

Fruits

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FRUITS

Pineapple

Date-palm

Banana

Papaw

Mango

Citrus

Pineapple (*Ananas sativus*)

Pest	Product	Formulation and Dosage	Where and when to apply
381 <i>Meloidogyne</i> sp.	Crop rotation 143 see also Radopholus (No. 382)	L: 200-250 l/ha ES: 25 l/ha	Pre-planting treatment of the soil. Apply the fumigant in rows 30 cm apart at a depth of 15-25 cm in well moistened soil, which should be rolled after treatment
382 <i>Radopholus similis</i>	Crop rotation 152	ES: 25 l/ha	Post-planting treatment of the soil (to established plants less than 8 months old). Method see No. 381
383 <i>Rhinotermes intermedius</i>	13 27	ES 20%: 250-500 cc/100 l water ES 20%: 300-400 cc/100 l water	Pour emulsion into the galleries; 0.5-1 l for each plant or on the base of the plant
384 <i>Dysmicoccus brevipes</i>	27, 33.6 39 47	ES 60%: 150 cc/100 l water ES 20%: 200-250 cc/100 l water ES 25%: 1000 cc/1000 l water	Dip planting material before setting 100-250 cc emulsion to the base of the plant; repeat after 4 weeks if necessary
385 <i>Holopothrips ananasi</i>	12 33.10	D 5% ES 25%: 100-150 cc/100 l water	On foliage especially in leaf base
386 <i>Planococcus citri</i>	27, 39 25	ES 25%: 100-150 cc/100 l water ES 50%: 100 cc/100 l water	On foliage when pests appear; repeat at fortnightly intervals
387 <i>Diaspis bromeliae</i>	27, 39 35	ES 20%: 200 cc/100 l water ES 20%: 300 cc/100 l water	On the attacked parts of the plant; repeat after 10 days
388 <i>Metamasius ritchiei</i>	12 13, 53	D 5% WP 50%: 250-300 g/100 l water	On leaves, fruit stalks and fruits when weevils appear

389	<i>Cholus</i> sp.	see Metamasius (No. 388)		Dust or spray on fruits when pests appear
390	<i>Atherigona</i> sp.	12, 18	D 10%	On fruits
391	<i>Thecla basilides</i>	12	D 10% WP 50%: 300 g/100 l water	On fruits when moths are on the wing
392	<i>Tmolus echion</i>		see Thecla (No. 391)	

Date-palm (*Phoenix dactylifera*)

Pest	Product	Formulation and Dosage	Where and when to apply
393 <i>Rhynchophorus phoenicis</i>	see <i>Rhynchophorus</i> (No. 568)		
394 <i>Ommatissus binotatus</i>	25 27, 39 35 42	ES 50%: 500 cc/500 l water ES 20%: 150 cc/100 l water ES 50%: 625 cc/500 l water ES 50%: 200 cc/500 l water	When 50-75% of the eggs are hatched
395 <i>Parlatoria blanchardii</i>	27 35 39	ES 60%: 100 cc/100 l water WP 25%: 400 g/100 l water ES 50%: 100 cc/100 l water	On foliage when pests appear Repeat after 2 weeks
396 <i>Pseudococcus</i> sp.	27, 39	ES 20%: 100-150 cc/100 l water	On fruit stems
397 <i>Batrachedra amydraula</i>	12 27 12 + 27	WP 50%: 1 kg/375 l water ES 10% (Oil-ES-Springwash): 500 cc/100 l water WP 50%: 1 kg + WP 25%: 1.2 kg/ 375 l/water	Apply 1-2 l of the spray per date- bunches one week after pollination. Re- peat after 15-25 days. (The dates spray- ed with DDT-insecticides should not be eaten before 30 days after last spray)
398 <i>Myelois decolor</i>	27 31 53	ES 60%: 800 cc/800 l water ES 20%: 2.5 l/500 l water WP 50%: 1 kg/500 l water	Spray when first signs of damage are seen (comp. the flight period)
399 <i>Ephesia cautella</i>	see <i>Batrachedra</i> (No. 397)		Spray when first signs of damage are seen
400 <i>Paratetranychus afrasiaticus</i>	see <i>Paratetranychus</i> (No. 401)		
401 <i>Paratetranychus simplex</i>	82	D: 100 g/tree WP 75%: 2.5 kg/500 l water	On those dates which are to be eaten fresh When red spiders appear on date bunches; for dates which are to be packed or those to be collected from the trees after they are dry

