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## **FOOD CROPS**

**Maize**

**Sorghum**

**Rice**

**Sugar cane**

**Beans**

**Cassava**

**Sweet Potato**

Pest	Product	Formulation and Dosage	Where and when to apply
<b>168 <i>Pratylenchus zeae</i></b> Crop rotation			
169 <i>Melanotus communis</i>	7 16	G 5%: 60 kg/ha D 5%: 60kg/ha G 5%: 40 kg/ha D 5%: 40 kg/ha	Broadcast to soil surface before planting and work into top 10-15 cm
170 <i>Hodotermes mossambicus</i>	7 16	G 5%: 100 kg/ha D 5%: 80 kg/ha WP 25%: 16 kg/ha G 5%: 100 kg/ha D 5%: 80 kg/ha WP 25%: 12 kg/ha	Broadcast on soil at least 2 weeks before planting. If possible, work the insecticide 10-20 cm deep into the soil
171 <i>Astylus atromaculatus</i>	12 13	D 5%: 30 kg/ha WP 50%: 2 kg/500 l water/ha WP 50%: 1 kg/500 l water/ha see also <i>Diabrotica</i> (No. 172)	On foliage when adults appear Against larvae
172 <i>Diabrotica 12-punctata</i>	7, 16 27 40	G 10%: 20 kg/ha G 10%: 10 kg/ha G 10%: 10 kg/ha	Row- or broadcast-treatment to soil surface before planting and work into top 10-15 cm
173 <i>Heteronychus licas</i> (also species of <i>Nematocerus</i> )	9 12 13	Bait = D 10%: 1 kg + cracked maize 100 kg (mixture) 30-40 kg/ha WP 50%: 3 kg/500 l water/ha ES 20%: 1 kg/500 l water/ha	Broadcast over the area before the crop germinates Spray on seedlings when beetles appear

On foliage and stalks of seedlings  
when first damage is visible

**ES 50%:** 750 cc/1000 l/ha

**174** *Ditylenchus dipsaci* 39

To soil surface when weevils appear

**G 5%:** 80 kg/ha

Broadcast over the area when damage  
is visible

**D 5%:** 30 kg/ha  
**Bait = D 5%:** 500 g + bran 25 kg  
(mixture) 25 kg/ha

Broadcast before planting and work  
into top 5-10 cm  
When central leaves are eaten and  
young caterpillars are found

**D 5%:** 30-40 kg/ha  
**ES 25%:** 2.2.5 l/500 l water/ha  
**ES 25%:** 5 l/500 l water/ha

**Bait = WP 50%:** 100 g + bran 20 kg  
(mixture) 20 kg/ha

When second or third generation borers  
are first observed, 3 times, 10-14 days  
apart

**D 5%:** 30kg/ha  
**WP 25%:** 1.5 kg/500 l water/ha  
**WP 25%:** 5 kg/500 l water or  
**D 5%:** 30 kg/ha  
**WP 25%:** 1 kg + **WP 50%:** 5 kg/  
500 l water/ha (mixture)

see Chilo (No. 215) and Diatraea (No. 178)

see Scirpophaga (No. 275)

see Elasmopalpus (No. 311) and Pyrausta (No. 183)

see Diatraea (No. 178) and Dichocrocis (No. 640)

**175** *Calandra callosa* 7

**176** *Gryllulus domesticus* 10  
16

**177** *Mythimna (Cirphis)  
unipuncta* 12  
13  
22

**178** *Diatraea cramboides* 12  
15  
22

**37 + 12**

see Chilo (No. 215) and Diatraea (No. 178)

see Chilo (No. 215) and Diatraea (No. 178)

see Elasmopalpus (No. 311) and Pyrausta (No. 183)

see Diatraea (No. 178) and Dichocrocis (No. 640)

**179** *Chilo suppressalis*

**180** *Chilotraea infuscatella*

**181** *Elasmopalpus  
lignosellus*

**182** *Dichocrocis  
punctiferalis*

**Maize**

Pest	Product	Formulation and Dosage	Where and when to apply
183 <i>Ostrinia (Pyrausta) nubilalis</i>	32 12	<b>WP 25%:</b> 1 kg/750 l water/ha <b>D 5%:</b> 40 kg/ha <b>G 5%:</b> 20 kg/ha <b>ES 50%:</b> 4 l/750 l water/ha <b>ES 25%:</b> 1.5 l/750 l water/ha <b>WP 50%:</b> 3 kg/750 l water/ha <b>ES 60%:</b> 1 l/750 l water/ha	When first damage is visible (granules are placed by hand or machine in the leaf sheaths). Repeat after 10 days
184 <i>Chilo zonellus</i>	12	<b>D 5%:</b> 30 kg/ha see also <i>Ostrinia</i> (No. 183) and <i>Busseola</i> (No. 185)	On foliage and stalks when plants start showing dead hearts. Repeat after two weeks
185 <i>Busseola fusca</i>	12 31 15 21	<b>G 5%:</b> 30-40 kg/ha <b>G 2.5%:</b> 7.5 kg/ha <b>D 2%:</b> 20 kg/ha <b>ES or WP 25%:</b> 1.5-2 kg/750 l water/ha <b>WP 25%:</b> 1.5-2 kg/750 l water/ha see also <i>Pyrausta</i> (No. 183)	On stalks and leaf sheaths the first when the first signs of damage appear. Repeat in 2 weeks. The insecticide must be applied into the open funnel of the young plant, before the larvae have penetrated into the succulent portion of the stalks
186 <i>Sesamia virutaria</i>		see <i>Busseola</i> (No. 185) and <i>Emmalocera</i> (No. 278)	
187 <i>Epilachna similis</i>	12 53	<b>D 5%:</b> 25-30 kg/ha <b>WP 50%:</b> 1 kg/500 l water/ha	On foliage when beetles appear
188 <i>Cnaphalocrociis medinalis</i>	12	<b>D 5%:</b> 25-30 kg/ha see also <i>Epilachna</i> (No. 187)	On foliage when pests appear
189 <i>Blissus leucopterus</i>	22	<b>ES 25%:</b> 10 kg/500 l water/ha	To base of plants, where bugs congregate

