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Table 1: Toxicity of *Sapium indicum* Willd. seed extracts on *T. castaneum* and *T. confusum* larvae.

Species	Exposure period	Solvents used	LD ₅₀ (mg/cm ²)	Fiducially limits		Regression equation	χ ² for hetero-geneity
				Lower	Upper		
<i>T. castaneum</i>	24 hours	*PE	—	—	—	—	—
		AC	361.13	327.24	389.53	Y= - 1.97 + 2.73X	2.53
		ME	—	—	—	—	—
	48 hours	PE	816.14	458.30	1453.39	Y= 1.17 + 1.32X	8.57
		AC	262.10	203.99	336.76	Y= - 1.28 + 2.60	18.26
		ME	—	—	—	—	—
	72 hours	PE	304.42	267.63	346.28	Y= 0.180 + 1.94X	7.36
		AC	1173.98	141.41	214.06	Y= - 0.048 + 2.25X	8.24
		ME	—	—	—	—	—
<i>T. confusum</i>	24 hours	PE	—	—	—	—	—
		AC	368.70	333.48	407.66	Y= - 1.93 + 2.70X	0.685
		ME	—	—	—	—	—
	48 hours	PE	823.30	596.50	1136.32	Y= 0.877 + 1.41X	3.58
		AC	293.70	262.73	328.32	Y= - 0.709 + 2.31X	5.90
		ME	—	—	—	—	—
	72 hours	PE	340.60	254.69	455.50	Y= 0.503 + 1.78X	12.33
		AC	190.32	153.76	235.58	Y= 0.269 + 2.08X	7.91
		ME	—	—	—	—	—

PE=Petroleum ether, AC=Acetone, ME=Methanol, HAT=Hours after treatment

Table 2: Toxicity of *Sapium indicum* Willd. seed extracts on *T. castaneum* and *T. confusum* adults.

Species	Exposure period	Solvents used	LD ₅₀ (mg/cm ²)	Fiducial limits		Regression equation	χ ² for hetero-geneity
				Lower	Upper		
<i>T. castaneum</i>	24 hours	*PE	—	—	—	—	—
		AC	220.07	201.77	240.02	Y= - 2.87 + 3.36X	7.66
		ME	—	—	—	—	—
	48 hours	PE	—	—	—	—	—
		AC	170.29	143.96	201.44	Y= - 2.52 + 3.37X	9.63
		ME	—	—	—	—	—
	72 hours	PE	—	—	—	—	—
		AC	74.34	45.45	121.59	Y= 0.476 + 2.42X	18.60
		ME	—	—	—	—	—
<i>T. confusum</i>	24 hours	PE	—	—	—	—	—
		AC	320.29	257.67	398.13	Y= - 2.41 + 2.96X	16.70
		ME	—	—	—	—	—
	48 hours	PE	671.77	560.58	805.01	Y= - 1.45 + 2.28X	7.23
		AC	228.03	165.79	313.62	Y= - 1.87 + 2.91X	33.56
		ME	—	—	—	—	—
	72 hours	PE	501.32	393.16	639.23	Y= - 2.86 + 2.91X	14.74
		AC	155.90	112.97	215.13	Y= - 0.455 + 2.49X	21.13
		ME	—	—	—	—	—

PE=Petroleum ether, AC=Acetone, ME=Methanol, HAT=Hours after treatment

Table 3: Effect of *S. indicum* seed extracts on the growth of *Tribolium*, spp.

Species	Treatment (ppm)	Mean Weight ± S.E. (mg). (N=30)					
		10 days old larvae	Mature larvae	Pupae (male)	Pupae (female)	Adult (male)	Adult (female)
T. castaneum	0(Control)	1.05±0.04	2.44±0.05	2.36±0.03	2.49±0.03	1.90±0.06	2.02±0.06
	1000	0.56±0.03	2.06±0.03	2.23±0.04	2.41±0.02	1.82±0.04	1.91±0.04
	2000	0.51±0.02	1.98±0.04	2.13±0.06	2.35±0.05	1.74±0.04	1.85±0.04
	4000	0.45±0.03	1.87±0.04	2.07±0.04	2.28±0.03	1.67±0.05	1.78±0.04
	8000	0.38±0.04	1.78±0.04	1.98±0.04	2.23±0.03	1.62±0.04	1.73±0.06
	16000	0.32±0.04	1.58±0.04	1.89±0.06	2.15±0.04	1.56±0.03	1.66±0.06
	C.D. at	5% Level	0.106	0.131	0.142	0.112	0.144
	1% Level	0.150	0.183	0.199	0.157	0.202	0.218
T. confusum.	0(Control)	0.91±0.01	2.94±0.02	2.82±0.04	2.85±0.04	2.27±0.04	2.34±0.03
	1000	0.77±0.05	2.66±0.03	2.62±0.03	2.64±0.04	1.92±0.04	1.93±0.05
	2000	0.68±0.01	2.52±0.04	2.51±0.04	2.54±0.03	1.77±0.05	1.79±0.02
	4000	0.58±0.01	2.46±0.04	2.38±0.04	2.42±0.04	1.70±0.03	1.73±0.03
	8000	0.49±0.02	2.25±0.06	2.25±0.03	2.33±0.04	1.59±0.02	1.67±0.02
	16000	0.42±0.01	2.07±0.04	2.08±0.04	2.08±0.04	1.53±0.05	1.57±0.02
	C.D. at	5% Level	0.073	0.125	0.122	0.121	0.156
	1% Level	0.103	0.175	0.171	0.169	0.176	0.173

