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RUBBER AND FIBRES

Rubber

Cotton

Sisal

Hibiscus or Roselle

Ramie

Jute

Kapok

Rubber (*Hevea brasiliensis*)

Pest	Product	Formulation and Dosage	Where and when to apply
771 <i>Meloidogyne</i> sp.	see Meloidogyne (Nos. 1 and 101)		
772 <i>Pratylenchus coffeae</i>	see Pratylenchus (No. 3) and Radopholus (No. 102)		
773 <i>Psilopholis vestita</i>	7, 16 see also Colasposoma (No. 5)	ES 20%: 100-150 cc/100 l water/ha	2-4 l of emulsion in dibble holes made close to the tree so as to reach the tap root
774 <i>Coptotermes marabitanus</i>	7, 16	ES 20%: 250 cc/100 l water	Apply emulsion to the amount of 1-2 l round the base of the attacked tree
<i>Coptotermes curvignathus</i>	10	ES 20%: 500 cc/100 l water	Scrape down any mud trails on the trunk before application
<i>Pseudacanthotermes militaris</i>	13	ES 20%: 125-250 cc/100 l water	
775 <i>Batocera rufomaculata</i>	see Anthores (No. 10)		On trunk and branches when pests appear
776 <i>Stenodontes downesi</i>	see Anthores (No. 10)		
777 <i>Xyleborus affinis</i>	see Xyleborus (Nos. 16 and 110)		
778 <i>Lawana candida</i>	see Lawana (No. 18)		
779 <i>Planococcus citri</i>	see Planococcus (No. 692)		
780 <i>Ferrisia virgata</i>	see Ferrisia (No. 72)		
781 <i>Coccus vi-idis</i>	see Saissetia (Nos. 455 and 488)		
782 <i>Saissetia nigra</i>	see Saissetia (Nos. 455 and 488)		

- 783 *Orgyia postica* see Cephonodes (No. 32)
- 784 *Erinnyis cilo* see Herse (No. 372)
- 785 *Osmilia flavolineata* see Zonocerus (No. 35)
- 786 *Zonocerus variegatus* see Zonocerus (No. 35)
- 787 *Atta cephalotes* see Chapter III p. 469 and Chapter V p. 136
- 788 *Abgrallaspis cyanophylli* **39** ES 50%: 750 cc/1000 l water
see also Phenacaspis (No. 448) When scales appear (in nurseries) repeat after 2 weeks
- 789 *Tetranychus urticae* see Anychus (No. 508) and Tetranychus (No. 820)
- 790 *Tarsonemus translucens* see Tarsonemus (No. 302)
- 791 *Dinocoris variolosus* see Nezara (No. 841)
- 792 *Theraptus devastans* see Cyrtopeltis (No. 617) and Nezara (No. 691)

Pest	Product	Formulation and Dosage	Where and when to apply
793 <i>Sphenoptera</i> sp.	13, 15 34	ES 20%: 2 l/1000 l water/ha ES 25%: 2 l/1000 l water/ha	On foliage and stems when beetles appear. Repeat at fortnightly intervals
794 <i>Apion soleatum</i>	see <i>Sphenoptera</i> (No. 793) and <i>Anthonomus</i> (No. 824)		
795 <i>Eutinobothrus brasiliensis</i> var. <i>gossypii</i>	see <i>Sphenoptera</i> (No. 793)		
796 <i>Hodotermes mossambicus</i>	see <i>Hodotermes</i> (No. 170)		
797 <i>Creontiades pallidus</i>	9 + 12 + 82 12 13 19.3 22 23.1 27 28 31 34 35 37 42 53	<p>Cotton-Dust = 2-5-50%: 25-30 kg/ha D 5%: 20 kg/ha ES 50%: 2 l/500 l water/ha ES 20%: 2.5 l/500 l water/ha ES 25%: 6 l/500 l water/ha ES 25%: 6 l/500 l water/ha ES 25%: 500 cc/500 l water/ha ES 25%: 750-1000 cc/500 l water/ha ES 40%: 0.5-0.75 l/500 l water/ha ES 50%: 0.6 l/500 l water/ha D 1%: 24-30 kg/ha ES 20%: 1.5 l/500 l water/ha D 5%: 30 kg/ha ES 20%: 3-4 l/500 l water/ha D 1%: 30 kg/ha ES 20%: 1.5 l/500 l water/ha ES 50%: 1 l/500 l water/ha WP 50%: 3-4 kg/500 l water/ha</p>	On foliage when bugs appear, i.e. when an average of 10 bugs per 50 sweeps occur or when 20-25 bugs are found per 100 terminals in young squaring cotton

