

Table S1. Sum of toxic and ecotoxic values assessed from the main provincial crop groups per year. *Source:* Based on the pesticides used database of Sancti Spiritus province for the study period.

Year	kg a.i.	Area (ha)	Toxic load (kg a.i. ha ⁻¹)	ΣSeq (Seq)	POCER											
					Aquatic organisms	Ground water	Persistence	Earthworm	Bee	Bird	Sum ecotoxic	Applicator	Re-entry worker	Bystander	Resident	Sum toxic
Sugar cane																
2011	1.3*10 ⁺⁵	5.9*10 ⁺⁴	24	2.5*10 ⁺⁸	6.0*10 ⁺⁵	2.1*10 ⁺⁵	1.8*10 ⁺⁵	35	4.2*10 ⁺³	140	9.9*10 ⁺⁵	6.3*10 ⁺³	2.5*10 ⁺⁵	3.5*10 ⁺²	7.2*10 ⁺³	2.7*10 ⁺⁵
2012	1.5*10 ⁺⁵	2.6*10 ⁺⁴	23	2.4*10 ⁺⁸	2.7*10 ⁺⁵	1.2*10 ⁺⁵	8.6*10 ⁺⁴	18	1.7*10 ⁺³	62	4.7*10 ⁺⁵	3.2*10 ⁺³	1.2*10 ⁺⁵	1.5*10 ⁺²	3.2*10 ⁺³	1.3*10 ⁺⁵
2013	1.5*10 ⁺⁵	2.8*10 ⁺⁴	21	3.7*10 ⁺⁸	2.6*10 ⁺⁵	1.2*10 ⁺⁵	9.3*10 ⁺⁴	14	1.5*10 ⁺³	53	4.7*10 ⁺⁵	2.0*10 ⁺³	9.2*10 ⁺⁴	9.6*10 ⁺¹	2.7*10 ⁺³	9.7*10 ⁺⁴
Rice																
2011	9.4*10 ⁺⁴	2.9*10 ⁺⁴	3.3	1.5*10 ⁺⁸	2.2*10 ⁺⁵	3.7*10 ⁺⁴	2.5*10 ⁺⁵	15	3.5*10 ⁺⁴	95	5.4*10 ⁺⁵	3.5*10 ⁺³	4.0*10 ⁺⁴	33	4.9*10 ⁺³	4.8*10 ⁺⁴
2012	3.3*10 ⁺⁴	3.4*10 ⁺⁴	1.0	4.6*10 ⁺⁷	1.6*10 ⁺⁵	1.8*10 ⁺⁴	2.1*10 ⁺⁵	5.4	1.2*10 ⁺⁴	22	4.0*10 ⁺⁵	6.4*10 ⁺²	9.3*10 ⁺³	7.3	3.1*10 ⁺³	1.3*10 ⁺⁴
2013	6.1*10 ⁺⁴	3.8*10 ⁺⁴	1.6	7.5*10 ⁺⁷	2.1*10 ⁺⁵	3.4*10 ⁺⁴	2.3*10 ⁺⁵	16	9.6*10 ⁺³	24	4.8*10 ⁺⁵	1.0*10 ⁺³	1.3*10 ⁺⁴	10	3.2*10 ⁺³	1.7*10 ⁺⁴
2014	8.1*10 ⁺⁴	4.2*10 ⁺⁴	1.9	1.1*10 ⁺⁸	2.4*10 ⁺⁵	4.0*10 ⁺⁴	2.2*10 ⁺⁵	26	2.2*10 ⁺⁴	40	5.2*10 ⁺⁵	2.2*10 ⁺³	2.8*10 ⁺⁴	24	3.9*10 ⁺³	3.5*10 ⁺⁴
Vegetables																
2011	2.9*10 ⁺⁴	1.6*10 ⁺⁴	16	3.3*10 ⁺¹⁰	8.4*10 ⁺⁴	2.4*10 ⁺⁴	7.5*10 ⁺⁴	2.6	2.6*10 ⁺⁴	32	2.1*10 ⁺⁵	4.5*10 ⁺²	8.9*10 ⁺³	6.4	2.3*10 ⁺³	1.2*10 ⁺⁴