402	<i>Meloidogyne</i> sp.	see Meloidogyne (No. 101)			
403	<i>Radopholus similis</i>	Hot water: 55°C	ES 25%: 1.2 l/1000 l water		As preventive measure: Dip the planting material in the water for 20 minutes To the established plants
404	<i>Pratylenchus coffeae</i>	see Pratylenchus (No. 3) and Radopholus (No. 403)			
405	<i>Rotylenchus multicinctus</i>	see Radopholus (No. 403)			
406	<i>Odoiporus longicollis</i>	ES 20%: 300 cc/100 l water see Cosmopolites (No. 407)			Apply the insecticide to pseudostem; 2-3 applications per year 500-600 cc
407	<i>Cosmopolites sordidus</i>	D 0.5%:			Dust soil surface around base
		ES 20%: 1800 cc/600 l water			Apply spray to the base of stem to a height of about 30 cm and the surrounding 20-30 cm of soil. 2-3 applications per year
		ES 20%: 250 cc/100 l water			Pieces of pseudostems are used to attract the weevils. They may be either slices across the stem or split lengthwise and 40-50 cm long. These baits are placed on the ground, treated with the insecticide and covered with trash. They are left in position for three weeks. Fresh pieces of stem are then placed in the same way. Baits inspected weekly can be used to obtain some idea of the degree of infestation in a banana area
		G 10%: 25 kg/ha			Apply the granular to the ground around stems Repeat 2-3 times at monthly intervals

Pest	Product	Formulation and Dosage	Where and when to apply
408 <i>Tommoschoita nigroplagiata</i>	see Cosmopolites (No. 407)		
409 <i>Metamasius hemipterus</i>	see Odoiporus (No. 406)		
410 <i>Casnia atymnius humboldti</i>	see Odoiporus (No. 406)		Apply the spray to lower part of pseudo-stem. 2-3 applications per year
411 <i>Stephanitis typicus</i>	27, 39	ES 20%: 1 l/1000 l water	On first signs of damage
412 <i>Pentalonia nigronervosa</i>	27, 28, 29, 39, 47, 48, 42 (dig out and destroy the Bunchy top V-infected plants)	ES 20%: 800-1000 cc/1000 l water S 100%: 300 cc/ha	When pests appear
413 <i>Pseudococcus comstocki</i>	27, 34, 39, 46	ES 20%: 1-1.5 l/1000 l water	When pests appear. Repeat after 10 days if necessary
414 <i>Lamprosema octosema</i>	12, 22	ES 25%: 6-8 l/1000 l water	Apply on bunch with the youngest 5 leaves when it is about half as high as it will become in the erect position
415 <i>Colaspis hypochlora</i>	12	WP 50%: 2 kg/1000 l water	On foliage, when pests appear
416 <i>Hieroxestis subcervinella</i>	13	D 2% ES 20%: 300-400 cc/1000 l water	On bunches, when first signs of damage are seen. Apply at three-weekly intervals
417 <i>Zonocerus variegatus</i>	see Zonocerus (No. 35)		
418 <i>Dacus curvipennis</i>	see Lamprosema (No. 414)		On bunches (ripening fruits) when first signs of damage are seen. Repeat after 2 weeks

419 *Scirtothrips*
signipennis

see Selenothrips (No. 85)

When pests appear, apply at 6 weekly intervals on bunches and the throats, stems and bases of parent plants and suckers, and the surrounding soil

420 *Aspidiotus destructor*

27, 33, 34, 39, 43

ES 25%: 1-1.5 l/1000 l water

On attacked plant parts. Repeat after 3 weeks

420a *Oiketicus kirbyi*
or other leaf-
feeding caterpillars

13
22

ES 20%: 4 kg/ha
WP 25%: 8 kg/ha

When caterpillars appear

Papaw (*Carica papaya*)