798 <i>Podagrica puncticollis</i>	12	WP 50% or ES 50% : 2 kg/ 500 l water/ha ES 20% : 5 l/500 l water/ha	On foliage when beetles appear
799 <i>Syagrus rugifrons</i>	13	WP 20% : 2 kg/500 l water see also <i>Podagrica</i> No. 798)	On foliage when beetles appear
800 <i>Acrocercops bifasciata</i>	39	ES or WP 25% : 1-1.25 kg/ 500 l water/ha see also <i>Leucoptera</i> (No. 25)	On foliage when first mines are visible
801 <i>Syllepta derogata</i>	12	D 10% : 25-30 kg/ha ES 50% : 6 l/500 l water/ha WP 50% : 2 kg/500 l water/ha	On foliage, when young caterpillars appear or when first signs of damage are seen
802 <i>Phycita infusella</i>	39	D 1% : 20 kg/ha ES 50% : 500 cc/500 l water/ha	On first signs of damage. Repeat after 2 weeks
803 <i>Estigmene acrea</i>	14 27 39 53	ES 25% : 2 l/500 l water/ha ES 60% : 1 l/500 l water/ha ES 50% : 1 l/500 l water/ha WP 50% : 3-4 kg/500 l water/ha	On foliage when caterpillars appear
804 <i>Cosmophila flava</i>		see <i>Estigmene</i> (No. 803) and <i>Laphygma</i> (No. 807)	
805 <i>Scotia (Agrotis) ypsilon</i>	15 22 13 19.3	D 2% : 20 kg/ha ES 20% : 2 l/1000 l water/ha ES 25% : 12 l/1000 l water/ha ES 25% : 1.5 l/1000 l water/ha ES 25% : 10-12 l/1000 l water/ha	Apply on the lower parts of plants and soil surface around the stems
806 <i>Xanthodes graellsii</i>		see also <i>Laphygma</i> (No. 807) and Alabama (No. 809)	
807 <i>Laphygma exigua</i>	9 12	D 1% : 25 kg/ha ES 50% : 1 kg/500 l water/ha ES 50% : 3 l/500 l water/ha	When caterpillars appear

Pest	Product	Formulation and Dosage	Where and when to apply
808 <i>Zonocerus elegans</i>	13	D 2%: 15 kg/ha	On foliage when pests appear
	15	ES 20%: 1.5 l/500 l water/ha ES 20%: 2.5 l/500 l water/ha	
	12	WP 75%: 6 kg/500 l water/ha	
809 <i>Alabama argillacea</i>	15	ES 20%: 2.5 l/500 l water/ha	On foliage when caterpillars appear
	23	ES 50%: 1 l/500 l water/ha	
	31	WP 50%: 1.5 kg/500 l water/ha	
	34	ES 20%: 2 l/500 l water/ha	
	35	ES 40%: 2 l/500 l water/ha	
	37	ES 25%: 1 l/500 l water/ha	
	39, 42	ES 50%: 500 cc/500 l water/ha	
	53	WP 50%: 2 kg/500 l water/ha	
	57	WP 50%: 20 kg/500 l water/ha	
		All products can be applied as dust (20-30 kg/ha)	
810 <i>Thrips tabaci</i>	12	ES 50%: 1 l/500 l water/ha	On foliage when first signs of damage appear
	13	ES 20%: 1-1.5 l/500 l water/ha	
	16	ES 20%: 750 cc/500 l water/ha	
	19.3	ES 25%: 5-6 l/500 l water/ha	
	23.1	ES 25%: 500 cc/500 l water/ha	
	23.5	ES 25%: 3 l/500 l water/ha	
	34	ES 25%: 400 cc/500 l water/ha	
	35	ES 40%: 1.25 l/500 l water/ha	
	37	ES 25%: 0.75 l/500 l water/ha	
	53	WP 50%: 1 kg/500 l water/ha	
		All products can be applied as dust (20-30 kg/ha)	
	42	ES 50%: 400-800 cc/500 l water/ha	
	811 <i>Caliothrips fumipennis</i>	see Thrips (No. 810)	
812 <i>Lygus vosseleti</i>	see Creontiades (No. 797)		