2012	3.4*10 ⁺⁴	1.6*10 ⁺⁴	17	3.5*10 ⁺¹⁰	6.1*10 ⁺⁴	1.7*10 ⁺⁴	7.9*10 ⁺⁴	1.4	1.5*10 ⁺⁴	13	1.7*10 ⁺⁵	7.7*10 ⁺²	7.4*10 ⁺³	6.5	1.9*10 ⁺³	1.0*10 ⁺⁴
2013	2.0*10 ⁺⁴	1.7*10 ⁺⁴	9.5	6.2*10 ⁺¹⁰	5.2*10 ⁺⁴	2.7*10 ⁺⁴	6.8*10 ⁺⁴	1.1	7.6*10 ⁺³	7.6	1.6*10 ⁺⁵	1.2*10 ⁺³	7.8*10 ⁺³	9.5	6.2*10 ⁺³	1.5*10 ⁺⁴
2014	2.4*10 ⁺⁴	2.1*10 ⁺⁴	8.4	1.4*10 ⁺¹¹	9.4*10 ⁺⁴	2.7*10 ⁺⁴	1.1*10 ⁺⁵	1.7	1.3*10 ⁺⁴	6.6	2.4*10 ⁺⁵	4.9*10 ⁺²	6.8*10 ⁺³	5.8	6.0*10 ⁺³	1.3*10 ⁺⁴
Grain																
2011	1.7*10 ⁺⁴	2.0*10 ⁺⁴	1.9	3.4*10 ⁺⁹	1.1*10 ⁺⁵	9.2*10 ⁺³	8.0*10 ⁺⁴	0.9	1.9*10 ⁺⁴	19	2.2*10 ⁺⁵	8.8*10 ⁺¹	2.9*10 ⁺³	2.4	2.6*10 ⁺³	5.6*10 ⁺³
2012	1.2*10 ⁺⁴	2.2*10 ⁺⁴	1.3	7.3*10 ⁺⁷	1.1*10 ⁺⁵	1.4*10 ⁺⁴	8.4*10 ⁺⁴	0.9	1.4*10 ⁺⁴	23	2.2*10 ⁺⁵	5.9*10 ⁺²	8.7*10 ⁺³	7.3	1.2*10 ⁺⁴	2.1*10 ⁺⁴
2013	3.1*10 ⁺³	2.1*10 ⁺⁴	0.4	2.5*10 ⁺⁷	2.7*10 ⁺⁴	8.5*10 ⁺³	6.4*10 ⁺⁴	0.2	7.1*10 ⁺³	4.3	1.1*10 ⁺⁵	2.0*10 ⁺¹	6.5*10 ⁺²	0.5	1.4*10 ⁺³	2.1*10 ⁺³
2014	1.4*10 ⁺⁴	2.3*10 ⁺⁴	1.4	6.2*10 ⁺¹⁰	1.1*10 ⁺⁵	1.6*10 ⁺⁴	7.1*10 ⁺⁴	0.8	1.2*10 ⁺⁴	4.1	2.1*10 ⁺⁵	2.1*10 ⁺³	7.5*10 ⁺²	2.1*10 ⁺³	6.6*10 ⁺⁴	7.1*10 ⁺⁴
Tobacco																
2011	3.7*10 ⁺⁴	4.2*10 ⁺³	8.8	9.2*10 ⁺⁷	5.2*10 ⁺⁴	5.4*10 ⁺³	1.7*10 ⁺⁴	1.7	1.3*10 ⁺⁴	19	8.8*10 ⁺⁴	8.4*10 ⁺²	1.2*10 ⁺⁴	9.9	7.4*10 ⁺²	1.4*10 ⁺⁴
2012	3.2*10 ⁺⁴	4.5*10 ⁺³	7.0	2.6*10 ⁺⁷	5.0*10 ⁺⁴	1.4*10 ⁺⁴	1.7*10 ⁺⁴	1.0	9.4*10 ⁺³	100	9.0*10 ⁺⁴	9.1*10 ⁺²	1.6*10 ⁺⁴	22	9.8*10 ⁺²	1.8*10 ⁺⁴
2013	5.9*10 ⁺⁴	2.5*10 ⁺³	23	3.4*10 ⁺⁸	3.3*10 ⁺⁴	7.1*10 ⁺³	1.3*10 ⁺⁴	1.1	6.0*10 ⁺³	12	5.8*10 ⁺⁴	1.0*10 ⁺³	1.0*10 ⁺⁴	12	5.9*10 ⁺²	1.2*10 ⁺⁴
2014	3.2*10 ⁺⁴	4.1*10 ⁺³	7.6	1.2*10 ⁺⁸	4.9*10 ⁺⁴	8.4*10 ⁺³	1.9*10 ⁺⁴	1.0	4.0*10 ⁺³	12	8.1*10 ⁺⁴	4.9*10 ⁺²	7.9*10 ⁺³	6.8	1.1*10 ⁺³	9.5*10 ⁺³
Roots and tubers																
2011	1.4*10 ⁺⁴	6.9*10 ⁺³	74	2.1*10 ⁺⁷	3.0*10 ⁺⁴	1.2*10 ⁺³	7.5*10 ⁺²	1.0	4.0*10 ⁺³	26	3.6*10 ⁺⁴	5.3*10 ⁺²	8.4*10 ⁺³	7.3	1.2*10 ⁺³	9.1*10 ⁺³