Pest	Product	Formulation and Dosage	Where and when to apply
421 <i>Rhabdocnemis obscura</i>	9, 13	WP 50%: 300-500 g/100 l water	On trunks when weevils appear
422 <i>Gryllotalpa africana</i>	13 see also <i>Gryllotalpa</i> (No. 7) (Bait)	WP 50%: 300 g/100 l water	Spray the lower part of young trunks. Broadcast on soil surface
423 <i>Planococcus citri</i>	27, 39	ES 25%: 150 cc/100 l water	On trunks when pests appear; repeat after 2 weeks
424 <i>Morganella longispina</i>	35	ES 50%: 125-150 cc/100 l water	On trunks when pests appear; repeat after 2 weeks
425 <i>Diacrisia investigatorum</i>	12 13	WP 50%: 200 g/100 l water WP 20%: 200 g/100 l water	On foliage, when caterpillars appear
426 <i>Pergandeida robiniae</i>	see <i>Pergandeida</i> (No. 669)		
427 <i>Dacus pedestris</i>	12, 18 see <i>Ptecticus</i> (No. 428) and <i>Ceratitis</i> (No. 523)	WP 50%: 200-250 g/100 l water	On ripening fruits when flies are on the wing or when first signs of damage are seen. Repeat after 2 weeks if necessary
428 <i>Ptecticus elongatus</i>	12	D 10%	On fruits when first signs of damage are seen

429	<i>Batocera rufomaculata</i>	see Anthores (No. 10)		On trunk and branches when beetles appear
430	<i>Squamura tetraonis</i>		12 13	On trunk when moths are on the wing or when first signs of damage are seen
				ES 25%: 2 l/100 l water ES or WP 20%: 750-1000 g/100 l water
431	<i>Dinoderus distinctus</i>	see Squamura (No. 430)		On branches and twigs when pests appear
432	<i>Rhytidodera similans</i>		13	On branches when beetles appear
				ES or WP 20%: 1.5-2 l/100 l water
433	<i>Drosicha stebbingii</i>		27, 39	When mealybugs are seen on shoots, flowers and fruits
				ES 25%: 2 l/1000 l water
434	<i>Bombotelia jocosatrix</i>		12	On foliage, when caterpillars appear
				WP 50%: 3-4 kg/1000 l water
435	<i>Rhynchaenus mangiferae</i>		39 42	On foliage when first signs of damage are seen
				ES or WP 25%: 1-1.5 kg/1000 l water ES 50%: 1000 cc/1000 l water
436	<i>Deporaus marginatus</i>	see Rhynchaenus (No. 435)		
437	<i>Stathmopoda</i> sp.	see Leucoptera (No. 25)		On foliage when first signs of damage are seen
438	<i>Orthaga exvinacea</i>		12	On foliage when first signs of damage are seen
				ES 25%: 500 cc/100 l water
439	<i>Parasa lepida</i>		12	On foliage when young caterpillars appear
				WP 50%: 400 g/100 l water
440	<i>Nutaurelia zambesina</i>	see Stathmopoda (No. 437) Orthaga (No. 438) and Parasa (No. 439)		On foliage when young caterpillars appear