		On foliage when insects appear in great numbers
190 <i>Peregrinus maidis</i>	9 40 27, 28, 30, 33, 34, 37, 39, 42, 47, 48 35	D 5%: 20-30 kg/ha WP 25%: 1 kg/500 l water/ha ES 25%: 1 l/500 l water/ha  ES 40%: 1 l/500 l water/ha
191 <i>Cicadulina mbila</i>	see Peregrinus (No. 190)	
192 <i>Baldulus maidis</i>	see Peregrinus (No. 190)	
193 <i>Rhopalosiphon maidis</i>	9 27 28 35.2 39, 42, 48, 33.10 52	D 10%: 20 kg/ha ES 60%: 500 g/500 l water/ha ES 40%: 500-750 cc/500 l water/ha WP 70%: 400 g/500 l water/ha ES 20%: 750-1000 cc/500 l water/ha S 6%: 500 cc/500 l water/ha
194 <i>Prodenia (Spodoptera) litura</i>	12 13 22 39 53	WP 50%: 2.5 kg/750 l water/ha D 10%: 15-20 kg/ha G 5%: 15 kg/ha ES 20%: 1.5 kg/750 l water/ha D 5%: 40 kg/ha ES 25%: 1 kg/750 l water/ha WP 50%: 2.5 kg/750 l water/ha
195 <i>Laphygma exigua</i>	see Heliothis (No. 197)	
196 <i>Poecilophila maculatissima</i>	see Heliothis (No. 197)	
197 <i>Heliothis obsoleta</i>	12, 22 53	ES 25%: 8-10 l/500 l water D 5%: 30 kg/ha
		Directed at ear zone when young larvae appear. Repeat after 1-2 weeks

**Sorghum**

**Sorghum, Kaffir-corn, Juar, Guinea corn (*Sorghum guineense* and *S. bicolor*) See also Pests of Maize**

Pest	Product	Formulation and Dosage	Where and when to apply
198 <i>Chrotogonus trachypterus</i>	9 see also <i>Gryllulus</i> (No. 176)	D 10%: 20-25 kg/ha	When hoppers appear in large numbers
199 <i>Proceras argyrolepidius</i>	see <i>Pyrausta</i> (No. 183) and <i>Chilo</i> (No. 184)		When plants show dead hearts
200 <i>Saccharicoccus sacchari</i>	33, 34, 39, 49	ES 25%: 1-1.5 l/750 l water	When colonies appear on stalks
201 <i>Chilo zonellus</i> <i>or other species</i>	see <i>Pyrausta</i> (No. 183) and <i>Chilo</i> (No. 184)		
202 <i>Diatraea cramboides</i>	see <i>Diatraea</i> (No. 178)		
203 <i>Sesamia cretica</i> ( <i>Spodoptera</i> spp.)	see <i>Busseola</i> (No. 185) or <i>Prodenia</i> (No. 194)		Spray on leaves and stalks when first signs of damage are visible
204 <i>Anatrichus erinaceus</i>	39	ES 50%: 500 cc/750 l water/ha	On first signs of damage
205 <i>Atherigona socata</i>	27, 39	WP or ES 25%: 1-1.5 kg/750 l water	Spray on leaves and stalks when first signs of attack are visible. Repeat after 10 days
206 <i>Chaetocnema</i> sp.	12	D 5%: 20-25 kg/ha	When leaves show feeding marks
207 <i>Hieroglyphus nigrorepletus</i>	9 13	D 10%: 25-30 kg/ha ES 20%: 1.2 l/600 l water	On foliage when young hoppers appear
208 <i>Schizaphis graminum</i>	9 26, 33, 39, 42, 47, 48 52	D 10%: 25-30 kg/ha ES 20%: 500-1000 cc/500 l water S 6%: 500-1000 cc/500 l water	Spray on leaves when aphids appear

