

Zeitschrift: Acta Tropica
Herausgeber: Schweizerisches Tropeninstitut (Basel)
Band: 19 (1962)
Heft: (7): Pests of crops in warm climates and their control

Register: Control Measures

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1. Table of Active Ingredients with their Common Names, Mode of Action, Toxicity and Use

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
<i>Botanicals (natural products)</i>			
1 Bacillus thuringiensis	St	non-toxic to mammals	caterpillars
1.1 Derries see Rotenone			
1.2 Nicotine sulfate	C, V	50–60	plant lice
2 Pyrethrum	C	1500	sucking and biting insects on ornamental plants
3 Rotenone	St, C	132–1500	biting and sucking insects in seed-beds
4 Ryania	St	750–1200	boring caterpillars
4.1 Sabadilla	C	2000	sucking insects
<i>Synthetical pyrethrines</i>			
5 Allethrin	C	680–1000	sucking and biting insects on ornamental plants
6 Barthrin	C, St	very slight	sucking and biting insects on ornamental plants
6.1 Cyclethrin	C	very slight	sucking and biting insects on ornamental plants
6.2 Dimethrin	C	very slight	sucking and biting insects on ornamental plants
6.3 Furethrin	C	very slight	sucking and biting insects on ornamental plants
6.4 Phthalthrin	C	very slight	sucking and biting insects on ornamental plants

Explanation of abbreviations:

* St = Feeding or stomach poison

S = Systemic

C = Contact poison

P = Contact poison with local penetration properties

V = Vapour (fumigant)

A = Rodenticide which acts as “anticoagulant”. The active ingredient prevents the blood from clotting by stopping Prothrombin-forming which is necessary for clotting.

** The DL 50 (lethal dosis) is the average dosage in milligramme of the compound, i.e. active ingredient per 1 kilogramme animal weight, needed to kill 50 per cent of animals (rats), when treated orally with this active ingredient.

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
<i>Synthetic-organic insecticides: Chlorinated hydrocarbons</i>			
7 Aldrin	C, St, V	67	pests in soil (grubs, wireworms)
8 Alodan (Chlorbicyclen)	C	15000	pests in stored crops and livestock insects
9 BHC (Hexachloro- cyclohexane)	C, St, V	600–1250	biting and sucking insects (Note: effect on taste of crops)
9.1 Bromedan	C, St	12 900	biting insects
9.2 Bulan see Dilan			
10 Chlordane	C, St, V	457–590	pests in soil
10.1 Chlorbicyclen see Alodan			
10.2 Chlordecone (Kepone)	St, C	95–140	ants, flies, cockroaches
10.3 Decachlorotetracyclo- decanone see Chlor- decone			
11 DDD (TDE) (Rothane)	C, St	3400	caterpillars; hornworms on tomato and tobacco
12 DDT (Dichloro diphenyl trichloroethane)	C, St	250	most insect pests in agri- culture with the exception of plant-lice, mealybugs, coccids and spider mites
13 Dieldrin	C, St	87	see DDT
14 Dilan (Bulan) (Prolan)	St, C	475–8073	Mexican bean beetle and salt marsh caterpillar
14.1 Endosulfan see Thiodan			
15 Endrin	St, C	3–45	biting insects
15.1 gamma-BHC see Lindane			
16 Heptachlor	C, St	90–130	insects in soil (seed dressing)
16.1 Hexachlorocyclo- hexane see BHC			
16.2 Isobenzan see Telodrin			

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
16.3	Isodrin	C, St	7-17	biting insects
16.4	Kepone see Chlordecone			
17	Lindane (gamma-BHC)	C, St, V	125	pests in stored crops
18	Methoxychlor	C, St	6000	insects on fruits and vegetables (similar to DDT-insecticide)
18.1	Mirex	C, St	235-702	biting insects
19	Perthane	C, St	6600	biting insects on vegetables (caterpillars) and fruit flies
19.1	Prolan see Dilan			
19.2	Rothane see DDD			
19.3	Strobane	C, St	200-250	biting insects
19.4	TDE see DDD			
20	Telodrin (Isobenzan)	C, St	7	biting and sucking insects; insects in soil
21	Thiodan (Endosulfan)	C, St	30-79	biting and sucking insects on various crops
22	Toxaphene	C, St	40-283	biting insects on fruits and vegetables

Synthetic-organic insecticides: Phosphorous esters

22.1	Abate	C, St	1000-3000	sucking and biting insects
22.2	Alamos (Slam)	C, St	> 1500	sucking and biting insects
22.3	Aphidan	C, St, S	86 (Mice)	sucking insects
22.4	Azinphos(ethyl) see Ethyl-Azinphos			
22.5	Azinphos(methyl) (Guthion) (Gusathion)	C, St, P	7-18	sucking and biting insects and spider mites
22.6	Azodrin see Dimethyl phosphate of 3-hydroxy-N-methyl-cis-crotonamide			
23	Baitex (Entex) (Fenthion) (Lebaycid)	C, St	200-250	fruit flies
23.1	Bidrin see Dicrotophos			

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
23.2	Bomyl	C	31–33	sucking and biting insects and spider mites
23.3	Bromophos (ethyl)	C	3745–6100	
23.4	Butonate	C	1050	household insects
23.5	Carbicion see Dicrotophos			
23.6	Carbophenothion see Trithion			
23.7	2-Chloro-1-(2,4-dichlorophenyl)vinyl diethyl phosphate	C, St	12–56	sucking and biting insects
23.8	2-Chloro-1-(2,4,5-trichlorophenyl)vinyl dimethyl phosphate	C, St	4000–5000	sucking and biting insects
24	Chlorthion	C, St, P	625	sucking insects on vegetables and fruits
24.1	Cidial (Phenthoate)	C, St	200–300	biting and sucking insects and spider mites
24.2	Ciodrin	C	125	pests on domestic animals
24.3	Co-Ral see Coumaphos			
24.4	Coumaphos (Co-Ral) (Resitox) (Muscatox)	S	13–963	ectoparasites on livestock
24.5	Coumithoate (Dition)	C	67	biting and sucking insects and spider mites
24.6	Cyanthoate	C	2–4	sucking and biting insects and spider mites
24.7	Cyolane see Diethoxyphosphinothioyl-imine dithiolane			
24.8	Cythioate (Proban)	C, St, S	160	sucking insects and pests on animals
25	DDVP = Dichlorvos	C, St, V	56–80	sucking and biting insects and spider mites, hygiene pests
26	Demeton (Systox) (Mercaptophos)	S, St, C, V	9	sucking insects, especially plant lice and spider mites
27	Diazinon	C, St, P, V	220–270	biting and sucking insects, spider mites on various crops. Pests in soil
27.1	Dicrotophos (Bidrin, Carbicion)	C, St, S	27–45	biting and sucking insects