2012	5.0*10 ⁺³	7.2*10 ⁺³	15	1.3*10 ⁺⁷	2.4*10 ⁺⁴	8.3*10 ⁺²	5.2*10 ⁺³	0.7	2.7*10 ⁺³	17	3.2*10 ⁺⁴	1.0*10 ⁺²	4.6*10 ⁺³	3.6	5.9*10 ⁺²	4.9*10 ⁺³
2013	1.6*10 ⁺³	7.3*10 ⁺³	0.2	5.7*10 ⁺⁶	1.8*10 ⁺⁴	2.0*10 ⁺²	1.4*10 ⁺²	0.3	2.0*10 ⁺³	5.9	2.0*10 ⁺⁴	7.9*10 ⁺¹	5.1*10 ⁺³	4.2	5.3*10 ⁺²	5.7*10 ⁺³
2014	9.9*10 ⁺²	7.7*10 ⁺³	0.1	3.2*10 ⁺⁶	1.9*10 ⁺⁴	5.7*10 ⁺¹	1.4*10 ⁺²	0.1	2.2*10 ⁺³	1.3	2.1*10 ⁺⁴	8.9*10 ⁺¹	1.2*10 ⁺³	0.9	9.2*10 ⁺²	2.2*10 ⁺³
Fruits																
2011	2.9*10 ⁺⁴	6.6*10 ⁺³	40	8.1*10 ⁺¹⁰	1.3*10 ⁺⁵	2.0*10 ⁺⁴	5.6*10 ⁺⁴	15	3.2*10 ⁺⁴	93	2.4*10 ⁺⁵	6.5*10 ⁺³	5.9*10 ⁺⁴	74	2.9*10 ⁺³	6.8*10 ⁺⁴
2012	2.0*10 ⁺⁴	5.7*10 ⁺³	17	6.9*10 ⁺⁸	8.5*10 ⁺⁴	1.1*10 ⁺⁴	2.8*10 ⁺⁴	15	3.2*10 ⁺⁴	72	1.6*10 ⁺⁵	4.5*10 ⁺³	3.6*10 ⁺⁴	39	1.6*10 ⁺³	4.2*10 ⁺⁴
2013	1.4*10 ⁺⁴	5.9*10 ⁺³	17	1.2*10 ⁺⁸	4.9*10 ⁺⁴	1.4*10 ⁺⁴	3.7*10 ⁺⁴	3.3	1.2*10 ⁺⁴	24	1.1*10 ⁺⁵	2.1*10 ⁺³	2.4*10 ⁺⁴	25	6.7*10 ⁺³	3.2*10 ⁺⁴
2014	7.5*10 ⁺³	6.2*10 ⁺³	8.1	8.1*10 ⁺⁷	3.0*10 ⁺⁴	8.9*10 ⁺³	2.8*10 ⁺⁴	1.4	1.1*10 ⁺⁴	4.7	7.8*10 ⁺⁴	2.4*10 ⁺²	5.7*10 ⁺³	3.2	3.6*10 ⁺²	6.3*10 ⁺³
Provincial Total																
2011	3.5*10 ⁺⁵	1.4*10 ⁺⁵	170	1.2*10 ⁺¹¹	1.2*10 ⁺⁶	3.0*10 ⁺⁵	6.6*10 ⁺⁵	71	1.4*10 ⁺⁵	420	2.3*10 ⁺⁶	1.8*10 ⁺⁴	3.8*10 ⁺⁵	4.8*10 ⁺²	2.2*10 ⁺⁴	4.2*10 ⁺⁵
2012	2.9*10 ⁺⁵	1.2*10 ⁺⁵	81	3.6*10 ⁺¹⁰	7.5*10 ⁺⁵	1.9*10 ⁺⁵	5.1*10 ⁺⁵	42	8.7*10 ⁺⁴	310	1.5*10 ⁺⁶	1.1*10 ⁺⁴	2.0*10 ⁺⁵	2.3*10 ⁺²	2.3*10 ⁺⁴	2.4*10 ⁺⁵
2013	3.1*10 ⁺⁵	1.2*10 ⁺⁵	73	6.3*10 ⁺¹⁰	6.5*10 ⁺⁵	2.1*10 ⁺⁵	5.0*10 ⁺⁵	36	4.6*10 ⁺⁴	130	1.4*10 ⁺⁶	7.4*10 ⁺³	1.5*10 ⁺⁵	1.6*10 ⁺²	2.1*10 ⁺⁴	1.8*10 ⁺⁵
2014	1.6*10 ⁺⁵	1.0*10 ⁺⁵	28	2.0*10 ⁺¹¹	5.4*10 ⁺⁵	1.0*10 ⁺⁵	4.4*10 ⁺⁵	31	6.4*10 ⁺⁴	69	1.2*10 ⁺⁶	5.6*10 ⁺³	5.1*10 ⁺⁴	2.1*10 ⁺³	7.8*10 ⁺⁴	1.4*10 ⁺⁵