209	<i>Paratetraphus indicus</i>	33, 33.10, 39, 43, 72	<b>ES 20%:</b> 1 l/750 l water	Spray on leaves at the first signs of damage. Repeat after 1 week
210	<i>Celatina sorghiella</i>	29 41	<b>ES 25%:</b> 6 l/500 l water/ha <b>ES 25%:</b> 2 l/500 l water/ha	On first signs of damage
211	<i>Contarinia sorghicola</i>	12 27	<b>D 5%:</b> 30 kg/ha <b>ES 50%:</b> 1.2 l/300 l water/ha	One application on flowering, one on full flower. 2nd. application at fortnightly intervals Apply on heads when 90% of them have emerged from the boot. Repeat application within 4 days. Do not feed treated forage to livestock for 14 days following last application

## Rice (*Oryza sativa* and *O. glaberrina*)

66

### Rice

Pest	Product	Formulation and Dosage	Where and when to apply
212 <i>Sesarma africanum</i> <i>Paratelphusa convexa</i>	9	G 5%: 40-50 kg/ha	Broadcast over the area when first signs of damage are observed
213 <i>Radopholus oryzae</i>	Crop rotation		
214 <i>Chilo auricilia</i>	see Chilo (No. 215)		
215 <i>Chilo suppressalis</i> ( <i>Maliarpha</i> <i>separatella</i> , <i>Diopsis thoracica</i> )	9 15, 27 39 27.1, 42 9 27	WP 50%: 7.5 kg/750 l water/ha ES 25%: 750-900 cc/750 l water/ha D 1.5%: 50 kg/ha ES 50%: 375-400 cc/750 l water/ha ES 50%: 250-500 cc/750 l water/ha G 6%: 45-50 kg/ha G 10%: 20 kg/ha	On leaves and stalks when infestation occurs, 2-3 sprays at fortnightly intervals
216 <i>Scirpophaga innotata</i>	see Chilo (No. 215)		
217 <i>Schoenobius</i> <i>bipunctifer</i>	see Chilo (No. 215)		
218 <i>Proceras polychrysa</i>	see Chilo (No. 215)		
219 <i>Elasmopalpus</i> <i>lignosellus</i>	see Chilo (No. 215) and Pyrausta (No. 183)		
220 <i>Sesamia inferens</i>	15	ES 20%: 1-2 l/750 l water/ha see also Busseola (No. 185)	When infestation occurs or when moths are on the wing. Repeat at fortnightly intervals
221 <i>Calligrypona marginata</i>	27, 39	D 1%: 20-25 kg/ha ES 20%: 750-1000 cc/750 l water/ha	When plant hoppers appear in large numbers

222 <i>Hispa armigera</i> ( <i>Trichispa sericea</i> )	12 9 <b>27.1, 42</b>	When leaves show first mines. Repeat at fortnightly intervals
223 <i>Leptispa pygmaea</i>	see <i>Hispa</i> (No. 222)	When leaves begin to curl up
224 <i>Lema oryzae</i>	see <i>Hispa</i> (No. 222)	
225 <i>Cnaphalocrocius medinalis</i>	9	When caterpillars are seen on the underside of leaves
226 <i>Nymphula depunctalis</i>	12	When pests appear
227 <i>Sesamia cretica</i>	27	Over plants broadcast when infestation occurs
228 <i>Mocis repanda</i>	see <i>Mythimna</i> (No. 177)	
229 <i>Laphygma frugiperda</i>	see <i>Mythimna</i> (No. 177) and <i>Laphygma</i> (No. 287)	
230 <i>Mythimna (Cirphis) unipuncta</i>	9 12 39 25	D 10%: 20-25 kg/ha WP 50%: 2.25 kg/750 l water/ha D 1%: 20-25 kg/ha ES 50%: 1000 cc/750 l water/ha
231 <i>Spodoptera mauritia</i>	see <i>Mythimna</i> (No. 230)	As soon as young caterpillars are seen on seedlings in nursery or on standing crop
232 <i>Parnara guttata</i>	see <i>Mythimna</i> (No. 230)	
233 <i>Chlorops oryzae</i>	27 28 <b>27.1, 33.10, 39, 42</b>	ES 25%: 800-1000 cc/1000 l water ES 40%: 500-800 cc/1000 l water ES 50%: 500 cc/1000 l water
234 <i>Agromyza oryzae</i>	see <i>Chlorops</i> (No. 233)	When the flies appear or when first signs of damage appear
235 <i>Atherigona exigua</i>	<b>39, 42</b>	On foliage when first signs of damage appear