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
28 Dimethoate (Rogor)	C, St, S, P, V	155–500	sucking insects and fruit flies, also mining larvae
29 Dibrom (Naled)	C	430	caterpillars, leafhoppers, aphids, mites
29.1 Dicapthon (Isochlorthion)	C, St, P	330–400	sucking insects on vegetables and fruits
29.2 Dichlorvos see DDVP			
29.3 Diethoxyphosphinothioylimine dithiolane (Cyolane)	C, St, S	29	biting and sucking insects and spider mites
29.4 Diethyl trichloropyridyl thiophosphate (Dursban)	V, S	135–163	soil pests
29.5 Dimecron see Phosphamidon			
30 Dimefox (Hanane)	C, St, S	3–5	sucking insects and mites
30.1 Dimethyl phosphate of 3-hydroxy-N-methyl-cis-crotonamide (Azodrin) (Nuvacron)	C, St, S	21	biting and sucking insects and spider mites
30.2 Dimethyl p-(methylthio)phenyl phosphate	C, St, S	7	sucking and biting insects and spider mites
30.3 Dipterex see Dylox			
30.4 Disulfoton (Thiosystox) (Disyston S) (Thiodemeton) (Solvirex)	C, St, S	4	sucking insects, also mining larvae
	C, St, S, P, V	12.5	sucking insects, mites, also mining larvae, as granule application
30.5 Disyston S see Disulfoton			
30.6 Dition see Coumithoate			
30.7 DMTP see Baytex			
30.8 Dursban see Diethyl trichloropyridyl thiophosphate			
31 Dylox (Trichlorfon) (Dipterex)	C, St, S, P	450–699	caterpillars, houseflies, livestock-pests
31.1 Endothion	St, S	23	various sucking insects
31.2 Entex see Baitex			

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
32	EPN (O-ethyl-O-p-nitrophenyl phenylphosphonothioate)	C, St	12-40	biting and sucking insects and mites
33	Ethion (Nialate)	C	86-107	aphids, scale insects, mites
33.1	Ethyl-azinphos	C, St, P	7-18	biting and sucking insects and mites
33.2	Famphur (Famophos)	S	35-62	pests on livestock
33.3	Fenchlorphos (Ronnel)	S, C	1000-3000	pests on livestock
33.4	Fenitrothion (Folithion) (Sumithion)	C, St, S	250-673	sucking and biting insects (stemborers)
33.5	Fensulfothion	C, V	2-11	insects and nematodes
33.6	Fenthion see Baitex			
33.7	2-Fluoroethyl mercaptophenylacetate, O,O-diethyl phosphorodithioate	C	5	sucking and biting insects and spider mites
33.8	Folithion see Fenitrothion			
33.9	Formocarbam	C, St, S	400	sucking and biting insects and spider mites
33.10	Formothion(iso) (Anthio)	C, St, S, P	375-535	sucking insects, fruit flies, mining larvae and mites
33.11	Fostion see Prothoate			
33.12	GS 13005 see Supracid			
33.13	Gusathion see Azinphosmethyl			
34	Guthion see Azinphosmethyl			
34.1	Hanane see Dimefox			
34.2	Imidan	C	147-216	biting and sucking insects and spider mites
34.3	Isochlorthion see Dicapthon			
34.4	Lebaycid see Baitex			
35	Malathion (Mercaptothion)	St, C, V	1400	biting and sucking insects on various crops and pests in stored crops. Ectoparasites on human beings and peds

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
35.1	Mecarbam (Murfotox)	C	15–35	sucking and biting insects and spider mites
35.2	Menazon	C	1200–1600	plant lice
35.3	Mercaptophos see Demeton			
35.4	Mercaptothion see Malathion			
35.5	Methidathion see Supracide			
35.6	Methyl-azinphos see Guthion			
36	Methyl-demeton (Oxydemetonmethyl)	St, S, C, V	138	saw wasps, see also Demeton
37	Methyl-parathion	C, St, P, V	9–42	biting and sucking insects on various crops
38	Methyl-trithion	C, St	182	biting and sucking insects and spider mites
38.1	Mevinphos see Phosdrin			
38.2	Morphothion(iso)	C, St, S	200	biting and sucking insects and spider mites
38.3	Murfotox see Mecarbam			
38.4	Muscatox see Coumaphos			
38.5	Naled see Dibrom			
38.6	Narlese			
38.7	Nemacide (O-2,4-dichlorophenyl O,O-diethyl phosphorothioate)	C, St, V, P	270	insects, spider mites, nematodes
38.8	Nialate see Ethion			
38.9	Nuvacon see Dimethyl phosphate of 3-hydroxy-N-methyl-cis-crotonamide			
38.10	O-(2-chloro-1-(2,5-dichlorophenyl)vinyl) O,O-diethyl phosphorothioate	C, St	146	biting and sucking insects

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
38.11 O-ethyl-O-p-nitro-phenyl phenyl-phosphonothioate see EPN			
38.12 Ompa see Schradan			
38.13 O-p-cyanophenyl O,O-dimethyl phosphorothioate	C, St	18-238	biting and sucking insects
38.14 Oxydemetonmethyl see Methyl-demeton			
39 Parathion	C, St, P, V	3-30	biting and sucking insects, spider mites on various crops
39.1 Pestox III see Schradan			
39.2 Phenthoate see Cidial			
40 Phorate (Thimet)	C, St, S	4	biting and sucking insects
40.1 Phosalone	C, St		biting and sucking insects
41 Phosdrin (Mevinphos)	C, St, S, V	13	biting and sucking insects
42 Phosphamidon (Dimecron)	C, St, S	17-30	biting and sucking insects, spider mites
43 Phostex	C	2500	scale insects, spider mites
44 Potasan	C, St, V	19	biting insects (beetles)
44.1 Proban see Cythioate			
44.2 Prolate			
44.3 Prothidathion	C, St		biting and sucking insects
44.4 Prothoate (Fostion)	C	14-25	biting and sucking insects
45 Resitox see Coumaphos			
45.1 Rogor see Dimethoate			
45.2 Ronnel see Fenchlorphos			
45.3 Ruelene	C, S	950-1000	pests on livestock
46 Schradan (Ompa) (Pestox III)	C, St, S	10	sucking insects and spider mites
46.1 Slam see Alamos			