- 813 *Campylomma nicolasi* see Creontiades (No. 797)
- 814 *Empoasca facialis*
- | | | |
|---------------|-------------------------------------|--|
| 9 | D 2%: 20-30 kg/ha | On foliage when lower leaves show signs of hopperburn or margins and interveinal spaces. Repeat after 3 weeks if necessary |
| 9 + 12 + 82 | Cotton-Dust = 2.5-5.0%: 20-30 kg/ha | |
| 12 | D 5%: 20-30 kg/ha | |
| 13 | ES 50%: 1.5 l/500 l water/ha | |
| 22 | ES 20%: 2.5 l/500 l water/ha | |
| 27 | ES 60%: 3.5-4 l/500 l water/ha | |
| 28 | ES 60%: 400-500 cc/500 l water/ha | |
| 33.10, 34, 37 | ES 50%: 1 l/500 l water/ha | |
| 35 | ES 40%: 500 cc/500 l water/ha | |
| 39 | ES 25%: 1 l/500 l water/ha | |
| 53 | ES 40%: 3 l/500 l water/ha | |
| 42 | D 5%: 25-30 kg/ha | |
| | ES 50%: 500 cc/500 l water/ha | |
| | WP 50%: 2 kg/500 l water/ha | |
| | ES 50%: 400-800 cc/500 l water/ha | |
- 815 *Empoasca devastans* see Empoasca (No. 814)
- 816 *Paurocephala gossypii* see Empoasca (No. 814)
- 817 *Bemisia tabaci*
- | | | |
|----|------------------------------------|---|
| 28 | ES 40%: 1-1.5 l/500 l water/ha | On foliage, when larvae are seen. Repeat after 2 weeks if necessary |
| 39 | ES 50%: 500 cc/500 l water/ha | |
| 42 | ES 50%: 400-1000 cc/500 l water/ha | |
- see also Bemisia (No. 348)
- 818 *Aphis (Cerosipha) gossypii*
- | | | |
|------------|-----------------------------------|--|
| 9 | D 1-2%: 25-30 kg/ha | On foliage when colonies of aphids are visible |
| 23.1 | ES 25%: 500 cc/500 l water/ha | |
| 26 | ES 20%: 1.5 l/500 l water/ha | |
| 27 | ES 25%: 1 l/500 l water/ha | |
| 33, 38, 49 | ES 25%: 2 l/500 l water/ha | |
| 33.10 | ES 25%: 1.5 l/500 l water/ha | |
| 34 | ES 25%: 1.2 l/500 l water/ha | |
| 35 | ES 25%: 2-4 l/500 l water/ha | |
| 37 | ES 25%: 1 l/500 l water/ha | |
| 39 | ES 50%: 300-800 cc/500 l water/ha | |
| 41 | ES 25%: 1.5 l/500 l water/ha | |
| 42 | ES 50%: 300-600 cc/500 l water/ha | |