Table 4: Effect of *S. indicum* seed extracts on the duration of larval and pupal period of *Tribolium* spp. (days).

Species	Treatment (ppm)	Larval period				Pupal period			
		Total no.	Mean ± S.E	C. V. (%)	t-value	Total no.	Mean ± S.E	C. V. (%)	t-value
T. castaneum	0(Control)	278	20.10 ± 0.46	2.58	-	272	7.46 ± 0.08	1.89	-
	1000	240	21.92 ± 0.39	3.10	3.71*	235	8.50 ± 0.17	3.53	4.74**
	2000	229	22.23 ± 0.43	3.38	4.11*	227	8.68 ± 0.16	3.27	5.96**
	4000	223	23.38 ± 0.75	5.56	4.41*	211	8.78 ± 0.16	3.14	6.67**
	8000	185	23.87 ± 0.46	3.36	6.98**	182	8.90 ± 0.13	2.45	8.52**
	16000	157	26.68 ± 0.47	3.08	12.03**	155	9.18 ± 0.20	3.86	7.58**
T. confusum	0(Control)	280	19.36 ± 0.37	3.32	-	274	7.87 ± 0.41	9.01	-
	1000	230	22.03 ± 0.48	3.80	4.43*	205	8.23 ± 0.32	6.69	0.71 ^{NS}
	2000	200	23.82 ± 0.86	6.17	5.18**	185	8.43 ± 0.15	2.98	1.44 ^{NS}
	4000	188	27.99 ± 1.33	8.21	7.19**	175	8.60 ± 0.31	6.15	1.45 ^{NS}
	8000	182	29.62 ± 0.67	3.89	14.01**	152	8.73 ± 0.15	2.88	2.21 ^{NS}
	16000	156	30.34 ± 0.46	2.61	18.76**	148	9.00 ± 0.29	5.55	2.30 ^{NS}

*, ** Significant at 5% and 1% respectively; NS-Not significant.

Table 5: Effect of *S. indicum* seed extracts on pupal recovery and adult eclosion of *Tribolium* spp.

Species	Treatment (ppm)	No. of larvae used	Pupation (%)	d-value	Adult emergence (%)	d-value	Growth index, G.I.
T. castaneum	0(Control)	300	278 (92.67)	-	272 (90.67)	-	3.27
	1000	300	240 (80)	4.60**	235 (78.33)	4.24**	2.57
	2000	300	229 (76.33)	4.85**	227 (75.67)	4.37**	2.45
	4000	300	223 (74.33)	5.21**	211 (70.33)	5.62**	2.19
	8000	300	185 (61.67)	8.22**	182 (60.67)	7.77**	1.80
	16000	300	157 (52.33)	10.02**	155 (51.67)	9.67**	1.44
T. confusum.	0(Control)	300	280 (93.33)	-	274 (91.33)	-	3.34
	1000	300	230(76.67)	5.88**	205(68.33)	7.32**	2.26
	2000	300	200(66.67)	7.29**	185(61.67)	7.63**	1.91
	4000	300	188(62.67)	7.86**	175(58.33)	8.25**	1.59
	8000	300	182(60.67)	8.23**	152(50.67)	10.02**	1.32
	16000	300	156(52.00)	10.25**	148(49.33)	10.28**	1.25