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
46.2	S,S'-benzylidene-(O,O-dimethyl phosphorodithioate)	C, St	280	biting and sucking insects
46.3	Sulfotepp	C	5	aphids and mites on fruits, vegetables and forage crops
46.4	Sumithion see Fenitrothion			
46.5	Supracid (Ultracid) (GS 13005) (Methidathion)	C, St, P	25-48	biting and sucking insects and spider mites
46.6	Systox see Demeton			
47	Tepp	C	0.5-2	aphids and mites on fruits, vegetables, forage crops
47.1	Thimet see Phorate			
47.2	Thiocron	C	600-660	biting and sucking insects
47.3	Thiodemeton see Disulfoton			
48	Thiometon (Ekatin)	C, St, S	125	sucking insects and spider mites
48.1	Thionazin see Zinophos			
48.2	Thiosystox see Disulfoton			
48.3	Trichlorfon see Dylox			
48.4	Trichloronate	C, St	16-35	sucking and biting insects
49	Trithion (Carbophenothion)	C, St, P	28-100	biting and sucking insects and spider mites on various crops
49.1	Ultracid see Supracid			
49.2	Vamidothion	C	64-100	biting and sucking insects
49.3	Zinophos (Thionazin)	C	9-16	insects and nematodes
49.4	Zytron	C, St, S	270	sucking and biting insects

Synthetic-organic insecticides: Carbamates

- 49.5 **Aminocarb** see **Matacil**
 49.6 **Arprocarb** see **Unden**
 49.7 **Baygon** see **Propoxur**

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
49.8	Butacarb	C		ectoparasites on animals
49.9	Carbaryl see Sevin			
49.10	2,3-Dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate	C, St, S		sucking and biting insects and nematodes
50	Dimetan	C, St	150	plant lice and flies
51	Dimetilan	St, C	60–70	plant lice and flies (houseflies)
52	Isolan	C, St, S, V	17	plant lice
52.1	Matacil (Aminocarb)	St	30–50	biting insects on crops
52.2	Mercaptodimethur see Mesuroi			
52.3	Mesuroi (Mercaptodimethur) (Methiocarb)	C, St	87–135	biting and sucking insects and spider mites
52.4	Methiocarb see Mesuroi			
52.5	Minacide	C, St, V	39–247	biting and sucking insects
52.6	Propoxur (Baygon)	C, St	100–150	cockroaches and other hygiene pests
53	Sevin (Carbaryl)	C, St	500–700	biting and sucking insects
53.1	5,6,7,8-Tetrahydro-1-naphthyl methylcarbamate	C, St	470	biting and sucking insects
53.2	3,4,5-Trimethylphenyl methylcarbamate	C, St	178	biting and sucking insects
53.3	Unden (Arprocarb)	C, St	95–128	biting and sucking insects
54	Zectran	C, St, S	15–63	biting and sucking insects

Synthetic-organic insecticides: Carbazoles

55	Tetranitrocarbazol	St	very slight	caterpillars (selective effect)
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Synthetic-organic insecticides: Phenols

56	Dinitro-o-cresol	C, St	26–65	locusts and as ovicide
56.1	Dinitrobutylphenol	C	50	locusts and as ovicide
56.2	PCP = Pentachlorophenol	C	125–210	locusts and as ovicide

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
<i>Synthetic-organic insecticides: Miscellaneous compounds</i>			
56.3 Lethane 384	C	90–250	flies (household-insects)
56.4 Thanite (Terpinyl thiocynoacetate)	C		flies (household-insects)
<i>Inorganic insecticides</i>			
57 Calcium arsenate	St	20	biting insects
58 Cryolite (Na-alum-fluoride)	St	200	biting insects
59 Lead arsenate	St	100	biting insects
59.1 Thallium acetate	St		biting insects
59.2 Thallium sulfate	St		biting insects
<i>Mineral oils</i>			
60 White oils various types of vaseline-oils: (dormant spray oil)	C	too high to measure	scale insects

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Acute vapour toxicity in ppm	Use
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**Fumigants (Vapour effect) Miscellaneous compounds*

60.1 Bromomethane see Methyl bromide				
60.2 Carbon bisulfide	V		200	as space fumigant
61 Ethylene dibromide	V	108–170	200	as soil fumigant
62 Ethylene dichloride	V	670–890	1000	as space fumigant
63 Ethylene oxide	V		500	as space fumigant
63.1 Ethyl formate	V	4290	330	as space fumigant
63.2 Hydrogen cyanide	V		40	as soil fumigant and space fumigant
64 Methyl bromide (Bromomethane)	V		200	as soil fumigant and space fumigant
64.1 Methylene chloride	V		5000	as space fumigant
64.2 Methyl chloroform	V		1000	as space fumigant

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Acute vapour toxicity in ppm	Use
64.3 Methyl isothiocyanate (Methyl mustard oil)	V	100		as soil fumigant
64.4 Naphthalene				as space fumigant
65 Paradichlorobenzene	V	500–5000	500	as space fumigant
66 Potassium cyanide	V	1		as space fumigant
66.1 Propargyl bromide	V	53–85	120	as soil fumigant
66.2 Propylene oxide	V		3000	as space fumigant
67 Sulfur dioxide	V	2–3	40	as space fumigant
67.1 Sulfuryl fluoride	V		400	as space fumigant
67.2 Tetrachloroethene	V	2200–5000	1000	as space fumigant
67.3 Tetrachloromethane	V	5730–9770	300	as space fumigant
67.4 Tetrachloro-thiophene	V	780		as soil fumigant