Pest	Product	Formulation and Dosage	Where and when to apply
441 <i>Cricula trifenestrata</i>	see Stathmopoda (No. 437) and Parasa (No. 439)		
442 <i>Selenothrips rubrocinctus</i>	25 33.4 42	ES 50%: 1 kg/1000 l water ES 50%: 1.5 kg/1000 l water ES 50%: 0.5-0.75 kg/1000 l water see also Selenothrips (No. 85) and Scirtothrips (No. 527)	On foliage when first signs of damage are seen. Repeat after one week
443 <i>Pseudococcus adonidum</i>	27, 34, 39	ES 25%: 1.5-2 l/1000 l water	On foliage when pests appear. Soaking spray needed. Repeat after 3-4 weeks
444 <i>Ferrisia virgata</i>	see Ferrisia (No. 72)		
445 <i>Coccus mangiferae</i>	35 27, 39	ES 25%: 4 l/1000 l water ES 25%: 1.5 l/1000 l water see also Saissetia (No. 488)	When scales appear; repeat after 2-3 weeks. Soaking spray needed
446 <i>Coccus hesperidum</i>	see Coccus (No. 445) and Saissetia (No. 488)		
447 <i>Eucalymnatus tessellatus</i>	see Coccus (No. 445) and Saissetia (No. 488)		
448 <i>Phenacaspis cockerelli</i>	35	WP 25%: 4 kg/1000 l water	When scales appear; repeat after 2-3 weeks. Soaking spray needed
449 <i>Apsylla cistellata</i>	12 39, 48	WP 50%: 5 kg/1000 l water WP 25%: 2 kg/1000 l water	On foliage and shoots against the adults in March, against the nymphs in September
450 <i>Scirtothrips mangiferae</i>	27, 40	ES 25%: 750-1000 cc/1000 l water	On first signs of damage
451 <i>Erosomyia mangiferae</i>	28	ES 40%: 1 l/1000 l water	On first signs of damage

452	<i>Idiocerus clypealis</i>	12 33.10	WP 50%: 5 kg/1000 l water ES 50%: 500-750 cc/1000 l water	As soon as the inflorescence appears. Repeat after 3-4 weeks
453	<i>Idiocerus atkinsoni</i>		see <i>Idiocerus</i> (No. 452)	
454	<i>Idiocerus niveosparvus</i>		see <i>Idiocerus</i> (No. 452)	
455	<i>Saissetia coffeae</i>	27, 34, 39 35	WP or ES 25%: 1.5-2 kg/1000 l water WP 25%: 4 kg/1000 l water see also <i>Saissetia</i> (No. 488)	On foliage and fruits when young scales appear; repeat after 2 weeks
456	<i>Coccus viridis</i>		see <i>Saissetia</i> (No. 455)	When scales appear
457	<i>Ceroplastes rubens</i>		see <i>Ceroplastes</i> (No. 487)	When scales appear
458	<i>Cryptorrhynchus</i> (<i>Sternochetus</i>) <i>mangiferae</i>	12 27 34, 40 13	WP 50%: 2.5 kg/1000 l water WP 25%: 1 kg/1000 l water WP or ES 25%: 1.5 kg/1000 l water WP 20%: 3 kg/1000 l water	On young fruits and foliage, when first signs of damage are seen
459	<i>Cryptorrhynchus</i> <i>gravis</i>		see <i>Cryptorrhynchus</i> (No. 458)	
460	<i>Philotroctis</i> <i>eutraphera</i>		see <i>Cryptorrhynchus</i> (No. 458)	On foliage and fruits when moths are on the wing
461	<i>Ceratitis cosyra</i>	12 27 33.6, 33.10	WP 50%: 2 kg/500 l water WP 25%: 500-750 g/500 l water ES 60%: 750 cc/500 l water see also <i>Ceratitis</i> (No. 523)	Apply as cover spray at fortnightly intervals during active season of fruit flies As cover spray and against the young larvae which have penetrated the fruits
462	<i>Dacus ferrugineus</i> <i>tryoni</i>		see <i>Ceratitis</i> (No. 461)	
463	<i>Anastrepha chicalayae</i>		see <i>Ceratitis</i> (No. 461)	
464	<i>Amblypelta lutescens</i>		see <i>Pseudotheraptus</i> (No. 604)	On foliage and fruits as cover spray

Citrus (*Citrus* sp.)