Pest	Product	Formulation and Dosage	Where and when to apply
819 <i>Ferrisia virgata</i>	see <i>Ferrisia</i> (No. 72)		
820 <i>Tetranychus urticae</i>	22.6 23.1 * 26 28 33 37, 38, 78 39, 42 49 68 * 70 * 73 * 82 (Ultrasulphur)	ES 60%: 500 cc/500 l water/ha ES 25%: 1 l/500 l water/ha ES 20%: 1.5 l/500 l water/ha ES 40%: 1 l/500 l water/ha ES 25%: 3 l/500 l water/ha ES 25%: 2 l/500 l water/ha ES 50%: 400-600 cc/500 l water/ha ES 25%: 2-3 l/500 l water/ha ES 25%: 1 l/500 l water/ha ES 50%: 3-4 l/500 l water/ha ES 25%: 2.5-4 l/500 l water/ha WP: 1.25 kg/ha D: 25-30 kg/ha Products can also be applied as dust	On foliage when first signs of damage are visible (leaves appear leathery and faded) Repeat at 10 day intervals until control is obtained Direct application to lower leaf surfaces
821 <i>Hemitarsonemus lata</i>	see <i>Hemitarsonemus</i> (No. 147)		
822 <i>Anychus latus</i>	see <i>Tetranychus</i> (No. 820)		
823 <i>Eriophyes gossypii</i>	26 28 39 42 33.10	ES 20%: 1.5 l/500 l water/ha ES 40%: 750-1000 cc/500 l water/ha ES 50%: 500-750 cc/500 l water/ha ES 50%: 1.5 l/500 l water/ha ES 50%: 500-750 cc/500 l water	Apply on leaves when a few woolly patches appear (leaves wrinkled and deformed)
824 <i>Anthonomus grandis</i>	9 12 + 15	ES 25%: 2.5 l/500 l water/ha ES 25%: 4.5 l + ES 50%: 0.5 l/500 l water/ha	Apply when 10% punctured square infestation is found. Repeat at 4-6 day intervals. Continue as needed

* use when red spiders are resistant to other acaricides.

12 + 19.3	ES 25%: 4.5 l + ES 50%: 4.5 l/500 l water/ha	
12 + 22	ES 25%: 4.5 l + ES 50%: 4.5 l/500 l water/ha	
16	ES 20%: 2.8 l/500 l water/ha	
34	ES 25%: 1 l/500 l water/ha	
35	ES 50%: 2 l/500 l water/ha	
37	ES 50%: 500 cc/500 l water/ha	
38	ES 50%: 1 l/500 l water/ha	
53	WP 80%: 1.25 kg/500 l water/ha	
27.1, 42	ES 50%: 800-1000 cc/500 l water/ha	
15	ES 50%: 1 l/500 l water/ha	On foliage when first damage is seen
22	ES 50%: 12 l/500 l water/ha	
27	ES 25%: 1.5-2 l/500 l water/ha	
37	ES 50%: 1.25 l/500 l water/ha	
39	ES 50%: 1 l/500 l water/ha	
53	WP 80%: 3 kg/500 l water/ha	
9 + 12	ES 25%: 5 l + ES 25%: 5 l/500 l water/ha	Apply when an average of 5 small worms are found per 100 terminal buds.
10 + 12	ES 25%: 4 l + ES 25%: 5 l/500 l water/ha	Repeat every 5-7 days until under control
11	ES 50%: 3 l/500 l water/ha	
12	ES 25%: 7.5 l/500 l water/ha	
	D 10%: 30 kg/ha	
12 + 19.3	ES 25%: 4.5 l + ES 50%: 4.5 l/500 l water/ha	
12 + 22	ES 25%: 4.5 l + ES 50%: 4.5 l/500 l water/ha	
15	ES 50%: 1 l/500 l water/ha	
53	WP 80%: 1.5 kg/500 l water/ha	
30.1	ES 60%: 1 l/500 l water/ha	
31 + 34	ES 25%: 1.2 l + ES 25%: 3 l/500 l water/ha	do.