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use
<i>Synthetic-organic acaricides: Chlorinated hydrocarbons</i>			
68 Chlorobenzilate	C	4850	as mite-killer
68.1 Chloropropylate	C	> 5000	as mite-killer
68.2 Dicofol see Kelthane			
69 Dimite	C	926–1390	as mite-killer
70 Kelthane (Dicofol)	C	575–1330	as mite-killer
<i>Synthetic-organic acaricides: Phosphorous esters</i>			
71 Delnav (Dioxathion)	C	110	as mite-killer
71.1 Dinobuton	C	100–155	as mite-killer
71.2 Dioxathion see Delnav			
71.3 Dursban	C	97–276	as mite-killer
71.4 Isopropyl mercapto-phenylacetate, O,O-dimethyl phosphorodithioate	C	400–500	as mite-killer

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use
71.5 O-ethyl S-phenyl ethylphosphono-dithioate	C	16	as mite-killer
72 Phenkapton	C	182	as mite-killer
<i>Synthetic-organic acaricides: Carbamates</i>			
72.1 Temik (2-Methyl-2-(methylthio) propionaldehyde O-methylcarbamoyl)-oxime	C, St, S	0.93	as mite-killer (also effective against soil insects and nematodes)
72.2 Tranid (5-Chlor-6-oxo-2-norbornane-carbonitrile O-(methyl-carbamoyl)-oxime	C, St, S	19–26	as mite-killer (also with insecticidal effect)
<i>Synthetic-organic acaricides: Sulfur compounds</i>			
72.3 Animert see Tetrasul			
73 Aramite	C	3900	as mite-killer
73.1 Chlorbenside (Chlorocide) (Mitox)	C	2000–10000	as mite-killer
73.2 Chlorfenson see Ovex			
73.3 Chlorocide see Chlorbenside			
74 Fenson (PCPBS) (Trifenson)	C	1000	as mite-killer
74.1 Fluorbenside	C		as mite-killer
75 Genite	C	1400–1870	as mite-killer
75.1 Miticide see Ovex			
75.2 Mitox see Chlorbenside			
76 Ovex (Chlorfenson) (Miticide) (Ovotran) (Trichlorfenson)	C, P	2000	as mite-killer and ovicide
76.1 Ovotran see Ovex			
76.2 PCPBS see Fenson			
77 Sulphenone	C	1400	as mite-killer
78 Tedion (Tetradifon)	C, P	14700	as mite-killer, ovicide

Common name or chemical name or other name used		Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
78.1	Tetradifon see Tedion			
78.2	Tetrasul (Animert)	C	6800–14700	as mite-killer
78.3	Trichlorfenson see Ovex			
78.4	Trifenson see Fenson			
<i>Synthetic-organic acaricides: Miscellaneous compounds</i>				
78.5	Acracid see Binapacril			
78.6	Azobenzene	C		as mite-killer
78.7	Binapacryl (Acracid) (Morocide)	C	136–186	as mite-killer
78.8	Dinitrobutylphenol (Dinoseb) (DNBP)	C	50	as mite-killer
78.9	Dinocap see Karathane			
78.10	Dinoseb see Dinitrobutylphenol			
78.11	DNBP see Dinitrobutylphenol			
78.12	Eradex (Thioquinox)	C	3400	as mite-killer
79	Karathane (Dinocap)	C	714	as fungicide with acaricidal effect
79.1	Morestan (Oxythioquinox)	C	3000	as mite-killer (Fungicide)
79.2	Morocide see Binapacryl			
80	Neotran	C	6000	as mite-killer
80.1	Oxythioquinox see Morestan			
81	Thioquinox see Eradex			
<i>Inorganic acaricides</i>				
82	Sulphur (lime-sulphur, wetttable sulphur, dispersible sulphur and others)	C, (V)	too high to measure	as mite-killer (Fungicide)

Common name or other name used	Mode of action *	Use
<i>Attractants</i> ¹		
82.1 Anethol	V	to attract fruit flies
82.2 Angelicasamenoel	V	to attract fruit flies
82.3 Anisylacetone	V	to attract fruit flies
83 Eugenol (Methyl)	V	to attract fruit flies
83.1 Geraniol	V	to attract fruit flies
83.2 Gyplure	V	to attract fruit flies
84 Medlure	V	to attract fruit flies
84.1 Que-Lure (Q-Lure)	V	to attract fruit flies
85 Siglure	V	to attract fruit flies
85.1 Trimedlure	V	to attract fruit flies
86 Proteinhydrolysate of yeast	V	to attract fruit flies

¹ Attractants are compounds which attract the insects by their scent.

Common name or chemical name or other designation for the chemical	Effective against	Acute oral toxicity ** DL 50 (mg/kg rats)	Application
<i>Repellents</i> ²			
87 BEP see 2-Butyl-2-ethyl-1,3-propanediol			
88 Benzylbenzoate	fleas, ticks, mites (chiggers)	1700	Impregnation of clothing
89 Butopyronoxyl (Indalone)	flies, mosquitoes	7400	Apply solution evenly on skin surfaces to be protected
90 Butoxy poly-propylene glycol (Crag Fly Repellent)	mosquitoes	9100–11200	Apply solution evenly on skin surfaces to be protected
91 2-Butyl-2-ethyl-1,3-propanediol (BEP)	mosquitoes	5040	Apply solution evenly on skin surfaces to be protected

² Repellents are compounds which prevent insects from attacking their hosts to suck blood.

Common name or chemical name or other designation for the chemical	Effective against	Acute oral toxicity ** DL 50 (mg/kg rats)	Application
92 Deet (N,N-diethyl-m-toluamide)	horse-flies, mosquitoes, bedbugs, chiggers	1950–2000	Apply solution evenly on skin surfaces to be protected
93 Dibutyl succinate (Tabutrex)	flies	8000	Apply solution evenly on skin surfaces to be protected
94 Diethyltoluamide see Deet			
95 Dimethyl carbate	mosquitoes	1000	Apply solution evenly on skin surfaces to be protected
96 Dimethyl phthalate (DMP)	mosquitoes	6900–8200	Apply solution evenly on skin surfaces to be protected
97 Di-n-butyl phthalate (DBP)	fleas, ticks, chiggers	12000–> 20000	Impregnation of clothing
98 Di-n-propyl isocinchomeronate (Di-n-propyl 2,5-pyridine-dicarboxylate) (MGK-Rep. 326)	mosquitoes	5230–7230	Apply solution evenly on skin surfaces to be protected
99 Ethyl hexanediol (Rutgers 612)	flies, mosqui- toes, fleas, mites	1400–2400	Apply solution evenly on skin surfaces to be protected
100 1,5a,6,9,9a,9b-Hexahydro-4a(4H)-di-benzofurancarboxaldehyde (2,3,4,5-bis(2-butylene-tetrahydrofural) (MGK-Rep. 11)	mosquitoes	2500	Apply solution evenly on skin surfaces to be protected
101 Indalone see Butopyronoxyl			
102 N,N-diethyl-m-toluamide see Deet			
103 O-chloro-N,N-diethylbenzamide	mosquitoes, horse-flies, bedbugs, chiggers		Apply solution evenly on skin surfaces to be protected
104 2-(Octylthio)ethanol (MGK-Rep. 874)	mosquitoes	8500	Apply solution evenly on skin surfaces to be protected

