

APEDA/DIR/RMP-GRAPES
February 02, 2005

1. All Grape Exporters/Farmers
2. All Grape Growers' Federations
3. Maharashtra Rajya Draksha Bagaitdar Sangh, Pune
4. Fruit & Vegetable Association, Mumbai
5. All nominated laboratories
6. Director, National Research Centre for Grapes, Pune
7. All concerned Agriculture/Horticulture Officers - AP, Karnataka & Maharashtra
8. All PSC issuing Authorities - AP, Karnataka & Maharashtra
9. Commissioner, Horticulture, Govt. of Andhra Pradesh
10. Secretary, Agriculture, Govt. of Karnataka
11. Commissioner, Agriculture, Govt. of Maharashtra
12. Director, Agriculture - Andhra Pradesh, Karnataka & Maharashtra
13. Agriculture Marketing Adviser, DMI, New Delhi
14. All regional Agmark offices - AP, Karnataka, Maharashtra
15. APEDA Regional offices - Bangalore, Hyderabad & Mumbai
16. Existing recognized Packhouses

Sub: "Regulation of export of fresh grapes to the European Union through control of pesticide residues" for the year 2004 - 05

APEDA held a meeting with all the laboratories and National Research Center for Grapes on 27th Jan. at Mumbai wherein a number of issues concerning MRLs, pesticides to be analysed and trade names of recommended pesticides were discussed. Some of the suggestions that came from the industry were also taken up for consideration. On the basis of these discussions Annexure - 7 and Annexure - 11 have been modified and a revised copy of the same is enclosed. It may be observed that Annexure - 11 also shows Codex MRL values. This addition has been made to serve as a guideline to the exporters, farmers and laboratories for the purposes of export to countries other than the EU. This amendment has also been hosted on the APEDA website (www.apeda.com).

A list of the pesticides along with their trade names is also enclosed for reference.

Yours faithfully,

S. Dave
Director

**Annexure-7 (Revised on 25th Jan.,
2005)**

**PESTICIDES RECOMMENDED FOR THE CONTROL OF VARIOUS DISEASES AND
INSECT PESTS BASED ON THE STUDIES AT NRC GRAPES AND AICRP ON
GRAPES OF ICAR**



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S. No.	Pesticide recommended for major disease and pest	Nature of pesticide	Dose on formulation basis	MRLs (mg/kg)			Pre-harvest Interval in Days (PHI)
				EU	UK	Nether lands	
I Downy Mildew							
1.	Mancozeb 75 WP,35 %SC	NS	1.5-2.0 g/L	2.00	2.00	2.00	66
2.	Ziram 80 WP	NS	1.5-2 ml/L	2.00	#	2.00	66
3.	Propineb 70 WP	NS	3 g/L	2.00	2.00	2.00	40
4.	COC 50 WP, 50WG	NS	2.5 g/L, 2.4g/L	#	#	Cu = 20.00	42 (Avoid using after fruit set)
5.	Copper hydroxide 77WP	NS	2.0 g/L	#	#	Cu = 20.00	42 (Avoid using after fruit set)
6.	Bordeaux Mixture	NS	Pre-sprouting 1.0 % Post-sprouting 0.5%	#	#	Cu = 20.00	42 (Avoid using after fruit set)
7.	Captan 50 WP,75WP	NS	2.5 g/L, 1.67 g/L	3.00	3.00	3.00	30
8.	Chlorothalonil 75WP	NS	2.0 g / L	1.00	1.00	1.00	60
9.	Fosetyl Al 80WP	S	1.4-2 g/L	#	#	0.20	30
10.	Metalaxyl + Mancozeb 8%+64 WP	S+NS	2.5 g/L	2.00+ Mancoze b 2.00	2.00+ Mancoze b 2.00	2.00+ Mancoze b 2.00	66
11.	Cymoxanil + Mancozeb 8%+64 WP	S+NS	2 g/L	# + Mancoze b 2.00	0.10 + Mancoze b 2.00	0.05 + Mancoze b 2.00	66
II. Powdery mildew							
12.	Penconazole 10 EC	S	0.5 ml/L	0.20	0.20	0.20	50
13.	Triademefon 25 WP	S	0.5-1.0 g/L	2.00	2.00	2.00	45
14.	Hexaconazole 5 EC, 5SC	S	1.0 ml / L or 0.5 ml/L along with 5 g / L potassium bicarbonate	0.10	0.10	0.10	38
15.	Myclobutanil 10 WP	S	0.4 g/L	1.00	1.00	1.00	30
16.	Dinocap 48 EC	NS	0.3 - 0.35 ml/L	#	#	0.05	50
17.	Sulfur 40 SC, 55.16 SC, 80 WP, 80 WDG, 85 WP	NS	3 ml, 3ml, 2.5 g, 1.87-2.5 g, 1.5-2 g per L respectively	#	#	50.00	Avoid using after fruit set
18.	Potassium bi-carbonate	NS	5 to 10 g / L	—	—	—	--
19.	Azadirachtin (0.03%) (Tricure)	Neem based EC formulation	4 ml/L	--	--	--	2