Pest	Product	Formulation and Dosage	Where and when to apply
465 <i>Tylenchulus semipenetrans</i>	Warm water 45°C: 152 see also <i>Aphelenchoides</i> (No. 563)	ES: 100 l/ha (No. 563)	Dip the infected roots of young trees for 25 minutes before planting Treat the plants in the field (soil injection) or with irrigation-water 15-20 cm deep
466 <i>Radopholus similis</i>	see <i>Tylenchulus</i> (No. 465)		
467 <i>Odontotermes obesus</i>	13	G 5%: 10-20 g/sq.m ES 20%: 500-1000 cc/100 l water	To soil surface and work in 15-25 cm Apply to the base of trunk and to roots
468 <i>Lachnosterna citri</i>	10	G or D 10%: 10 g/sq.m	To soil surface and work in 10-15 cm
469 <i>Solenopsis geminata</i>	13, 17, 27	ES 20%: 200-300 cc/100 l water	On foliage, trunk and into the small holes in the earth (several litres)
470 <i>Agrilus occipitalis</i>	see <i>Macrophora</i> (No. 472)		On trunk; two applications (June and August)
471 <i>Agrilus auriventris</i>	see <i>Macrophora</i> (No. 472)		do.
472 <i>Macrophora accentifer</i>	13	ES 20%: 2.5 l/100 l water	On trunk; two applications per year
473 <i>Melanauster chinensis</i>	see <i>Macrophora</i> (No. 472)		
474 <i>Cratosomus punctulatus</i>	see <i>Macrophora</i> (No. 472)		

475 <i>Ephestia vapidella</i>	12 13, 15 25	WP 50%: 300 g/100 l water ES 20%: 250 cc/100 l water ES 50%: 200 cc/100 l water	On trunk when first signs of damage are seen; repeat after 3-4 weeks
476 <i>Apate monachus</i>		see Chreostes (No. 12)	
477 <i>Squamura tetraonis</i>		see Squamura (No. 430)	
478 <i>Diploschema rotundicolle</i>	13, 15	ES 20%: 1.2-1.5 l/100 l water	On branches and twigs in January; repeat after 4 weeks
479 <i>Eurytoma fellis</i>	Cut off and burn galls 28 39	ES 40%: 100-200 cc/100 l water ES 50%: 100 cc/100 l water	On young stems when first signs of damage are seen
480 <i>Nezara viridula</i>		see Nezara (No. 841)	
481 <i>Rhynchocoris humeralis</i>		see Rhoecocoris (No. 483)	
482 <i>Biprorulus bilax</i>		see Rhoecocoris (No. 483)	
483 <i>Rhoecocoris sulciventris</i>	12 13 31 35 * 39 42	ES 20%: 1.25 l/500 l water ES 25%: 1.5 l/500 l water ES 20%: 3 l/500 l water ES 50%: 750 cc/500 l water WP 25%: 1 kg/500 l water ES 50%: 500 cc/500 l water	On foliage and shoots in June and July. During spring and early summer combined with spring fungicidal sprays (* only combine with neutral copper fungicides)
484 <i>Mictis profana</i>		see Rhoecocoris (No. 483)	
485 <i>Distantiella collarti</i>		see Distantiella (No. 93) and Rhoecocoris (No. 483)	
486 <i>Aphis spiraeicola</i>	27, 28, 36, 39, 41, 42, 48 35	ES 20%: 500 cc/500 l water WP 25%: 1-2 kg/500 l water	When pests appear in large numbers