**Rice**

Pest	Product	Formulation and Dosage	Where and when to apply
236 <i>Thrips oryzae</i>	<b>27, 39</b> <b>27.1, 42</b>	<b>D 1%:</b> 15-20 kg/ha <b>ES 50%:</b> 0.4-0.6 l/750 l water/ha	When leaves start to curl up and turn yellow
237 <i>Nilaparvata lugens</i>	<b>9</b> <b>12</b> <b>27</b>	<b>D 5-10%:</b> 20-25 kg/ha <b>D 5%:</b> 20-25 kg/ha <b>D 1%:</b> 20-25 kg/ha <b>G 10%:</b> 20 kg/ha <b>ES 50%:</b> 500 cc/1000 l water/ha	When pests appear. Repeat after 15 days if necessary
238 <i>Callipypona furcifera</i>	see Nilaparvata (No. 237)		On first signs of damage
239 <i>Nisia atrovenosa</i>	see Nilaparvata (No. 237)		When pests appear
240 <i>Tettigella spectra</i>	<b>9</b>	<b>D 10%:</b> 25-30 kg/ha see also Nilaparvata (No. 237)	When jassids appear on stems
241 <i>Nephrotettix bipunctatus</i>	see Chilo (No. 215)		When jassids appear
242 <i>Snazuma dorsalis</i>	see Nilaparvata (No. 237)		
243 <i>Aphelenchoides besseyi</i>	<b>39</b>	<b>ES 20%:</b> 1-1.5 l/1000 l water	As soon as leaves show brown patches
244 <i>Epicauta</i> sp.	<b>12</b>	<b>D 5%:</b> 20-25 kg/ha	On grains when beetles appear
245 <i>Hieroglyphus banian</i>	<b>9</b>	<b>D 5%:</b> 20-25 kg/ha	On breeding grounds against hoppers
246 <i>Pachydiplosis oryzae</i>	<b>39, 42</b>	<b>ES 50%:</b> 500-1000 cc/750 l water/ha	When the first signs of damage are visible
247 <i>Hydrellia griseola</i>	<b>27</b>	<b>ES 25%:</b> 1 l/750 l water/ha	When initial infestation occurs and leaves start withering

248 <i>Scotinophora lurida</i>	<b>9</b>	D 10%: 20-25 kg/ha ES 25%: 1-1.5 l/750 l water/ha	When large numbers of the bugs appear on the stem and shoots
249 <i>Solubea poecila</i>	<b>27, 28, 39</b>	see <i>Scotinophora</i> (No. 248)	
250 <i>Nezara viridula</i>		see <i>Scotinophora</i> (No. 248)	
251 <i>Cletus trigonis</i>		see <i>Leptocoris</i> (No. 252)	
252 <i>Leptocoris varicornis</i>	<b>7</b> <b>27, 39</b> <b>9</b> <b>30.2</b> <b>35</b> <b>37</b> <b>42</b> <b>53</b> <b>53</b>	D 5%: 20 kg/ha D 1%: 20 kg/ha D 10%: 20 kg/ha D 5%: 20 kg/ha ES 50%: 1000 cc/250 l water/ha ES 50%: 500 cc/250 l water/ha ES 50%: 500 cc/250 l water/ha D 5%: 20 kg/ha WP 50%: 2 kg/250 l water/ha	Application on the ear heads; when ear-heads are in milk stage and the bugs appear in large numbers
253 <i>Lagynotomus assimulans</i>		see <i>Leptocoris</i> (No. 252)	

Sugar cane (*Saccharum officinarum*)

Pest	Product	Formulation and Dosage	Where and when to apply
254 <i>Meloidogyne</i> sp.	Crop rotation <b>143</b>	<b>L:</b> 175 l/ha	Pre-plant treatment (see also Tea: No. 101)
255 <i>Radopholus similis</i>	Crop rotation see Meloidogyne (No. 254)		
256 <i>Hoplolaimus coronatus</i>	Crop rotation see Meloidogyne (No. 254)		
257 <i>Odontotermes obesus</i>	<b>7</b> <b>9</b> <b>7</b> <b>9</b> <b>13</b>	<b>D 2.5%:</b> 30 kg/ha <b>D 5%:</b> 40 kg/ha <b>WP 50%:</b> 500 g/100 l water <b>WP 50%:</b> 750 g/100 l water <b>WP 50%:</b> 250 g/100 l water	At two foot intervals in furrows over the cane sets at the time of planting Dip the sets do. do.
258 Wireworms, various species: <i>Lacon variabilis</i> <i>Lacon humilis</i> <i>Heteroderes laurerti</i> <i>Melanotus Tamsuyensis</i>	<b>7</b> <b>9</b> <b>10</b>	<b>G 5%:</b> 60 kg/ha <b>D 5%:</b> 60 kg/ha <b>D 10%:</b> 30 kg/ha <b>ES 20%:</b> 1 l/100 l water	Place insecticide in a narrow strip immediately above the sets On seed pieces in open furrows at time of planting
259 <i>Phytalus smithi</i>		see Lepidiota (No. 260)	
260 <i>Lepidiota frenchi</i>	<b>10</b>	<b>D 20%:</b> 80-100 kg/ha	Apply dust above the sets at planting time
261 <i>Dermolepida albohirtum</i>		see Lepidiota (No. 260)	