Common name or chemical name or other designation for the chemical		Effective against	Acute oral toxicity ** DL 50 (mg/kg rats)	Application
105	N-butylacetanilide (BAA)	fleas, ticks	2830	Impregnation of clothing
106	N,N-diethyl-m-toluamide see Deet			
107	N,N-diethyl-o-toluamide (O-Det) (Detamide)	horse-flies, mosquitoes, bedbugs, chiggers		Apply solution evenly on skin surfaces to be protected
108	Rutgers 612 see Ethyl hexanediol			
109	Tabutrex see Dibutyl succinate			

Common name or other name used		Acute oral toxicity ** DL 50 (mg/kg rats)	Use as
<i>Chemosterilants</i> ³			
110	Apholate	90	Fertility regulator
111	Aphomide		Fertility regulator
112	Aphoxide (Tepa)	126–252	Fertility regulator
113	Chlorambucil		Fertility regulator
114	5-Fu (5-Fluorauracil)		Fertility regulator
115	Hempa	> 2500	Fertility regulator
116	Metepa see Metaphoxide		
117	Metaphoxide (Metepa)	93–277	Fertility regulator
118	TEM see Tretamine		
119	Tepa see Aphoxide		
120	Tretamine (TEM)		Fertility regulator

³ Chemosterilants are compounds which sterilize the insects by contact or feeding.

Common name or chemical name or other designation for the chemical		Acute oral toxicity ** DL 50 (mg/kg rats)	Remarks
<i>Synthetic-organic activators⁴ or synergists⁴ for insecticides</i>			
121	Butocide see Piperonyl butoxide		
122	N,N-di-n-butyl-p-chlorobenzene-sulfonamide (Warf)	500	Antiresistant for DDT
123	N-octyl bicycloheptene dicarboximide (Octacide 264) (MGK 264) (Van Dyke 264)	2800	
124	Octachloro-dipropylether (S 421)	2500	
125	Piperonal bis (2-(2-butoxyethoxy)-ethyl)acetal (Tropital)	4000	Synergist for pyrethrum
126	Piperonyl butoxide (Butocide)	7500	Synergist for pyrethrum
127	Propyl isome	15000	Synergist for pyrethrum
128	Sesamex (Sesoxane)	2000-2270	
129	Succinid-acid-di-n-butyl ester		
130	Sulfoxide	2000	
131	Tropital see Piperonal bis (2-(2-butoxyethoxy)ethyl)acetal		
132	Warf see N,N-di-n-butyl-p-chlorobenzenesulfonamide		

⁴ Activators or Synergists are not insecticidal compounds, but improve the efficacy of insecticides when added.

Common name or chemical name or other designation for the chemical	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against
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Molluscocides: Miscellaneous compounds

133	Bayluscid	C	5000	water snails
134	Copper	C		slugs and snails
135	Lime (Calcium hydroxide)	C		slugs and snails
136	Lime (Calcium oxide)	C		slugs and snails
137	Metaldehyde	C	250–600 (Dog)	slugs and snails

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use
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Nematocides: Miscellaneous compounds

138	Agren	V	240 (mice)	as soil fumigant
139	Allyl alcohol	V		as soil fumigant
140	Chloropicrin	V	1–5	as soil fumigant
141	Chloro-bromopropan	V	9	as soil fumigant
142	Dazomet see Mylone			
143	DD (1,3-Dichloropropene 1,2-Dichloropropane)	V	250–500	as soil fumigant
144	Dorlone (Telone) (EDB)	V		as soil fumigant
145	EDB see Dorlone			
146	Ethylene-dibromide	V	146	as soil fumigant
147	Fumazone see Nemagon			
148	Metham-Sodium see Vapam			
149	Methylbromide	V	1	as soil fumigant
150	Mylone (Dazomet)	V	650	as soil fumigant
151	Nemacur	V		as soil fumigant
152	Nemagon (Fumazone)	V	300	as soil fumigant

Common name or chemical name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use
153 Sistan see Vapam			
154 Telone see Dorlone			
155 Trapex	V	100 (mice)	as soil fumigant
156 Vapam (Sistan) (Metham-Sodium)	V	820	as soil fumigant

Common name or other name used	Mode of action *	Acute oral toxicity ** DL 50 (mg/kg rats)	Use against rodents as
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**Rodenticides*

157	Aldrin see No. 7	C		field-cover spray or dust
158	Antu	A	5-9	dust on run-ways
159	Arsenic	St		bait in stores etc.
160	Castrix (Chlormethyl-dimethylamino-pyrimidin)	St	1-2	bait in stores etc.
161	Chlorophacinone	A		dust or bait on run-ways
162	Coumachlor	A	1000-1200	dust or bait on run-ways
163	Crimidine	A		dust or bait on run-ways
164	Cumtetrallyl	A		dust or bait on run-ways
165	Diphacinon	A		dust or bait on run-ways
166	Endrin see No. 15	C		field-cover spray or dust
167	Fumarin	A	400	dust or bait on run-ways
168	Muritan see Promuriz			
169	Pindone	A		dust or bait on run-ways
170	Pival	A	1	dust or bait on run-ways
171	Promuriz (Muritan)	A		dust or bait on run-ways
172	Shoxin-norbomide	A	5-12	dust or bait on run-ways
173	Toxaphene see No. 22	C		field-cover spray or dust
174	Warfarin	A	60	field-cover spray or dust

2. Precautions

Pesticides are toxic in varying degrees; protective measures must therefore be in accordance with the toxicity of the product. Careful handling of close observation of the precautions recommended on the containers are indispensable. Disregard of the most elementary recommendations may affect human health. When handling insecticidal concentrates direct contact with the skin must be avoided. Mixing and stirring of liquid insecticides should always be done with wooden or metal rods, and never with the hands. Contact with highly toxic substances which penetrate the skin, such as Parathion, can have very serious consequences. Any insecticidal residue accidentally reaching the human skin must immediately be washed off with plenty of warm water and soap.