S. No.	Pesticide recommended for major disease and pest	Nature of pesticide	Dose on formulation basis	MRLs (mg/kg)			Pre-harvest Interval in Days (PHI)
				EU	UK	Netherlands	
III. Anthracnose							
2a.	Ziram 80 WP	NS	1.5-2 g/L	2.00	#	2.00	
3a	Propineb 70 WP	NS	3 g/L	2.00	2.00	2.00	
4a.	COC 50 WP, 50 WG	NS	2.5 g/L, 2.4g/L	#	#	Cu = 20.00	
5a.	Copper hydroxide 77 WP	NS	2.0 g/L	#	#	Cu = 20.00	
20.	Iprobenphos 48EC	NS	2.0 ml/L	--	--	--	50
21.	Carbendazim 50 WP, 46.27 SC	S	3 g/L, 1 ml/L	2.00	2.00	2.00	50
VI. Flea beetles							
22.	Carbaryl 50 WP	NS	2.0 g/L	3.00	5.00	3.00	42
23.	Imidacloprid 200 SL	S	0.3 ml/L	#	#	0.05	60
V. Thrips and Jassids							
24.	Thiamethoxam 25 WG	S	0.25 g/L	#	#	0.05	30
25.	Dimethoate 30 EC	S	1 ml/L	0.02	0.02	0.02	100 (Should not be used after blossom)
26.	Endosulfan 35 EC	NS	2ml/l	0.50	0.50	0.50	65 (Should not be used after 5 mm berry size)
19a.	Azadirachtin	Neem based EC formulation	0.3 %, 1% & 5% @ 7.5, 5 & 2 ml/L	--	--	--	2
VI. Mealy bugs							
27.	Chlorpyrifos 20 EC	NS	2.0 ml/L	0.50	0.50	0.50	Only permitted before bud break or as stem treatment
28.	Malathion 50 EC	NS	2.0 ml/L	0.50	0.50	0.50	40
29.	Phosalone 35 EC	NS	2.0 ml/L	1.00	1.00	1.00	40
30.	Methomyl 40 SP	NS	1.0 g/L	0.05	0.05	0.05	40
31.	Dichlorvos 76 WSC	NS	2.0 ml/L	0.10	0.10	0.10	15
19b.	Azadirachtin	Neem based EC formulations	0.3 %, 1% & 5% @ 7.5, 5 & 2 ml/L	--	--	--	2
VII. Caterpillars							
29a.	Phosalone 35 EC	NS	2.0 ml/L	1.00	1.00	1.00	40
27a.	Chlorpyrifos 20 EC	NS	2.0 ml/L	0.50	0.50	0.50	Only permitted before bud break or as stem treatment
30a.	Methomyl 40 SP	NS	1.0 g/L	0.05	0.05	0.05	40
VIII. Mites							
32.	Dicofol 18.5 EC	NS	1.0 ml/L	2.00	2.00	2.00	50

NS= Non systemic

S= Systemic

= No MRLs given as yet

Note:

- All the doses mentioned are for high volume sprayers, where normal spray volume is 1000 L/ha. Spray volume however can be changed as per efficiency of sprayers used.
- After fruitset, all fungicides containing Mancozeb or dithiocarbamates and Sulphur should be avoided.
- Dinocap should not be used when tender shoots are present in canopy.
- Recommended PHI will be valid only if maximum 2 sprays are applied per fruiting season at 7-15 days interval at recommended doses.