262 <i>Tomaspis varia</i>		see <i>Tomaspis</i> (No. 263)		
263 <i>Tomaspis saccharina</i>	<b>26, 28</b> 27, 39		<b>ES 20%:</b> 400 cc/100 l water <b>D 1-2%:</b> 50 kg/ha	Dip the setts Apply on cane seed pieces in open furrows at time of planting
264 <i>Heteronychus licus</i>	<b>7, 9, 13</b> see also <i>Heteronychus</i> (No. 173)		<b>WP 50%:</b> 400 g/100 l water	Treat the young shoots when pests appear (apply to rows)
265 <i>Heteronychus plebejus</i>	<b>9</b> see also <i>Heteronychus</i> (No. 264)		<b>G 10%:</b> 50 kg/ha	To soil surface
266 <i>Eutheola rugiceps</i>	<b>7</b> 9 see also <i>Heteronychus</i> (No. 264)		<b>G 5%:</b> 60 kg/ha <b>D 10%:</b> 50 kg/ha	To soil surface and work in Treat the young shoots, especially the lower parts
267 <i>Anacentrinus subnudus</i>		see <i>Rhabdocnemis</i> (No. 268)		
268 <i>Rhabdocnemis obscura</i>	<b>13</b>		<b>WP 50%:</b> 250-300 g/100 l water	Treat the stalks, especially the lower parts
269 <i>Ereunetis flavistriata</i>	<b>13</b> 39		<b>ES 20%:</b> 300 cc/100 l water <b>ES 50%:</b> 50 cc/100 l water	Apply to stems when first signs of damage are visible. Repeat after 2-3 weeks
270 <i>Acheta bimaculata</i>	<b>13</b> see also <i>Gryllulus</i> (No. 176)		<b>ES 20%:</b> 400 cc/100 l water	Apply on the lower part of stems
271 <i>Saccharicoccus sacchari</i>	<b>39, 48</b>		<b>ES 20%:</b> 1.5-2 l/1000 l water	Apply to stems and leaves
272 <i>Castnia licus</i>	<b>15</b> 39		<b>ES 20%:</b> 1000 cc/750 l water/ha <b>ES 50%:</b> 500-750 cc/750 l water/ha	On stems and leaves when first signs of damage are visible

Pest	Product	Formulation and Dosage	Where and when to apply
273 <i>Diatraea saccharalis</i>	15 21 22.5 53 34	G 2%: 15-20 kg/ha G 5%: 15-20 kg/ha G 5%: 20 kg/ha G 10%: 20-30 kg/ha G 7%: 20-25 kg/ha	Broadcast the insecticides over cane fields at 3-weekly intervals as soon after joints begin to form or when 1-2% of stalks are infested with young larvae
274 <i>Metamasius hemipterus</i>	13	ES 20%: 5 l/500-750 l water	Apply to stems when pests appear
275 <i>Scirpophaga nivella</i>	12 15, 22  9, 22  30.1 42	WP 50%: 6 kg/750 l water/ha ES or WP 20%: 1-1.5 kg/750 l water/ha  D 10%: 50 kg/ha  see also <i>Diatraea</i> (No. 273)  ES 60%: 0.5-1.5 l/1000 l water/ha ES 50%: 0.8-2 l/1000 l water/ha	Preventive measure: on seedlings as soon as mining of midribs is seen (apply 8 times at weekly intervals)
276 <i>Chilotraea infuscata</i>		see <i>Scirpophaga</i> (No. 275)	
277 <i>Proceras sacchariphagus</i>		see <i>Scirpophaga</i> (No. 275)	
278 <i>Emmalocera depressella</i>	12 22 15	WP 50%: 7.5 kg/1000 l water WP or ES 20%: 5 kg/1000 l water ES 20%: 1.5-2 l/1000 l water	Apply to stems at fortnightly intervals starting from seedling stage to node formation stage
279 <i>Eucosma schistaceana</i>		see <i>Emmalocera</i> (No. 278)	
280 <i>Elasmopalpus lignosellus</i>		see <i>Chilo</i> (No. 215) and <i>Pyrausta</i> (No. 183)	
281 <i>Phragmitiphila truncata</i>		see <i>Emmalocera</i> (No. 278)	

282 <i>Sessamia vitrea</i>	see <i>Emmalocera</i> (No. 278)	On first signs of damage. Apply 4 times at fortnightly intervals
283 <i>Xyleborus perforans</i>	12 13	WP 50%: 4 kg/1000 l water WP 50%: 2 kg/1000 l water
284 <i>Diaprepes abbreviatus</i>	13, 15	WP 20%: 2 kg/1000 l water
285 <i>Hispa wakkeri</i>	39	ES 20%: 1 l/1000 l water see also <i>Hispa</i> (No. 222)
286 <i>Oniodes accepta</i>	see <i>Hispa</i> (No. 285)	On foliage when weevils appear
287 <i>Laphygma frugiperda</i>	12 53	WP 50%: 3 kg/1000 l water WP 50%: 2 kg/1000 l water
288 <i>Mythimna (Cirphis) unipuncta</i>	see <i>Mythimna</i> (No. 230) and <i>Laphygma</i> (No. 287)	On leaves when young caterpillars appear
289 <i>Macropes excavatus</i>	9	WP 20%: 1.5 kg/600 l water/ha see also <i>Peregrinus</i> (No. 190)
290 <i>Perkinsiella saccharicida</i>	9 27, 28, 30, 39	D 5%: 30-60 kg/ha ES 20%: 1-1.5 l/1000 l water
291 <i>Sacharosydne saccharivora</i>	see <i>Perkinsiella</i> (No. 290)	When pests appear or when leaves and buds start to turn yellow
292 <i>Proutista moesta</i>	see <i>Perkinsiella</i> (No. 290)	When leaf margins start yellowing and larvae are seen
293 <i>Pyrrilla perpusilla</i>	9 15 26 39	D 5%: 30-60 kg/ha ES 20%: 1.5 l/1000 l water ES 20%: 1-1.5 l/1000 l water ES 50%: 200-300 cc/1000 l water