Sprays and dusts have to be applied down wind, so that the operator is not enveloped by the insecticide. Control measures should not be undertaken during the hot and calm hours of the day.

Drifting of pesticide sprays or dusts on to nearby crops or livestock should be avoided. Poultry, dairy or meat animals should be prevented from consuming plants or water which have been covered by drifting pesticides. When it is necessary to work in contact with plants (transplanting) which have been treated with Endrin, Demeton, Guthion or Parathion less than 5 days previously, the hands should be protected by gloves.

For application of highly toxic substances or treatment of enclosed spaces a face mask with replaceable filter should be worn. Continual handling of cigarettes by the operator can convey toxic substances through the mouth into the body. The same may happen when food is eaten with unwashed hands. After working with insecticides the body and any protecting clothing must be thoroughly washed (bath, shower).

Unused pesticides should not be left open and unsupervised; they are a danger to children and animals. Remainders, empty packing material or other objects covered with insecticides must never be thrown into either running or stagnant water, lest they poison the fish. They must be buried in trenches and well covered with earth.

Danger to bees, fish, birds, and wild and domestic animals

Plants must not be sprayed, when in flower, since the majority of pesticides are toxic for bees. Bees, when collecting nectar on treated flowers, take up some active substance and are killed. They may also carry poisonous substance together with the collected pollen into the hive and thus destroy the young brood and larvae which feed on it. Dusts are particularly dangerous.

Fish are very susceptible to insecticides, particularly to substances

of the organo-chlorine group. Application near fish ponds, lakes, dams or streams must therefore be carried out very carefully. Contaminated vessels and spraying equipment should never be dipped or washed in water containing fish.

Birds and in particular farm poultry are very susceptible to insecticides. Application near poultry runs should be avoided or undertaken when the birds are absent. Care must also be taken that the birds do not feed on poisoned grass or water. The same precautions should be observed with wild and domestic animals.

In case of presumed or obvious symptoms of insecticide poisoning medical help should be sought. The doctor must be informed of the kind of toxic substance involved. If medical help is not available immediately, first aid must be given in the meantime. Information on symptoms of poisoning and adequate treatment is listed below.

3. First-aid Measures* and Suggested Medical Treatment

(Data compiled by Factory Medical Department, J. R. Geigy S.A., Basle)

Chlorinated hydrocarbons

Symptoms

Headache, nausea, vomiting, anxiety, prickling sensation on the tip of the tongue, upper lip and the chin region, stiffness and pain in the jaw, in very severe cases convulsions with exitus.

First aid

Free the clothing, lay the patient on his side and keep him warm and quiet. Remove contaminated articles of clothing and thoroughly wash the body areas underneath with soap and water. When poisoning has been by mouth the stomach should be emptied with gastric lavage. Saline purgatives should also be given, e.g. Carlsbad salt, *but no oily purgatives or milk.*

Suggested medical treatment

If convulsions or tremors occur, barbiturates and possibly calcium should be given, the former preferably as 1 ccm 20% phenobarbitone sodium i.v., or $\frac{1}{2}$ -1 2-ccm-ampoule of 10% Dial. Calcium should be given in 10% solution at the rate of 1-2 10-ccm-ampoules per day i.v., or as calcium bromide, which has a sedative and anticonvulsive action, 1-2 10-ccm-ampoules per day i.v. or i.m.

Morphine is contraindicated.

* Applicable in the main also to domestic animals.

Phosphorous esters and carbamates, esterase-inhibitors

Symptoms	Narrowing of the pupils, slowing of the pulse, increased glandular secretion (sweating), nausea, severe fatigue, vomiting, diarrhoea, bronchospasms, urgency of micturition, sudden cardiac failure (collapse), exitus.
First aid	Free the clothing, lay the patient on his side and keep him warm and quiet. Remove contaminated articles of clothing and thoroughly wash the body areas involved. When poisoning has been by mouth the stomach should be emptied. Gastric lavage should be carried out with saline purgatives, e.g. sodium sulphate.
Suggested medical treatment	Atropine in high dosage should be injected immediately and in severe cases a dose of 1-2 mg should be given parenterally several times daily. If Atropine is not sufficient, further treatment should be given with Toxogonin "Merck". Dosage: 0.1-0.25 g i.v. every 1.5-2 hours (i.v. injections/2 g per 24 hours).

Calcium and lead arsenates

Symptoms	<i>Acute:</i> Severe headache, nausea, possibly diarrhoea, exitus following severe collapse in a few hours. <i>Subacute:</i> Gastrointestinal form: severe abdominal pains, vomiting (often uncontrollable), rice-water stools reminiscent of cholera, anuria, cramps in the calves; in slow poisoning, inflammation of the mucosa of the eyes, nose, pharynx, with painful swallowing, tenesmus, lowered temperature, cramps, loss of consciousness and lowered blood pressure.
First aid	Free the clothing, lay the patient on his side and keep him warm and quiet. Give emetics.
Suggested medical treatment	Without loss of time, BAL treatment using 10% solution in oil with 20% benzyl benzoate; dosage (as pure BAL): 3 mg/kg i.m. every 4 hours during the first 2 days, 4 similar injections on the third day and subsequently 2 injections per day for 10 days. or Gastric lavage with large quantities of warm water, followed by magnesia (suspension 20 : 500) together with charcoal in tablespoon doses. Subsequently raw white of egg, milk, vegetable oils.

