		C-48h	22.25	<i>3.08E-05</i>
	16h-24h	3.67	0.769		16h-24h	0.81	1
	16h-32h	5.41	<i>0.048</i>		16h-32h	1.01	1
	16h-48h	7.72	<i>5.33E-05</i>		16h-48h	1.22	1
	24h-32h	1.73	1		24h-32h	0.20	1
	24h-48h	4.05	0.554		24h-48h	0.41	1
	32h-48h	2.32	1		32h-48h	0.20	1
Xn	C-16h	8.10	<i>3.53E-05</i>	Bt/Sec _{t0}	C-16h	17.20	<i>3.08E-05</i>
	C-24h	10.51	<i>3.08E-05</i>		C-24h	25.50	<i>3.08E-05</i>
	C-32h	13.41	<i>3.08E-05</i>		C-32h	33.32	<i>3.08E-05</i>
	C-48h	15.57	<i>3.08E-05</i>		C-48h	-	-
	16h-24h	2.41	0.999		16h-24h	8.30	<i>3.26E-05</i>
	16h-32h	5.31	0.060		16h-32h	16.13	<i>3.08E-05</i>
	16h-48h	7.47	<i>9.42E-05</i>		16h-48h	-	-
	24h-32h	2.91	0.983		24h-32h	7.83	<i>4.54E-05</i>
	24h-48h	5.06	0.107		24h-48h	-	-
	32h-48h	2.15	1		32h-48h	-	-
Sec	C-16h	3.76	0.722	Bt/Xn _{t16}	C-16h	10.21	<i>3.08E-05</i>
	C-24h	8.13	<i>3.48E-05</i>		C-24h	12.88	<i>3.08E-05</i>
	C-32h	10.83	<i>3.08E-05</i>		C-32h	18.75	<i>3.08E-05</i>
	C-48h	11.42	<i>3.08E-05</i>		C-48h	23.11	<i>3.08E-05</i>
	16h-24h	4.36	0.374		16h-24h	2.67	0.996
	16h-32h	7.07	<i>0.0003</i>		16h-32h	8.54	<i>3.14E-05</i>
	16h-48h	7.66	<i>5.97E-05</i>		16h-48h	12.90	<i>3.08E-05</i>
	24h-32h	2.70	0.995		24h-32h	5.87	<i>0.014</i>
	24h-48h	3.30	0.917		24h-48h	10.23	<i>3.08E-05</i>
	32h-48h	0.59	1		32h-48h	4.36	0.375
				Bt/Sec _{t16}	C-16h	9.38	<i>3.08E-05</i>
					C-24h	14.42	<i>3.08E-05</i>
					C-32h	22.72	<i>3.08E-05</i>
					C-48h	24.97	<i>3.08E-05</i>
					16h-24h	5.04	0.111
					16h-32h	13.35	<i>3.08E-05</i>
					16h-48h	15.59	<i>3.08E-05</i>
					24h-32h	8.31	<i>3.26E-05</i>
					24h-48h	10.55	<i>3.08E-05</i>
					32h-48h	2.25	1

B) Comparisons between different treatments at the same time							
Time	Treatment	Q-value	p-value	Time	Treatment	Q-value	p-value
16h	Bt-Xn	0.66	1	32h	Bt-Xn	0.56	1
	Bt-Sec	5.82	0.016		Bt-Sec	4.15	0.493
	Bt-Bt/Xn_t0	9.73	3.08E-05		Bt-Bt/Xn_t0	5.34	0.056
	Bt-Bt/Xn_t16	0.22	1		Bt-Bt/Xn_t16	2.91	0.983
	Bt-Bt/Sec_t0	6.76	0.0009		Bt-Bt/Sec_t0	17.48	3.08E-05
	Bt-Bt/Sec_t16	0.20	1		Bt-Bt/Sec_t16	7.74	5.20E-05