**Sugar cane**

Pest	Product	Formulation and Dosage	Where and when to apply
294 <i>Cicadulina mbita</i>	see Peregrinus (No. 190)		
295 <i>Aleurolobus barodensis</i>	<b>27, 33, 33.10, 34, 39, 43</b> ES <b>20%</b> : 1-1.5 l/1000 l water		When leaves start wilting and withering
296 <i>Sipha flava</i>	<b>26, 27, 28, 35, 39, 42, 46, 47, 48, 49 52</b> ES <b>20%</b> : 1-1.5 l/1000 l water S <b>6%</b> : 1-1.5 l/1000 l water		When aphids appear and when leaves start wilting
297 <i>Rhopalosiphon sacchari</i>	see Sipha (No. 296)		
298 <i>Rhopalosiphon maidis</i>	see Sipha (No. 296) and Rhopalosiphon (No. 193)		
299 <i>Hysteroneura setariae</i>	see Sipha (No. 296)		
300 <i>Oregma lanigera</i>	<b>39</b> ES <b>50%</b> : 500-750 cc/1000 l water		At first appearance of pests
301 <i>Pulvinaria iceryi</i>	<b>39</b> ES <b>50%</b> : 500-750 cc/1000 l water		When pests appear; repeat fortnightly
302 <i>Tarsonemus Bancrofti</i>	<b>26 27</b> ES <b>20%</b> : 1-1.5 l/1000 l water ES <b>25%</b> : 1.2 l/1000 l water		When first signs of damage are visible; repeat at weekly intervals
303 <i>Paratetranychus exsiccator</i>	<b>26, 33, 39, 42, 72</b> ES <b>20%</b> : 1-1.5 l/1000 l water		At first appearance of pests and when leaves start wilting; repeat at weekly/fortnightly intervals

304 <i>Meloidogyne</i> sp.	Crop rotation <b>152</b>	<b>G 10%:</b> 250-350 kg/ha	Application 2-3 weeks before planting. Broadcast on soil surface and work in
		<b>G 10%:</b> 175 kg/ha <b>L:</b> 70-90 cc/sq.m	Row-treatment Injection at a depth of 25-30 cm
305 <i>Pagria signata</i>	<b>7</b>	<b>G 5%:</b> 40-50 kg/ha	To soil surface and work in before planting On soil where plants are set
		<b>WP 40%:</b> 750-1000 g/500 l water/ha	
306 <i>Colaspis flavaida</i>		see <i>Pagria</i> (No. 305)	
307 <i>Hodotermes mossambicus</i>		see <i>Hodotermes</i> (No. 170)	
308 <i>Agromyza phaseoli</i>	<b>7</b> <b>13</b> <b>27, 28, 33, 10, 39</b>	<b>WP 40%:</b> 50 g/100 kg seed <b>WP 50%:</b> 40 g/100 kg seed <b>ES 20%:</b> 500 cc/500 l water	Dress the seed before planting On foliage, when leaf-miners are visible
309 <i>Phytonomus nigrirostris</i>	<b>35</b> <b>39</b>	<b>D 5%:</b> 35-40 kg/ha <b>D 1%:</b> 35-40 kg/ha	On foliage and stems when first signs of damage are seen
310 <i>Alcides leucogramma</i>		see <i>Phytonomus</i> (No. 309)	
311 <i>Elasmopalpus lignosellus</i>	<b>7</b> <b>13</b> <b>27</b> <b>31</b> <b>39</b>	<b>ES 20%:</b> 5 l/500 l water <b>G 5%:</b> 15-20 kg/ha <b>G 10%:</b> 7.5-10 kg/ha <b>ES 20%:</b> 500-750 cc/500 l water <b>ES 25%:</b> 500-750 cc/500 l water	Apply the emulsion as 10-15 cm wide strip over plants when in 2-leaf stage On foliage and stems when first signs of damage are visible As curative measure: apply on stems
312 <i>Nezara viridula</i>		see <i>Physsonerus</i> (No. 313) and <i>Nezara</i> (No. 691)	