Fluorides (sodium fluoride)

Symptoms	Pruritus, nausea, slimy and later bloody vomit, strong salivation, severe abdominal pains, bloody diarrhoea with unquenchable thirst. Pupillary paralysis, ptosis, cramps.
First aid	Lay the patient on his side and keep him quiet and warm. Give emetics.
Suggested medical treatment	Morphine for relief of pain, calcium in high dosage i.v., shock therapy, stimulants. Calcium therapy should be continued until cure is complete. Gastric lavage with magnesium oxide, lime-water, calcium gluconate, medicinal charcoal suspensions.

Nicotine

Symptoms	Nausea, vomiting, anxiety, shivering, cardiac failure, collapse, constipation or diarrhoea, salivation, tremor of the hands, sweating.
First aid	Lay the patient on his side and keep him quiet and warm. Give coffee. Fomentations on the abdomen.
Suggested medical treatment	Caffeine subcutaneously, opiates for relief of abdominal pains, oxygen. Gastric lavage with 2% tannin solution or 1% potassium permanganate or medicinal charcoal. If necessary 0.5 mg DHE i.v. Barbiturates for control of spasms.

Dinitro-orthocresols (DNOC)

Symptoms when ingested	Loss of appetite, coated tongue, nausea, vomiting, occasionally colic and diarrhoea, tenderness over the liver and possibly jaundice. Acute poisoning can be followed rapidly by very severe symptoms: severe fatigue, burning thirst, outbreaks of sweating, painful cramps, oppression in the chest. The patient's face is greyish or cyanotic, his respiration dyspnoeic, particularly on inspiration. Most prominent are excitation and anxiety. Vertigo is sometimes experienced with buzzing in the ears, scintillation before the eyes, grey cataract formation is possible, and the pulse is arrhythmic and tachycardiac. The temperature is noticeably increased, the urine scarce and dark in colour.
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Suggested medical treatment Mild cases need no treatment.
 Severe cases: gastric lavage with 5% sodium bicarbonate and medicinal charcoal, saline purgatives, diuretics; if there is pulmonary oedema, dextrose injections are better than bleeding and hypertonic solutions, e.g., 20% glucose, oxygen inhalation, if necessary ice packs for fever; in the case of liver injury, protective diet (high in carbohydrates and protein and low in fats).

Metaldehyde

Symptoms when ingested 30 minutes up to a few hours after ingestion, salivation, nausea, vomiting, abdominal pains, flushed face, fever, drowsiness, rigidity of the muscles, convulsive movements, tonic cramps, tetanus, opisthotonos, continuous nystagmus, loss of consciousness and exitus in 5-24 hours. If the patient survives, there is often liver and kidney damage, disorientation, loss of memory, with recovery lasting several weeks.

Suggested medical treatment Diuretics, with analeptics and sedatives as dictated by the patient's condition. Gastric lavage with medicinal charcoal and sodium bicarbonate, enemas and emetics, purging with sodium sulphate.

4. Mixing Tables

The making-up and exact dosage of sprays for various insecticides, wettable powders or emulsion concentrates are shown in the following tables.

I. Mixing Table for dosage of sprays from concentrates of various percentage of active ingredient

Percentage of active ingredient in concentrate (WP or ES)	Dosage (diluted spray)	Percentage of formulated product (concentrate)	Percentage of active ingredient
<i>Decimal system</i>			
20%	5 kg/1000 l water	0.5	0.1
25%	4 kg/1000 l water	0.4	0.1
40%	2.5 kg/1000 l water	0.25	0.1
50%	2 kg/1000 l water	0.2	0.1
75%	1.33 kg/1000 l water	0.13	0.1
(Continued)			

I. Mixing Table (Continued)

Percentage of active ingredient in concentrate (WP or ES)	Dosage (diluted spray)	Percentage of formulated product (concentrate)	Percentage of active ingredient
<i>English measures</i>			
20%	10 lbs/200 gals water	0.5	0.1
25%	8 lbs/200 gals water	0.4	0.1
40%	5 lbs/200 gals water	0.25	0.1
50%	4 lbs/200 gals water	0.2	0.1
75%	2.66 lbs/200 gals water	0.13	0.1

II. Mixing Table for making up to 100 litres of diluted spray

Percentage of active ingredient required in diluted spray	Percentage of active ingredient in concentrate					
	75	50	40	25	20	
0.1%	133.3	200	250	400	500	grammes of concentrate required per 100 litres of water
0.075%	100.0	150	187.5	300	375	
0.05%	66.5	100	125	200	250	
0.01%	13.3	20	25	40	50	

Example: If it is desired to make up 100 litres of 0.01% Diazinon-Spray and the Diazinon-concentrate (WP or ES) contains 40% of active ingredient, 25 grammes or 25 cc of concentrate will be required.

III. Mixing Table for making up to 100 gallons of diluted spray*

Percentage of active ingredient required in diluted spray	Percentage of active ingredient in concentrate					
	75	50	40	25	20	
0.1%	21 $\frac{1}{3}$	32	40	64	80	ounces (fluid or weight) of concentrate required per 100 gallons of water
0.075%	16	24	30	48	60	
0.05%	10 $\frac{1}{3}$	16	20	32	40	
0.01%	2 $\frac{1}{6}$	3 $\frac{1}{5}$	4	6 $\frac{2}{5}$	8	

Example: If it is desired to make up 100 gallons of 0.05% DDT-Spray and the DDT-Emulsion concentrate contains 50% of active ingredient, 16 fluid ounces of concentrate will be required.

* From Orchard Spraying Guide of the N.S.W. Dept. of Agriculture.

Some application data (approximative equivalents)

1 kilogramme (kg) per 1000 litres water = 2 pounds (lbs) per 200 gallons (Brit) water.

10 kg per hectare (ha = 10,000 sq.metres) = 9 lbs per acre (4,047 sq.metres).

1000 litres (l) per hectare = 89 gallons per acre.

100 grammes per sq.metre (m²) = 2.8 ounces (Brit) per sq.yard.

100 cubic centimetres (cm³, cc, ml) per sq.m. = 2.8 fluid ounces (Brit) per sq.yard.

5. Recommendations for Control Measures

The recommendations for the use of pesticides vary from country to country. It would go beyond the scope of this book to take all the official recommendations for the control of agricultural pests into consideration.

The following recommendations for combating pests are based on information from experimental stations in various countries, on manufacturers' instructions as well as on several years of personal field practice and should serve as a guide to planters.