** Significant at 1%; d = Standardized normal deviate

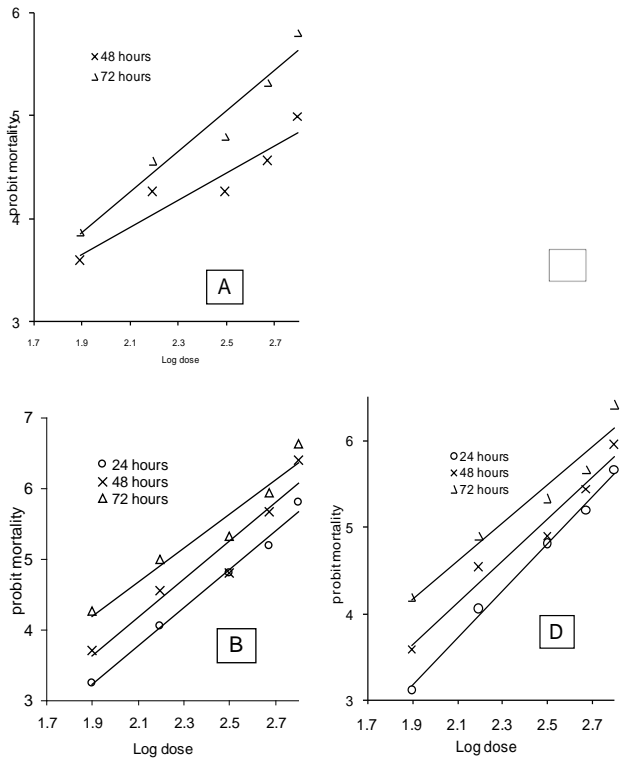


Figure 1: Regression lines of probit mortality on log doses of *S. indicum* seed extracts with different solvents on larvae of *T. castaneum* (A: Petroleum ether, B: Acetone) and *T. confusum* (C: Petroleum ether, D: Acetone).

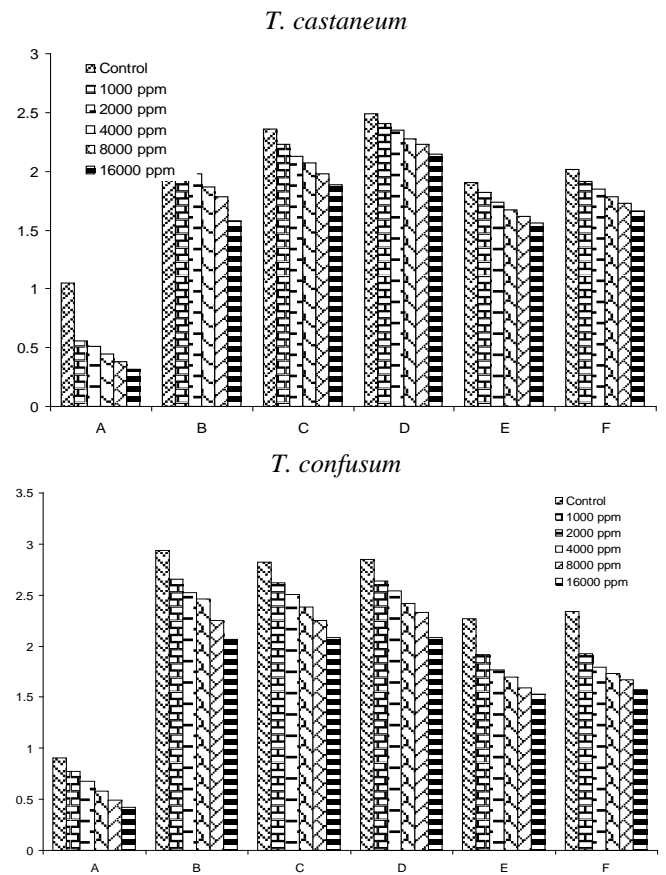


Figure 3: Effect of *S. indicum* seed extracts on the growth (weight) of *T. castaneum* and *T. confusum* (A: 10-day old larvae; B: mature leavae; C: male pupae; D: female pupae; E: male adult; F: female adult).

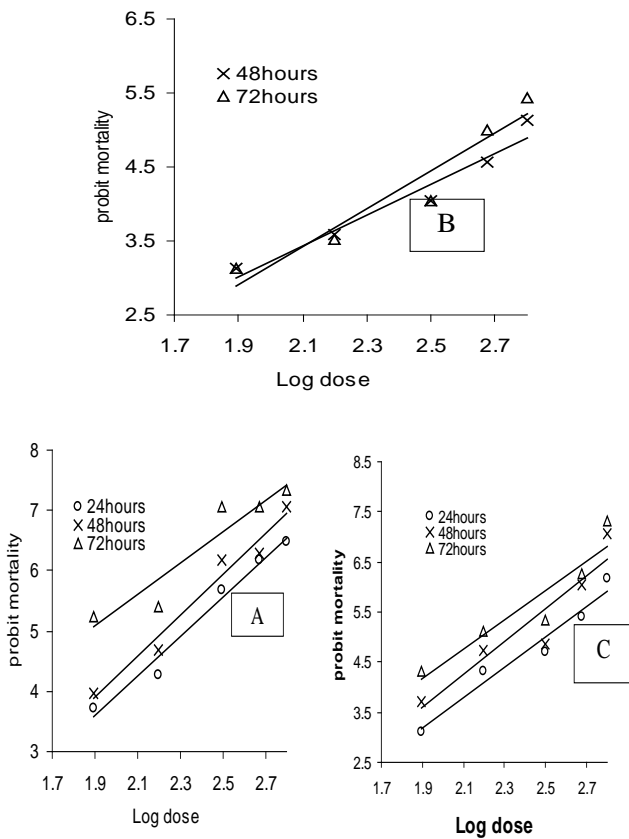


Figure 2: Regression lines of probit mortality on log doses of *S. indicum* seed extracts with different solvents on adults of *T. castaneum* (A: Acetone) and *T. confusum* (B: Petroleum ether, C: Acetone).