see also *Heliothis* (No. 826)

825 *Bucculatrix thurberiella*

826 *Heliothis (obsoleta) zea*

827 *Earias insulana*

Pest	Product	Formulation and Dosage	Where and when to apply
828 <i>Earias biplaga</i>	see also Heliothis (No. 826)		
829 <i>Contarinia gossypii</i>	28	ES 40%: 2 l/500 l water/ha	On foliage when first signs of damage are seen. Repeat after 2 weeks if necessary
	39	ES 50%: 500 cc/500 l water/ha	
830 <i>Frankliniella dampti</i>	see Thrips (No. 810)		
831 <i>Adeiphocoris apicalis</i>	see Creontiades (No. 797)		
832 <i>Psallus seriatus</i>	see Creontiades (No. 797)		
833 <i>Poecilophila maculatissima</i>	12	D 5%: 20-30 kg/ha WP 25% or ES 25%: 12-15 kg/500 l water/ha	On bolls when beetles appear
	15	ES 20%: 2.5-3 l/500 l water/ha	
	53	D 5%: 20-30 kg/ha WP 50%: 5 kg/500 l water/ha	
834 <i>Pyroderces simplex</i>	9	D 5%	Dust stored seeds
	13	D 2%	
	9	WP 25%: 2 kg/500 l water/ha	Spray injured bolls
		see also Heliothis (No. 826)	
835 <i>Platyedra (Pectinophora) gossypiella</i>	12 + 15	ES 25%: 2 l + ES 25%: 600 cc/500 l water/ha	On foliage and bolls. Apply every 7 days until under control
	23	ES 50%: 4 l/500 l water/ha	
	31 + 34	ES 25%: 1.2 l + ES 25%: 3 l/500 l water/ha	
	53	WP 50%: 3-4 kg/500 l water/ha	
	27.1, 42	ES 50%: 1-1.6 l/500 l water/ha	
		see also Heliothis (No. 826)	
836 <i>Argyroplote leucotreta</i>	see also Heliothis (No. 826)		

- 837 *Prodenia litura* **12 + 13** **ES 20%: 2.5 l + ES 20%: 1.25 l/500 l water/ha**
 22 **ES 20%: 10 l/500 l water/ha**
 25 **ES 50%: 1.5-2 l/500 l water/ha**
 30.1 see also Heliothis (No. 826) and Alabama (No. 809)
 ES 60%: 1 l/500 l water/ha
- 838 *Sacadodes pyralis* see Prodenia (No. 837)
- 839 *Diparopsis castanea* see Heliothis (No. 826) and Argyroproce (No. 836)
- 840 *Tarache notabilis* see Prodenia (No. 837)
- 841 *Nezara viridula* **13** **ES 20%: 2.5 l/500 l water/ha**
 16 **WP 20% or ES 20%: 5 kg/500 l water/ha**
 31 **WP 50%: 3 kg/500 l water/ha**
 37 **ES 25%: 4 l/500 l water/ha**
 39 **ES 50%: 1000 cc/500 l water/ha**
 53 **WP 50%: 5 kg/500 l water/ha**
 14.1 **WP 25%: 4 kg/500 l water/ha**
 42 **ES 50%: 0.4-1 l/500 l water/ha**
 All products can also be applied as dusts
- 842 *Calidea dregii* see Nezara (No. 841)
- 843 *Oxycaenus hyalinipennis* **9** **D 5%: 20-30 kg/ha**
 22 **D 10%: 40-50 kg/ha**
- 844 *Dysdercus fasciatus* see Nezara (No. 841)
- 845 *Helopeltis schoutedeni* see Nezara (No. 841)
- On foliage and bolls when caterpillars appear
- On foliage and bolls when bugs appear
- When bugs are seen on half opened bolls