When recommended substances are unobtainable, they can often be substituted by other products belonging to the same chemical group or having similar effects (see table of active ingredients, page 10). It is obvious that special recommendations concerning local and economic conditions must also be considered.

Control of several pests occurring simultaneously can be undertaken either with the most suitable formulation (dust, granulate, wettable powder, emulsions, solutions) of a pesticide with a wide range of action, or with two or more products of specific effect, united in a so-called "combined spray". Combined sprays are made as tank mixtures by adding the chemical substance to the water immediately before application. Care must be taken to prevent separation or sedimentation, which reduce the sprays' effectiveness. This is particularly necessary when fungicidal and insecticidal sprays are combined. In order to avoid phytotoxic damage on delicate plant parts by combined sprays, a compatibility test must be carried out before the spray is applied generally.

Applications of pesticides in the *concentrations recommended* and at the *time indicated* (see manufacturers' instructions) observe the *tolerance period* (time between the last application and harvest) and the permitted amount of pesticide residue, especially on fruits and food crops. The prescribed "safety restrictions" must also be carefully observed for the consumer's protection (see p. 37).

Phytotoxic injuries are avoided if pre-planting treatment of the soil with nematocides is followed by a safety period of several days or weeks, during which the preparation disintegrates. The safety

period varies greatly from one region to another and depends on the type, structure, temperature, humidity and permeability of the soil, as well as on seasonal and other factors.

The following table gives some approximate minimum time-intervals between last spraying and harvesting of the crops

Product (cf. also table of active ingredients)	Recommended period from last application to harvesting(in days)	Product (cf. also table of active ingredients)	Recommended period from last application to harvesting(in days)
Aldrin	40	Isolan	21
Aramite	5	Karathane	10
Azinphos ethyl	21	Kelthane	10
Azinphos methyl	21	Lead arsenate	30
* BHC	30-60	Lime sulphur	3
Binapacryl	14	* Lindane	30
Calcium arsenate	21	Malathion	7
Carbaryl	5-10	Menazon	21
Carbophenothion	21	Methoxychlor	14
Chlorbenside	7	Mevinphos	2
Chlordane	30	Neotran	8
Chlorfenson	30	Nicotine sulfate	7
Chlorobenzilate	5-10	Oil sprays	1
Chloropropylate	5-10	Parathion	21
Chlorthion	10	Parathion methyl	21
Cryolite	21	Phenkapton	10
DDD	21	Phosdrin	7
* DDT	30	Phosphamidon	21
Demeton	30	Phostex	8
Demeton methyl	21	Pyrethrum	1-2
Derris (Rotenone)	3	Rotenone (Derris)	3
Diazinon	7-10	Schradan	21-28
Dibrom	5-7	Sulphenone	7
Dichlorvos (DDVP)	14	Sulphur	3
* Dieldrin	40	Tetradifon	3
Dimethoate	10-14	Thiodan	30
Disulfoton (Solvirex)	42	Thiometon	21
* Endrin	40	Thioquinox	21
Ethion	21	* Toxaphene	30-40
Fenson	14	Trichlorphon	14
Fenthion	14	Vamidothion	40
Formothion	7-21		

* (= When applied on feed crops for dairy animals, somewhat longer intervals should be allowed)

The data given in this table are based on the recommendations of the agricultural authorities of a large number of countries. These recommendations do not apply necessarily to tropical and subtropical zones and are intended only to give guidance for the products listed. There is no doubt that decomposition and metabolism of pesticide residues generally proceed faster in warm climates than in temperate zones. The time intervals depend of course on the dosage of the pesticide and to a large extent on the weather, climatic conditions and time of year, all factors which affect the ripening process.

Explanation of the recommendations

In the tables below the *pests of crops* follow the same order as in chapter III. The numbers printed in *bold* in the second column (*product*) refer to those of the table of active ingredients.

Example:

7 = Aldrin, 12 = DDT, 22 = Toxaphene,
24.4 = Coumaphos, 33.5 = Fensulfothion, 35 = Malathion,
49.9 = Carbaryl, 78.1 = Tetradifon, etc.

Formulation and dosage of the products are given, separated by a colon, in the third column. *Formulation* and *percentage of active ingredient (AS)* are printed in *bold*. The following abbreviations are used:

D = Dust
G = Granulate
WP = Wettable powder
ES = Emulsifiable solution
S = Solution
L = Liquid (to be used tel quel).

Dosage refers to weight or volume per given quantity of water or per area or tree to be treated.

The abbreviations mean:

g = grammes
kg = kilogramme
cc = cubic centimetre
l = litre
sq.m = square metre
ha = hectare (10,000 sq.m).

Commercial products (concentrates) with a different percentage of active ingredient from the one recommended in the tables have to be adjusted to the corresponding percentages or concentrations respectively (cf. Mixing tables p. 34).

In most cases **ES** can replace the recommended **WP**. Choice of the adequate formulation depends largely on the mode of application (spraying machinery, high-, medium- or low-volume method).

When not otherwise stated, dosage refers to the high-volume method. For the medium- or low-volume method (see chapter IV, p. 484) only the amount of water must be diminished. In this case the amount of active ingredient per hectare will be the same.

In the fourth column instructions are given as to the *time of treatment*. Preventive measures which must be undertaken as soon as injurious stages of pests (e.g. fruit flies, stem borers) appear, need

careful supervision and exact field observations (see also chapter II, p. 42). Whenever possible, enquiries as to the application of pesticides should be made from local experimental stations.

Examples:

Pest	Product	Formulation and Dosage	Where and when to apply
10 <i>Anthores leuconotus</i>	13 ↓ Dieldrin	ES 20%: 2.5 l/100 l water ↓ ES 20% = commercial product containing 20% active ingredient: 2.5 l of the commercial product dispersed in 100 l of water
54 <i>Adoretus hirtellus</i>	10 ↓ Chlordane	G 10%: 100 kg/ha ↓ G 10% = commercial granulate containing 10% active ingredient: 100 kg of the commercial product distributed on the soil surface of one hectare
54 <i>Adoretus hirtellus</i>	10 ↓ Chlordane	WP 50%: 20 kg/1000 l water/ha ↓ WP 50% = commercial product containing 50% active ingredient: 20 kg of the commercial product dispersed in 1000 l of water and distributed on the soil surface of one hectare