**Beans**

Pest	Product	Formulation and Dosage	Where and when to apply
313 <i>Physosomerus grossipes</i>	35	D 4%: 30-35 kg/ha	When pests appear
314 <i>Aphis fabae</i>	2 26, 27, 28, 39, 41, 42, 48 29, 35 29 35.2 39, 41 52	ES 6%: 1 kg/500 l water/ha ES 20%: 0.5 kg/500 l water/ha ES 20%: 1.5 kg/500 l water/ha D 5%: 25 kg/ha WP 70%: 0.5 kg/500 l water/ha D 2%: 25 kg/ha S 6%: 0.5 kg/500 l water/ha	On foliage when aphids appear. Repeat after 10 days
315 <i>Epicauta vittata</i>	12	D 5%: 30-40 kg/ha	On foliage when pests appear
316 <i>Epilachna varivestis</i>	18 23.5 27 30.3 35 53	WP 25%: 6 kg/500 l water/ha D 5%: 35 kg/ha ES 25%: 2 kg/500 l water/ha ES 25%: 2 kg/500 l water/ha G 5%: 20 kg/ha ES 50%: 2-2.5 kg/500 l water/ha WP 50%: 2 kg/500 l water/ha	Apply the granule just below seed at planting time
317 <i>Cerotoma ruficornis</i>	see Epilachna (No. 316) and Epilachna (No. 187)	On foliage when beetles appear	
318 <i>Thosea sinensis</i>	12 27, 34, 37, 39	WP 50%: 1-2 kg/500 l water ES 20%: 500-750 cc/500 l water	On leaves when caterpillars appear
319 <i>Acherontia styx</i>	11 27, 39	D 5%: 35-40 kg/ha WP 50%: 2 kg/500 l water ES 20%: 750-1000 cc/500 l water see also Thosea (No. 318)	On leaves when caterpillars appear
320 <i>Diacrisia obliqua</i>		see Thosea (No. 318)	
321 <i>Prodenia litura</i>		see Thosea (No. 318) and Prodenia (No. 837)	

322 <i>Valanga nigricornis</i>	13	ES 20%: 1 l/500 l water	When grasshoppers appear
323 <i>Hercothrips fasciatus</i>	26, 27, 28, 39, 42	ES 20%: 750 cc/750 l water	On first signs of damage
324 <i>Corythucha gossypii</i>	24, 27, 29, 34, 37, 39, 40	ES 20%: 500 cc/500 l water	As leaves start to curl downwards
325 <i>Empoasca fabalis</i>	12 39	WP 50%: 1.5 kg/500 l water ES 50%: 250 cc/500 l water	As soon as leaves show necrotic patches
326 <i>Erythroneura (Typhlocyba) sp.</i>		see Empoasca (No. 325)	
327 <i>Tetranychus urticae</i>	26, 32, 38, 39, 42, 47, 48, 71, 72	ES 20%: 500-750 cc/500 l water D 5%: 25-30 kg/ha ES 20%: 3.5 kg/750 l water/ha	When leaves appear mottled; repeat after 1 week
	49		
	68.2	see also Tetranychus (No. 820)	
328 <i>Fundella cistipennis</i>	12 53	D 5%: 30-35 kg/ha WP 50%: 3-4 kg/1000 l water WP 50%: 1.5 kg/1000 l water	On foliage, as soon as first signs of damage are seen or before young cater- pillars penetrate the pods. Repeat after 2 weeks if necessary
329 <i>Lanprosma indicata</i>		see Fundella (No. 328)	
330 <i>Laspeyresia glycinvorella</i>		see Fundella (No. 328)	
331 <i>Maruca testulalis</i>		see Fundella (No. 328)	
332 <i>Etiella zinckenella</i>		see Fundella (No. 328)	
333 <i>Epantheria albicornis</i>		see Fundella (No. 328)	

Pest	Product	Formulation and Dosage	Where and when to apply
331 <i>Peridroma</i> <i>(Lycophotia)</i> <i>saucia</i>	12 22 53	WP 50%: 3-4 kg/1000 l water WP 50%: 4 kg/1000 l water WP 50%: 2 kg/1000 l water	On foliage and pods when first signs of damage are seen
335 <i>Syngrapha (Plusia)</i> <i>egena</i>		see Peridroma (No. 334)	
336 <i>Megacoelum</i> <i>modestum</i>	12	D 5%: 30-35 kg/ha	On foliage when pests appear

337 <i>Pratylenchus brachyurus</i>	Crop rotation			
338 <i>Leucopholis rorida</i>	10	see also <i>Lachnostenus</i> (No. 354)	D or G 10%: 60-80 kg/ha	To soil surface and work in 7.5-12 cm (apply before planting)
339 <i>Coelosternus granicollis</i>	13		WP 50%: 300-500 g/100 l water	On stem and leaves when pests appear; repeat after 2 weeks if necessary
340 <i>Lagochirus obsoletus</i>		see <i>Coelosternus</i> (No. 339)		
341 <i>Carpolonchaea chalybea</i>	9 28 39		WP 20%: 1 kg/100 l water ES 40%: 200 cc/100 l water ES 20%: 150 cc/100 l water	Preventive measure: On stem and foliage when flies are on the wing When first signs of damage are visible
342 <i>Aonidomytilus albus</i>	27, 33.6 39, 43		ES 60%: 150 cc/100 l water ES 20%: 200 cc/100 l water	When scales appear; repeat after 2 weeks
343 <i>Erinnyis ello</i>		see <i>Herse</i> (No. 372)		As soon as young caterpillars are found
344 <i>Zonocerus elegans</i>		see <i>Zonocerus</i> (No. 35) and <i>Zonocerus</i> (No. 705)		On foliage when grasshoppers appear
345 <i>Scirtothrips manihoti</i>	12	see also <i>Dendrothripoides</i> (No. 377)	WP 50%: 200 g/100 l water	On foliage when first signs of damage are seen
346 <i>Corynothrips stenopterus</i>		see <i>Scirtothrips</i> (No. 345) and <i>Dendrothripoides</i> (No. 377)		
347 <i>Erythroneura cassavae</i>	27, 39		ES 20%: 100 cc/100 l water	On foliage when pests appear
348 <i>Bemisia nigeriensis</i>	27, 30, 39, 46 35		ES 20%: 100-150 cc/100 l water ES 20%: 200-250 cc/100 l water	On foliage when pests appear; repeat after 2 weeks