Pest	Product	Formulation and Dosage	Where and when to apply
846 <i>Scyphophorus interstitialis</i>	7	D 2%: 20-30 kg/ha	In bulbil nurseries: Broadcast on soil surface
	39	D 1%: 20-30 kg/ha	
7 10 13, 15	7	D 2%: 20-25 g/plant	In newly-transplanted areas: Apply the dust on the plants before planting and in the planting hole
	10	D 5%: 20-25 g/plant	
	13, 15	D 1%: 20-25 g/plant (At 25 g a plant and 5000 plants a hectare, dust treatment requires 125 kg of dust/ha)	
7 13, 15	7	ES 20%: 1.5 l/100 l water = 150 cc/plant	Immediately after planting, apply the liquid directly on the plant, so that it runs down into the soil and around the underground parts of the plant (750 l of insecticide liquid are sufficient to treat one hectare with 5000 plants)
	13, 15	ES 20%: 750-1000 cc/100 l water = 150 cc/plant	
13	ES 20%: 12 l/100 l water	Before planting, soak the lower third of plants for 10-15 minutes in the liquid	
Keep Sisal areas cleared of old, broken plants (old, broken plants are breeding places for weevils)			

Preventive measures:
Chemical treatment of boles as toxic traps:

- | | | |
|-------------------|---------------------------------------|--|
| 27, 28, 39 | ES 25%: 150 cc/10 l water | Strip leaves from old boles. Cut away the top part (approx. 1/5) and treat the plane section with the emulsion. Protect against the sun with leaves, paper etc. Repeat the treatment every 2 weeks, first cutting away the top surface (3-5 cm) each time (approx. 10 boles per hectare) |
| 27, 28, 39 | ES 25%: 500-750 cc/100 l water | Split old sisal boles and place them on the soil surface with treated plane section downwards. Poison baits last only about 10 days, so baits must be renewed regularly |

Hibiscus or Roselle (*Hibiscus Sabdariffa*)

Pest	Product	Formulation and Dosage	Where and when to apply
847 <i>Agrilus acutus</i>	9, 12 39	D 10%: 30-40 kg/ha ES 25%: 1.5-2 l/750 l water/ha	On foliage and stems when beetles appear. Repeat after 2-3 weeks On stems when these show symptoms of damage
848 <i>Dysdercus fasciatus</i>	see Nezara (No. 841)		On foliage and stems when bugs appear
849 <i>Phenacoccus hirsutus</i>	see Planococcus (No. 19) and Ferrisia (No. 72)		
850 <i>Pandemis heparana</i>	34, 39 see also Leucoplema (No. 28)	ES 25%: 1 l/750 l water/ha	On foliage when damage is visible
851 <i>Syllepta derogata</i>	see Syllepta (No. 801)		
852 <i>Ecpantheria hambletoni</i>	see Thosea (No. 318)		
853 <i>Empoasca devastans</i>	see Empoasca (No. 814)		
854 <i>Aphis (Cerosipha) gossypii</i>	see Aphis (No. 818)		
855 <i>Oxycarenus hyalinipennis</i>	9 see also Oxycarenus (No. 843)	WP 50%: 5 kg/750 l water/ha	On foliage when bugs appear
856 <i>Mylabris pustulata</i>	22	D 5%: 30-40 kg	On flowers and buds when beetles appear
857 <i>Calidea dregii</i>	see Nezara (No. 841)		

- | | | | | | |
|-----|------------------------------|---|------------------------------|--------------------|---------------------------------------|
| 858 | <i>Paralixus truncatulus</i> | ♀ | see also Paralixus (No. 688) | D 10%: 30-40 kg/ha | On leaves and stems when pests appear |
| 859 | <i>Dasychira mendosa</i> | ♀ | see also Dasychira (No. 632) | D 10%: 30-40 kg/ha | On foliage when caterpillars appear |
| 860 | <i>Acraea zetes</i> | | see Dasychira (No. 859) | | |
| 861 | <i>Hypena lividalis</i> | | see Dasychira (No. 859) | | |