Annexure - 11

List of Pesticides to be Analyzed

Value in mg/kg

S. No.	Chemicals	EU	UK	Netherlands	Codex
1.	Aldrin(expressed as dieldrin)	0.01	0.01	0.01	
2.	Chlordane (cis & trans)	0.01	0.01	0.02	
3.	Chlorthalonil	1.00	1.00	1.00	0.50
4.	DDT (all isomers)	0.05	0.05	0.05	
5.	Dicofol	2.00	2.00	2.00	5.00
6.	Dichlofluanid	10.00	15.00	10.00	15.00
7.	Dieldrin (See Aldrin)				
8.	Endosulphan (All isomers)	0.50	0.50	0.50	
9.	Endrin	0.01	0.01	0.01	
10.	HCH (alpha & beta)	0.01	0.01	0.01**	
11.	Heptachlor	0.01	0.01	0.01	
12.	Lindane	0.01	0.01	0.01	0.50
13.	Acephate	0.02	0.02	0.02	
14.	Methamidophos	0.01	0.01	0.01	
15.	Azinphos methyl	1.00	2.00	1.00	
16.	Chlorfenvinphos	0.05	0.05	0.05	
17.	Chlorpyrifos	0.50	0.50	0.50	1.00
18.	Chlorpyrifos-methyl	0.20	0.20	0.20	0.20
19.	Diazinon	0.02	0.02	0.02	
20.	Dichlorvos	0.10	0.10	0.10	
21.	Dimethoate (Including Omethoate)	0.02	0.02	0.02	1.00
22.	Ethion	0.50	0.50	0.50	
23.	Etrimphos	#	#	0.05	
24.	Fenchlorphos	0.01	0.01	0.01	
25.	Fenitrothion	0.50	0.50	0.50	0.50
26.	Fosetyl- Al	#	#	0.20	
27.	Malathion	0.50	0.50	0.50	8.00
28.	Mevinphos	0.10	0.10	0.10	0.50
29.	Monocrotophos	#	#	0.05	
30.	Omethoate (Refer Dimethoate)				
31.	Oxydematon-methyl	0.02	0.02	0.02	
32.	Profenophos	0.05	0.05	0.05	
33.	4-bromo-2-chlorophenol	0.01	0.01	0.01	

S. No.	Chemicals	EU	UK	Netherlands	Codex
34.	Parathion-methyl	0.02	0.02	0.02	
35.	Parathion ethyl	0.05	0.05	0.05	
36.	Phosalone	1.00	1.00	1.00	
37.	Phosmet	#	#	0.05	10.00
38.	Phosphamidon	0.15	#	0.20	
39.	Quinalphos	0.05	0.05	0.05	
40.	Triazophos	0.02	0.02	0.02	
41.	Triadimephon	2.00	2.00	2.00	0.50
42.	Cyfluthrin	0.30	0.30	0.30	
43.	Cypermethrin	0.50	0.50	0.50	
44.	Deltamethrin	0.10	0.10	0.10	0.05
45.	Fenvalerate & Esfenvalerate (sum of RR & SS isomers)	0.10	0.10	0.10	
46.	Fenvalerate & Esfenvalerate (sum of RS & SR isomers)	0.02	0.02	0.02	
47.	Lambda-cyhalothrin	0.20	0.20	0.20	
48.	Permethrin	0.05	0.05	0.05	2.00
49.	Atrazine	0.10	0.10	0.10	
50.	Benalaxyl	0.20	0.20	0.20	0.20
51.	Metalaxyl	2.00	2.00	2.00	1.00
52.	Carbaryl	3.00	5.00	3.00	5.00
53.	Carbofuran	0.10	0.10	0.10	
54.	Methomyl	0.05	0.05	0.05	5.00
55.	Carbosulfan	0.05	0.05	0.05	
56.	Thiodicarb (See methomyl)				
57.	Fenarimol	0.30	0.30	0.30	0.30
58.	Bitertanol	0.05	0.05	0.05	
59.	Hexaconazole	0.10	0.10	0.10	0.10
60.	Myclobutanil	1.00	1.00	1.00	1.00
61.	Penconazole	0.20	0.20	0.20	0.20
62.	Propiconazole	0.50	0.50	0.50	0.50
63.	Imazalil	0.02	0.02	0.02	
64.	Captafol	0.02	0.02	0.02	
65.	Captan	3.00	3.00	3.00	
66.	Iprodione	10.00	10.00	10.00	10.00
67.	Procymidone	5.00	5.00	5.00	5.00
68.	Vinclozolin	5.00	5.00	5.00	5.00