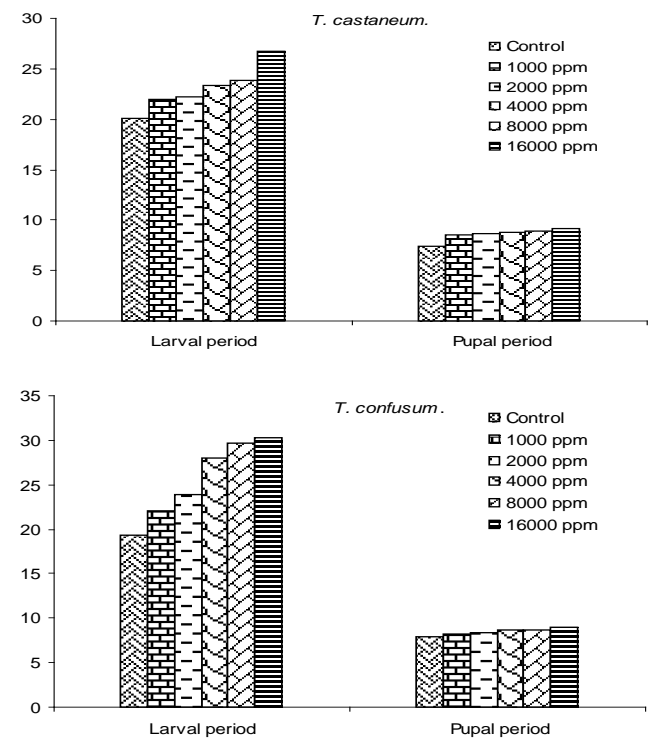


Figure 4: Effect of *S. indicum* seed extracts on the duration (days) of larval and pupal periods of *T. castaneum* and *T. confusum*.

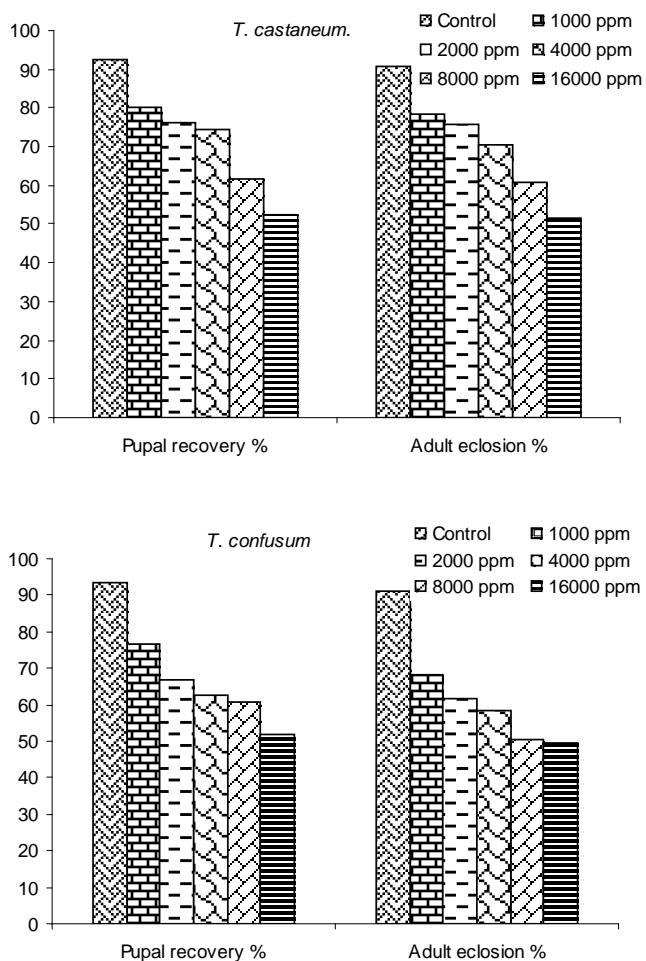


Figure 5: Effect of *S. indicum* seed extracts on pupal recovery and adult eclosion (%) of *T. castaneum* and *T. confusum*.