Jute (*Corchorus capsularis* and *C. olitorius*)

Pest	Product	Formulation and Dosage	Where and when to apply
862 <i>Meloidogyne incognita</i>	Crop rotation see Meloidogyne (No. 304)		
863 <i>Apion corchori</i>	9	D 10%: 15 kg/ha	On foliage and stems when weevils appear. Repeat after 2 weeks
	12	WP 50%: 5 kg/500 l water/ha	
	13	ES 20%: 1 l/500 l water/ha (Apply also against Jute stem girdler: <i>Nupserha bicolor post-brunnea</i> Dutt.)	
864 <i>Trachys pacifica</i>	27, 39	ES 25%: 500 cc/500 l water/ha	On foliage when first mines are visible
865 <i>Diacrisia obliqua</i>	see Thosea (No. 318)		
866 <i>Cosmophila sabulifera</i>	9	D 10%: 30 kg/ha	On foliage when caterpillars appear
867 <i>Prodenia litura</i>	see Heliothis (No. 826) and Prodenia (No. 837)		
868 <i>Tetranychus urticae</i>	see Tetranychus (No. 820)		

869 <i>Ancylonotus tribulus</i>	see Anthores (No. 10) and Steirastoma (No. 58)	Treat the trunk, twice a year
870 <i>Tragischoschema nigroscriptum</i>	see Steirastoma (No. 58)	
871 <i>Glenea cantor</i>	see Steirastoma (No. 58)	
872 <i>Glenea novemguttata</i>	see Steirastoma (No. 58)	
873 <i>Planococcus citri</i>	see Planococcus (Nos. 100 and 692)	
874 <i>Tetranychus urticae</i>	39 ES 25%: 1 l/1000 l water	On foliage when first signs of damage are seen
875 <i>Myzodes persicae</i>	9 WP 50%: 5 kg/1000 l water see also Myzodes (No. 717)	When aphids appear on leaves and shoots
876 <i>Dichocrocis punctiferalis</i>	see Dichocrocis (No. 640)	On pods when the moths are on the wing or as soon as the first signs of damage are detected. Repeat after 2-3 weeks
877 <i>Mudaria variabilis</i>	see Acrocercops (No. 89)	On pods when the moths are on the wing or as soon as the first signs of damage are detected. Repeat after 2-3 weeks
878 <i>Dysdercus cingulatus</i>	9 WP 50%: 2-4 kg/1000 l	On pods as soon as the bugs appear and cause damage
879 <i>Dysdercus nigrofasciatus</i>	see Dysdercus (No. 878)	

Locusts	Pest	Product	Formulation and Dosage	Where and when to apply
<i>Against hoppers in desert areas</i>	7		Bait = D 5%: 2.5 kg + 97.5 kg wheat bran or 97.5 kg broken wheat or 97.5 kg rice bran or 97.5 kg crushed millet or 97.5 kg cotton seed meal or 97.5 kg barley or 97.5 kg millet or maize meal 25-30 kg/ha	Apply poisonous bait by hand broadcast over the area
<i>Against hoppers and adults on crops</i>	9		Bait = D 5% (containing 10-13% γ-isomere): 2 kg + 98 kg wheat bran or other baits (see above) 25-30 kg/ha	Ground dusting and spraying

see Chrotogonus (Nos. 198, 663), Hieroglyphus (Nos. 207, 245), Valanga (Nos. 135, 322) and Zonocerus (Nos. 35, 705, 808)