Pest	Product	Formulation and Dosage	Where and when to apply
349 <i>Planococcus citri</i>		see Planococcus (No. 100)	
350 <i>Saissetia coffeae</i>		see Saissetia (No. 455)	
351 <i>Tetranychus urticae</i>		see Tetranychus (No. 327) and (No. 820)	On first signs of damage
352 <i>Dasynus manihotis</i>	12 35	D 10%: 30-40 kg/ha ES 20%: 300-400 cc/100 l water	When bugs appear
		see also Physomerus (No. 313)	

353 <i>Radopholus similis</i>	Crop rotation see also Radopholus (No. 2)	To soil surface and work in 10-15 cm. Apply before planting or after harvest
354 <i>Lachnostenia</i> sp.	7  see also Lachnostenia (No. 354)	D or G 10%: 20-30 kg/ha D or G 10%: 60-80 kg/ha
355 <i>Heteroderes laureti</i>	10  see also Lachnostenia (No. 354)	D or G 10%: 20 kg/ha
356 <i>Chrysochus chinensis</i>	see Lachnostenia (No. 354) and Diabrotica (No. 172)	On emerging foliage and stems; repeat at fortnightly intervals
357 <i>Paria viridicyaneus</i>	see Lachnostenia (No. 354) and Diabrotica (No. 172)	To soil surface at base of plants in strips 15-20 cm wide; repeat after 3-4 weeks
358 <i>Alcidodes orientalis</i>	13  see also Cydas (No. 359)	D 2%: 40-50 kg/ha
359 <i>Cydas formicarius</i>	13  see also Cydas (No. 359)	D 2%: 40-50 kg/ha
360 <i>Euscepes batatae</i>	10  see also Cydas (No. 359)	WP 50%: 2 kg/500 l water ES 20%: 500 cc/100 l water
361 <i>Blosyrus ipomoeae</i>	13  see also Euscepes (No. 360)	D 10%: 300 g/100 m <sup>2</sup> D 2%: 50-60 kg/ha WP 50%: 2 kg/500 l water/ha
		In field where sweet potatoes had been planted before: to soil surface and work in 15-20 cm. Apply before planting or after harvest
		After planting to soil surface and on young foliage

Pest	Product	Formulation and Dosage	Where and when to apply
362 <i>Aegeria</i> sp.	<b>12</b> <b>13, 15, 33</b> <b>34</b>	WP 50%: 2.4 kg/500 l water/ha WP 50%: 800-1000 g/500 l water/ha ES 25%: 1.2-1.6 l/500 l water/ha	On foliage, when first signs of damage are seen; if necessary repeat at fortnightly intervals
363 <i>Omphisa anastomosalis</i>	see <i>Aegeria</i> (No. 362)		
364 <i>Megastis grandalis</i>	see <i>Aegeria</i> (No. 362)		
365 <i>Coreocoris fuscus</i>	see <i>Physosmerus</i> (No. 313) and <i>Dasynus</i> (No. 352)		When bugs appear
366 <i>Chaetocnema confinis</i>	<b>12</b>	WP 50%: 1.6 kg/500 l water	On foliage when pests appear
367 <i>Aspidomorpha areata</i>	see <i>Chaetocnema</i> (No. 366)		
368 <i>Cassida bivittata</i>	see <i>Chaetocnema</i> (No. 366)		
369 <i>Oidaematophorus monodactylus</i>	see <i>Chaetocnema</i> (No. 366)		
370 <i>Lecithocera effera</i>	see <i>Chaetocnema</i> (No. 366) and <i>Aedia</i> (No. 374)		
371 <i>Bedellia orchilella</i>	<b>27, 34, 37, 39</b>	ES 20%: 100 cc/100 l water	On foliage when first signs of damage are seen
372 <i>Herse cingulata</i>	<b>11</b> <b>39</b>	D 10% WP 50%: 2 kg/500 l water ES 50%: 600 cc/500 l water	On foliage when young caterpillars appear
373 <i>Theretra japonica</i>	see <i>Herse</i> (No. 372) and <i>Aedia</i> (No. 374)		
374 <i>Aedia (Anophia) leucomelas</i>	<b>13</b>	WP 20%: 1.2-1.6 kg/500 l water	On foliage when young caterpillars appear

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376 *Zonocerus variegatus*

see *Zonocerus* (No. 35)

377 *Dendrothripoides ipomoeae* **39, 48**  
see *Selenothrips* (No. 85)

378 *Physomerus grossipes*

see *Physomerus* (No. 313) and *Dasynus* (No. 352)

379 *Halticus tibialis*

see *Physomerus* (No. 313) and *Dasynus* (No. 352)

380 *Tetranychus urticae*

see *Tetranychus* (Nos. 327, 820)  
**12**  
**D 10%:** 20 kg/ha

On foliage and stems when first signs  
of damage are seen  
Repeat after 2 weeks if necessary