	Xn-Sec	6.47	0.002		Xn-Sec	4.72	0.210
	Xn-Bt/Xn_t0	9.08	3.08E-05		Xn-Bt/Xn_t0	4.78	0.188
	Xn-Bt/Xn_t16	0.88	1		Xn-Bt/Xn_t16	2.34	1.000
	Xn-Bt/Sec_t0	6.10	0.007		Xn-Bt/Sec_t0	16.92	3.08E-05
	Xn-Bt/Sec_t16	0.86	1		Xn-Bt/Sec_t16	7.17	0.0002
	Sec-Bt/Xn_t0	15.55	3.08E-05		Sec-Bt/Xn_t0	9.49	3.08E-05
	Sec-Bt/Xn_t16	5.59	0.030		Sec-Bt/Xn_t16	7.06	0.0003
	Sec-Bt/Sec_t0	12.57	3.08E-05		Sec-Bt/Sec_t0	21.63	3.08E-05
	Sec-Bt/Sec_t16	5.61	0.028		Sec-Bt/Sec_t16	11.89	3.08E-05
	Bt/Xn_t0-Bt/Xn_t16	9.96	3.08E-05		Bt/Xn_t0-Bt/Xn_t16	2.43	0.999
	Bt/Xn_t0-Bt/Sec_t0	2.97	0.9769		Bt/Xn_t0-Bt/Sec_t0	12.14	3.08E-05
	Bt/Xn_t0-Bt/Sec_t16	9.94	3.08E-05		Bt/Xn_t0-Bt/Sec_t16	2.40	0.999
	Bt/Xn_t16-Bt/Sec_t0	6.98	0.0004		Bt/Xn_t16-Bt/Sec_t0	14.57	3.08E-05
	Bt/Xn_t16-Bt/Sec_t16	0.02	1		Bt/Xn_t16-Bt/Sec_t16	4.83	0.170
	Bt/Sec_t0-Bt/Sec_t16	6.96	0.0005		Bt/Sec_t0-Bt/Sec_t16	9.74	3.08E-05
24h	Bt-Xn	0.61	1	48h	Bt-Xn	0.40	1
	Bt-Sec	5.12	0.092		Bt-Sec	5.88	0.014
	Bt-Bt/Xn_t0	6.87	0.0006		Bt-Bt/Xn_t0	3.23	0.935
	Bt-Bt/Xn_t16	1.23	1		Bt-Bt/Xn_t16	4.95	0.134
	Bt-Bt/Sec_t0	11.39	3.08E-05		Bt-Bt/Sec_t0	-	-
	Bt-Bt/Sec_t16	1.17	1		Bt-Bt/Sec_t16	7.67	5.92E-05
	Xn-Sec	4.52	0.297		Xn-Sec	6.28	0.004
	Xn-Bt/Xn_t0	7.48	9.07E-05		Xn-Bt/Xn_t0	2.83	0.989
	Xn-Bt/Xn_t16	0.62	1		Xn-Bt/Xn_t16	4.55	0.279
	Xn-Bt/Sec_t0	12.00	3.08E-05		Xn-Bt/Sec_t0	-	-
	Xn-Bt/Sec_t16	1.77	1		Xn-Bt/Sec_t16	7.27	0.0002
	Sec-Bt/Xn_t0	11.99	3.08E-05		Sec-Bt/Xn_t0	9.10	3.08E-05
	Sec-Bt/Xn_t16	3.89	0.648		Sec-Bt/Xn_t16	10.83	3.08E-05
	Sec-Bt/Sec_t0	16.51	3.08E-05		Sec-Bt/Sec_t0	-	-
	Sec-Bt/Sec_t16	6.29	0.004		Sec-Bt/Sec_t16	13.54	3.08E-05
	Bt/Xn_t0-Bt/Xn_t16	8.10	3.53E-05		Bt/Xn_t0-Bt/Xn_t16	1.72	1
	Bt/Xn_t0-Bt/Sec_t0	4.52	0.295		Bt/Xn_t0-Bt/Sec_t0	-	-
	Bt/Xn_t0-Bt/Sec_t16	5.71	0.022		Bt/Xn_t0-Bt/Sec_t16	4.44	0.334
	Bt/Xn_t16-Bt/Sec_t0	12.62	3.08E-05		Bt/Xn_t16-Bt/Sec_t0	-	-
	Bt/Xn_t16-Bt/Sec_t16	2.40	0.999		Bt/Xn_t16-Bt/Sec_t16	2.72	0.994
	Bt/Sec_t0-Bt/Sec_t16	10.22	3.08E-05		Bt/Sec_t0-Bt/Sec_t16	-	-