Pest	Product	Formulation and Dosage	Where and when to apply
487 <i>Ceroplastes floridensis</i>		Washing soda + Oil 12.5 kg + white oil : 450 cc/ 500 l water	When scales have settled on twigs; repeat after 2-3 weeks
	27	ES 25%: 1 l/500 l water	Apply spray when young scales have emerged from the eggs and have settled on the leaves. Repeat after 2-3 weeks
	35	WP 25%: 2 kg/500 l water	
	39	ES 50%: 500 cc/500 l water	
488 <i>Saissetia nigra</i>	35 + 60	WP 25%: 2 kg + white oil : 6.25 l/500 l water	When young scales appear; repeat after 3 weeks
	39 + 60	WP 25%: 750 g + white oil : 6.25 l/500 l water	
		Ant-control may be a necessary supplementary measure see also Coccus (No. 445) and Saissetia (No. 455)	
489 <i>Icerya purchasi</i>		see Saissetia (No. 488)	
490 <i>Drosicha stebbingii</i>	27	ES 25%: 1 l/500 l water	When mealybugs are seen on shoots
	39	ES 50%: 500 cc/500 l water	
491 <i>Pinnaspis</i> sp.	82 (Disp. sulphur) see Saissetia (Nos. 455, 488) and Unaspis (No. 507)	WP: 4 kg/1000 l Bordeaux mixt.	In spring, when scales appear, i.e. just as buds are swelling
492 <i>Diaprepes abbreviatus</i>	12	WP 50%: 1-1.5 kg/500 l water	When pests appear
493 <i>Maleuterpes dentipes</i>		see Diaprepes (No. 492)	When pests appear
494 <i>Phyllocnistis citrella</i>	27	ES 25%: 1 l/1000 l water/ha	On foliage when first signs of damage are seen
	39	ES 50%: 500 cc/1000 l water/ha	
495 <i>Sparganothis stultana</i>	12	WP 50%: 1-1.5 kg/500 l water	On foliage when first signs of damage are seen
	13	WP 25%: 1 kg/500 l water	
	39	WP 25%: 500 g/500 l water	

496	<i>Papilio demoleus</i>	12 33.6	WP 50%: 3 kg/1000 l water ES 50%: 1-1.5 kg/1000 l water	On foliage when young caterpillars appear
497	<i>Oecophylla smaragdina</i>		see <i>Oecophylla</i> (No. 36)	On foliage
498	<i>Atta insularis</i>		see Chapter III, p. 469 and Chapter V, p. 136	
499	<i>Spanioza erythraea</i>	25 28 34, 39, 48	ES 50%: 2 kg/1000 l water ES 40%: 500 cc/1000 l water ES 25%: 1 l/1000 l water	On foliage when first signs of damage are seen; repeat after 2 weeks, if necessary
500	<i>Scirtothrips citri</i>		see <i>Spanioza</i> (No. 499)	
501	<i>Aleuracanthus woglumi</i>	28, 33.10 35 39 42 60	ES 40%: 1 l/1000 l water ES 25%: 3 l/1000 l water ES 50%: 500-750 cc/1000 l water ES 50%: 1.4 kg/1000 l water White oil: 12 l/1000 l water	On foliage when underside of leaves show black, oval scales and first signs of damage are seen. Repeat after 2 weeks
502	<i>Aleurotrachelus citri</i>		see <i>Aleuracanthus</i> (No. 501)	
503	<i>Toxoptera citricida</i>		see <i>Toxoptera</i> (No. 87)	When pests appear
504	<i>Toxoptera aurantii</i>		see <i>Toxoptera</i> (No. 87)	
505	<i>Parlatoria pergandii</i>		see <i>Aonidiella</i> (No. 535)	
506	<i>Coccus hesperidum</i>		see <i>Coccus</i> (No. 445) (Ant-control; 13 WP 50%: 1 kg/100 l water)	When scales appear (Ants swarming on trees indicate presence of scales) (Spray the trunk and soil beneath the tree)
507	<i>Unaspis citri</i>	39	ES 25%: 1.25 kg/1000 l water see also <i>Saissetia</i> (No. 488)	Treat the centres of the trees, the spray being directed from the inside outwards (during dormant period). Post bloom