<i>Termites on soil surface or in top soil</i>	see Hodotermes (No. 170) and Odontotermes (No. 467)	7, 16 13	WP 25%: 500-750 g/100 kg seed WP 20%: 2 kg/100 kg seed	Preventive seed treatment: Mix insecticide with the seed before sowing
<i>Termites attacking seeds</i>	see Neotermes (No. 105), Rhinotermes (No. 383), Coptotermes (No. 774) and Odontotermes (No. 257)			Apply emulsion with soil injector or lance in the root area of plants (see also Chapter III, p. 463) or pour emulsion into galleries
<i>Termites in nests</i>		9, 12	Fog solution 10%	Blow the thermal fog into an opened channel for several minutes. After treating close this channel. Repeat the treatment after 10 days
		7, 10, 13 27, 39	ES 20%: 50 cc/10 l water ES 25%: 30 cc/10 l water	Pour emulsion with a funnel and hose or watering-can into surface channels (see Chapter III, p. 463), 2-5 l per channel, depending on the size of nest

Ants

Pest	Product	Formulation and Dosage	Where and when to apply
<i>Leaf-cutting ants</i>	64	L: 20 cc per crater (by pressure cylinder)	Localize the size of the nest according to the distribution of the craters. Treat one to two craters per 10 sq.metres nest area (e.g. one nest with a size of 60 sq.m. = 12 m long and 5 m broad, needs 120-240 cc liquid). Penetrate the crater as deeply as possible with the hose of the pressure cylinder. To keep the gas in the underground system, seal around the hose with earth and close also the other surrounding craters. After the application pull out the hose and seal the hole. On sloping areas start treatment on the bottom craters. Repeat after 4 weeks if necessary
	7	ES 25%: 50 cc/10 l water	Localize the nest and the biggest and most crowded craters. Level out the crater with a hoe. Pour the emulsion through a funnel into the hose and thus into the channels. One litre per channel. Treat one crater per one sq.m. Repeat after 30-45 days if necessary
	7	D 5%: 30-50 g/crater	Localize the nest and level out the craters with a hoe. Apply the dust with a duster (through a hose) as deep as possible into the channels

10	ES 25%: 100 cc/10 l water	Localize the nest. Cut away low vegetation (bushes) around the craters and level out the crater with a hoe. Pour the emulsion through a funnel into the hose and thus as deep as possible into the channels. Apply 250-300 cc per channel. Repeat after 3-4 weeks if necessary
64	L: 4-5 cc/sq.m.	Localize the nest and the biggest and most crowded craters. Treat one crater per 4-5 sq.m. nest area. Craters near trunks and trees treat also. For other details see above
	see also Chapter III, p. 469	
16	G 2.5%: 20-25 kg/ha	Broadcast on soil surface. Repeat after 3-6 months
16	G 2.5%: 20-30 kg/ha	Broadcast on soil surface. Repeat if necessary
7, 16	WP 25%: 500 g/100 kg seed	Seed-treatment: Mix insecticide with the seed before sowing
13	WP 50%: 1-2 kg/100 l water	Ant tracks-treatment: Spray the trunk and soil beneath the tree. Repeat after 4-5 weeks if necessary
	ES 20%: 3-5 l/100 l water	Impregnate paper strip (30 cm broad) and wrap the trunk with it
7, 9, 16	ES 25%: 30-50 cc/10 l water	Earth-nest-treatment: Pour emulsion with a funnel or watering-can into the nest entrances. 2-5 l per nest, depending on its size
		<i>Fire ants</i> (Argentine ant)
		<i>Harvesting ants</i>
		<i>Indirect injurious ants</i>

Pest	Product	Formulation and Dosage	Where and when to apply
27, 34, 39		ES 25%: 20 cc/10 l water	Earth-nest-treatment: Pour emulsion with a funnel or watering-can into the nest entrances. 2-5 l per nest, depending on its size
		see also <i>Solenopsis</i> (No. 469)	
		see <i>Oecophylla</i> (No. 36) and <i>Azteca</i> (No. 82)	Tree nest-treatment: Spray the nest and the surrounding foliage
Other pests			

Snails and Slugs

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Bait = 100 g + wheat bran 5 kg
+ water 5-6 l

(Metaldehyde and wheat bran are mixed dry then the water is added to make a crumbly mash)

Spread the poisonous bait where snails and slugs appear