Supplementary Table S1. Mode of action of plant secondary metabolites against herbivores

Secondary Metabolites Type	SPM	Target Insect	Adverse Effects	Reference
Repellents				
Sesquiterperne	(E)-β-caryophyllene	Asian citrus psyllid *Diaphorina citri*	Repellent and feeding deterrent deterrence	[3]
Alkaloids	Nicotine	*Diabrotica undecimpunctata*, *Spodoptera exigua* and *Trimerotropis* spp.	Repellent and deterrence in feeding	[25]
Alkaloids	α-solanine and α-chaconine	Guatemalan potato moth (*Tecia solanivora*)	Poor oviposition due to repellent effect and reduced larval survival	[15]
Essential oil	Patchoulol	red flour beetle , *Tribolium castaneum*; cigarette beetle *Lasioderma serricorne* and booklice *Liposcelis bostrychophila*	Repellent effects	[13]
Sesquiterpene,	(S)-germacrene	cereal aphid, *Sitobion avenae*	Repellent effects	[6]
Essential oils	-	red flour beetle, *Tribolium castaneum*	Repellent effects	[20]
Phenolics	ginkgo flavonoids, ginkgolide, and bilobalide	*Hyphantria cunea*	Strong antifeedant and repelling effects	[21]
Annonaceous acetogenins	squamocin	*Spodoptera frugiperda*	Toxic and lethal effects on early instar larvae	[8]
Feeding Deterrents				
Saponin	saponin-aglycones hederagenin cellobioside and oleanolic-acid cellobioside	Diamondback moth (*Plutella xylostella*)	Proved as effective feeding deterrents	[1,4,24]
Phenolics	Rutin, vanillic and synaptic acid	Oriental leafworm *Spodoptera litura*	Adversely affected the larval growth and development	[19]
Mustard oils	Isothiocyanates	*Pieris rapae*	Reduced survival and growth and prolong the larval development	[2]
	cyanogenic glycosides and dhurrin	Flea beetle (*Phyllotreta nemorum*)	Reduced the larval survival	[27]
Phenolics	Chlorogenic acid	*Spodoptera litura*	Inhibits the larval growth of all the instars	[17]

Phenolics	Furanocoumarin, 5-(6-hydroxy-3,7-dimethylocta-2,7-dienyloxy) psoralen	*Spodoptera littoralis* and *Heliothis virescens*	Feeding deterrent effect towards the larvae	[26]
	Catechins, scopoletin, cedrelone	*S. frugiperda,*	Reduced the larval survival of larval weight	[14]
	Aglaroxin A	Gram pod borer, *Helicoverpa armigera* and Asian armyworm, *Spodoptera litura*	Strong antifeedant properties and reduction in growth of the larvae of	[16]
	Fraxinellone	*Mythimna separata*	Exhibited toxic effects in terms of prolonged and reduced egg hatching, inhibition of growth and pupation	[18]
	Rhodojaponin-III	*Spodoptera litura* moths	Oviposition deterrent	[29]
Growth Inhibitory Effects				
	1′-acetoxychavicol acetate and galangin	*Spodoptera litura*	Inhibitory effects on various nutritional parameters of	[10]
	1′-acetoxychavicol acetate and galangin	*Spodoptera litura*	Exhibited more larvicidal activity and retarded the larval development	[9]
	Tocotrienols and hydroquinones	*Spodoptera frugiperda*	Growth inhibitory and lethal effects on the larvae	[7]
	Ononitol monohydrate	*Helicoverpa armigera* and *Spodoptera litura*	Strong antifeedant, larvicidal and growth inhibitory activities. Larval and pupal periods were prolonged	[5]
	Limonoid Khayanolide B	*Spodoptera littoralis*	Potent antifeedant compound showed remarkable inhibition of larval growth and development	[12]
	Triterpenoid saponins, monodesmosides 1, 2, and 5	*Plutella xylostella*	Reduction of larval growth and percentage of pupation. Prolongation of larval and pupal stages	[28]
	flavonoid, quercetin	*Spodoptera litura*	94% larval mortality and significantly reduced larval growth of *Spodoptera litura*	[22]
	Gallic acid	Melon fruit fly, *Bactrocera cucurbitae*	Larval survival and adult emergence were severely affected. Inhibitory effects	[23]

			of gallic acid were also observed on larval weight, pupal weight and mean relative growth rate	
	Rolliniastatin-1	*Helicoverpa armigera*	Increased larval mortality and significantly decreased foliar consumption. Significantly decrease in the growth rate and prolonged larval duration along with reduced viability of the larval and pupal stages and reduced larval weight	[11]

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