Pest	Product	Formulation and Dosage	Where and when to apply
508 <i>Anychus latus</i>	27, 39, 48, 72 49 68, 68.1 70 73	ES 25%: 1 l/1000 l water WP 25%: 1.2 kg/1000 l water WP 25%: 1.25 kg/1000 l water WP 25%: 3 kg/1000 l water WP 25%: 2 kg/1000 l water	On foliage when first signs of damage are seen. Soaking spray needed. Repeat after 1 week, if necessary
509 <i>Metatetranychus citri</i>	see Anychus (No. 508)		
510 <i>Tetranychus urticae</i>	see Anychus (No. 508)		
511 <i>Aceria sheldoni</i>	42, 33.10 82 (Lime sulphur) 82 (Colloidal or dispers. sulphur) 68, 68.1	ES 50%: 1-1.5 kg/1000 l water L: 5 kg/400 l water WP: 4 kg/1000 l water ES 50%: 600-900 cc/1000 l water	Over the whole tree when shoot growth commences, or late in dormant season just as buds are swelling or after the crop has been harvested When buds are swelling. Repeat fortnightly
512 <i>Diaphorina citri</i>	27 35 39	ES 25%: 1 l/1000 l water (20 l/tree) ES 50%: 1 l/1000 l water ES 20%: 1 l/1000 l water	As soon as adults appear on shoots. Repeat after 2 weeks
513 <i>Tropinota vittula</i>	22	WP 50%: 2.5 kg/1000 l water	When beetles appear
514 <i>Prays citri</i>	25, 42 27	ES 50%: 1 l/1000 l water ES 25%: 1-1.5 l/1000 l water see also Tropinota (No. 513) and Prays (No. 569)	On first signs of damage
515 <i>Pachnaeus litus</i>	12	WP 50%: 2 kg/1000 l water	On foliage and young fruits when weevils appear
516 <i>Maleuterpes spinipes</i>	see Pachnaeus (No. 515)		

517	<i>Argyrotaenia citrana</i>	11 12 25 39 41 42	WP 50%: 1 kg/1000 l water WP 50%: 2-4 kg/1000 l water ES 50%: 750 cc/1000 l water WP 25%: 2 kg/1000 l water WP 25%: 750-1000 g/1000 l water ES 50%: 1 kg/1000 l water	On foliage and fruits when first signs of damage are seen or before young caterpillars penetrate the fruits (waiting period between treatment and harvest: 2 weeks)
518	<i>Argyroploce leucotreta</i>		see <i>Argyrotaenia</i> (No. 517)	
519	<i>Citripestis sagittiferella</i>		see <i>Argyrotaenia</i> (No. 517)	
520	<i>Cryptoblabes gnidiella</i>		see <i>Argyrotaenia</i> (No. 517)	
521	<i>Ophideres fullonia</i>	12	WP 50%: 6.25 kg/1000 l water	On ripening fruits, i.e. when first fruit-fall is observed. Repeat fortnightly during the active season of the moth
522	<i>Achaea lienardi</i>		see <i>Ophideres</i> (No. 521)	
523	<i>Ceratitis capitata</i>	12 18 23 33.6, 33.10, 42	WP 50%: 5 kg/500 l water WP 50%: 5 kg/500 l water ES 25%: 1 l/500 l water ES 50%: 0.75-1 kg/500 l water	As cover spray: Apply a cover spray so as to wet as much of the foliage and fruit as possible without undue over-flow. The spray should be aimed at the inner side of the tree canopy. Apply at 3-4 weekly intervals during active season of fruit fly (see also Chapter II, p. 43)
		27 + 86	WP 40%: 75 g + yeast: 1 kg/ 3 l water	Application by aircraft 40 l/ha, 4 applications per season

Pest	Product	Formulation and Dosage	Where and when to apply
523 <i>Ceratitis capitata</i>	23	WP 25%: 1 kg + dry sol. fish albumen: 3 kg/500 l water ES 25%: 1 l + sugar: 37.5 kg/500 l water	Apply the bait in the form of large drops at least once weekly. Repeat the application after rain. Begin applying the bait about six weeks before the fruit begins to ripen and continue to do so (except during the safe and picking periods) until approximately 3 weeks after the crop has been gathered (Per tree: 150-500 cc of bait, depending on size)
	31	WP 50%: 500 g + sugar: 37.5 kg/500 l water WP 50%: 500 g + dry sol. fish albumen: 3 kg/500 l water	
	35	WP 25%: 1 kg + sugar: 37.5 kg/500 l water WP 25%: 1 kg + dry sol. fish albumen: 3 kg/500 l water	
	25	ES 50%: 3 l + yeast hydrolisate: 1.5 kg/500 l water ES 50%: 3 l + sugar: 37.5 kg/500 l water ES 50%: 3 l + sugar: 37.5 kg/500 l water	Apply the spray with spray pump fitted with a coarse nozzle. The bait can be splashed on foliage with a whitewash brush or applied through a container with a perforated lid such as a shaker-topped bottle
524 <i>Dacus ornatissimus</i>	see Ceratitis (No. 523)		
525 <i>Anastrepha ludens</i>	see Ceratitis (No. 523)		
526 <i>Vespa orientalis</i>	see Ophideres (No. 521)		
527 <i>Scirtothrips aurantii</i>	35 39, 48 42	ES 50%: 750-1000 cc/1000 l water ES 20%: 750-1000 cc/1000 l water ES 50%: 250-500 cc/1000 l water	When $\frac{1}{2}$ - $\frac{3}{4}$ petals have fallen; repeat after 4 weeks

528	<i>Heliothrips</i> <i>haemorrhoidalis</i>	see Scirtothrips (No. 527)		
529	<i>Leptoglossus zonatus</i>	12 35	WP 50%: 4 kg/1000 l water ES 50%: 1 l/1000 l water	On young fruits and foliage when pests appear
530	<i>Planococcus citri</i>	27 35 39	ES 25%: 1.25-1.5 l/1000 l water ES 20%: 3 l/1000 l water ES 50%: 500-750 cc/1000 l water	When white colonies of mealybugs are seen in large numbers. Soaking spray is necessary. Repeat after 3-4 weeks
531	<i>Aspidiotus hederae</i>		see Lepidosaphes (No. 538)	
532	<i>Chrysomphalus</i> <i>dictyospermi</i>		see Aonidiella (No. 535)	
533	<i>Chrysomphalus ficus</i>	35	see Aonidiella (No. 535)	On foliage and fruits when scales are visible. Soaking spray is necessary. Repeat after 2 weeks
534	<i>Chrysomphalus</i> <i>pinnulifer</i>		see Aonidiella (No. 535)	
535	<i>Aonidiella aurantii</i>	22.5 27 27 + 60 35 35 + 60 39	ES 50%: 1.25 kg/1000 l water WP 25%: 3 kg/1000 l water (also combined with white oil 1 : 80 or 1 : 40) ES 60%: 1.5 kg + white oil 12.5-20 kg/1000 l water WP 25%: 5-6 kg/1000 l water ES 50 + : 3 l + white oil: 12.5 l/1000 l water (Ant control: 13 WP 50%: 1 kg/100 l water: treatment of the nests or of the base of the plant and soil below) ES 50%: 1-1.5 l/1000 l water (and also combined with white oil: 1 : 80 or 1 : 40)	Post bloom treatment When young twigs and foliage are infested (Double spray programme; repeat after 2 weeks) Before spraying it may be advisable to prune out all spent, dead wood from inside the trees so that they may be easily and completely sprayed. Soaking spray is necessary: 35-45 l for a well-grown tree (3 m high)

Pest	Product	Formulation and Dosage	Where and when to apply
536 <i>Selenaspidus articulatus</i>	see Aonidiella (No. 535)		
537 <i>Parlatoria ziziphi</i>	see Aonidiella (No. 535)		
538 <i>Lepidosaphes gloverii</i>	see Aonidiella (No. 535)		When scales appear; repeat after 3 weeks
539 <i>Lepidosaphes beckii</i>	see Lepidosaphes (No. 538)		
540 <i>Unaspis yanonensis</i>	see Lepidosaphes (No. 538)		
541 <i>Phyllocoptropa oleivorus</i>	68	ES 50%: 600 cc/1000 l water	Post bloom treatment. Repeat in summer and autumn.
	82 (Lime sulphur + wett. sulphur)	20 kg + 5 kg/1000 l water	3 weeks after flowers have dropped. When rust mites appear on leaves and fruits
	(Colloidal or dispers. sulphur)	WP: 4 kg/1000 l water	When fruit is 1-2 cm in diameter
	(Sulphur-dust)	D: 50-80 kg/ha	As soon as presence of mites is established. Post bloom and later. Repeat at weekly intervals
60		White oil-ES: 25 kg/1000 l water	When fruit is 1-2 cm in diameter
Zineb		WP 65%: 1.2 kg/1000 l water	On first signs of damage