S. No.	Chemicals	EU	UK	Netherlands	Codex
69.	Carbendazim (Including Benomyl, Thiophenate-methyl)	2.00	2.00	2.00	10.00
70.	Ethylene thio urea	#	#	0.02	
71.	Carbon di sulfide (Mancozeb, Maneb, Propineb and Ziram collectively estimated as CS ₂)	2.00	2.00	2.00	5.00
72.	Imidacloprid	#	#	0.05	
73.	Thiamethoxam	#	#	0.05	
74.	Dinocap	#	#	0.05	
75.	Cymoxanil	#	0.10	0.05	
76.	Sulphur	#	#	50.00	
77.	Copper	#	#	20.00	
78.	Fipronil	#	#	0.01	

**** In Netherlands, a HCH & β HCH has separate MRL of 0.01 mg/kg.**

Clarification regarding # for use by PSC authorities:

1. For those compounds where MRLs do not exist for both EU and UK, the Netherlands MRL should be used for guidance.
2. Where MRL does not exist for UK only, EU MRL should be used for guidance.
3. Where MRL does not exist for EU only, the MRL from UK or Netherlands, which ever is higher should be used for guidance.

All analytical values above LOQ to be reported at two decimal places

MRL Update:

1. UK MRLs – update available 4th Jan.2005
2. Netherlands MRLs – update available December 2004
3. EU MRLs – update available November 2004

National Research Centre for Grapes, Pune

NATIONAL REFERRAL LABORATORY

Trade name of recommended pesticides

S. No.	Pesticide recommended for major disease and pest	Trade name of Pesticide
1.	Mancozeb 75 WP, 35 %SC	Mezet, Indofil M-45, Dithane M-45, Abic M-45, Sparsh, Zeptane, Usthane, Mcozeb, Mascithane M-45, Flowin (35 SC)
2.	Ziram 80 WP	Cuman L
3.	Propineb 70 WP	Antracol
4.	COC 50 WP, 50WG	Blitox, Blue copper, Fytolan, Copper bond, Coptar, Blimex, Cuprasole, Mascicop, Canopi, Topgun (50 WG)
5	Copper hydroxide 77WP	Kocide 101
6.	Bordeaux Mixture	
7.	Captan 50 WP, 75WP	Captaf, Chicap, Deltan, Metpan
8	Chlorothalonil 75WP	Kavach
9.	Fosetyl AI 80WP	Alliete
10.	Metalaxyl + Mancozeb 8%+64 WP	Saaf, Campanin, Sixer
11.	Cymoxanil + Mancozeb 8%+64 WP	Curzet M-8, Benguard
12.	Penconazole10 EC	Topaz
13.	Triademefon 25 WP	Bayleton
14.	Hexaconazole 5 EC, 5SC	Contaf, Hexazole, Triger, Hexacell, Sitara, Results, Hexacure
15.	Myclobutanil 10 WP	Systhane
16.	Dinocap 48 EC	Kerathane
17.	Sulfur 40 SC, 55.16 SC, 80 WP, 80 WDG, 85 WP	Shear (40SC), Thiovit, Sultaf, Sulfex, Sulfotox, Masciself (80WP), Cosaveth, Wocoveth, Kumulus (80WG)
18.	Potassium bi-carbonate	
19	Azadirachtin (0.03%)	Bioneem
2a.	Ziram 80 WP	Cuman L
3a	Propineb 70 WP	Antracol
4a.	COC 50 WP, 50 WG	Blitox, Blue copper, Fytolan, Copper bond, Coptar, Blimex, Cuprasole, Mascicop, Canopi, Topgun (50 WG)
5a.	Copper hydroxide 77 WP	Kocide 101
20.	Iprobenphos 48EC	Ketazine, Blatel

S. No.	Pesticide recommended for major disease and pest	Trade name of Pesticide
21.	Carbendazim 50 WP, 46.27 SC	Bavistin, Derosal, Zoom, Benfeel, Delsen, Mascistein, Zimgreen
22.	Carbaryl 50 WP	Sevin, Moscicarb
23.	Imidacloprid 200 SL	Confidor, Tatamida.
24.	Thiamethoxam 25 WG	Actara, Urja
25.	Dimethoate 30 EC	Rogor, Cellgore, Niugore, Ultragore, Tara, Novagore, Mascigore
26.	Endosulfan 35 EC	Endocell, Thiodan, Endoff, Thiokill, Sufan, Lusalfan, Endocure, Mascisulfan
19a.	Azadirachtin	Neemazal, Econeem, Achook, Nimbicidine, Neemark.
27.	Chlorpyrifos 20 EC	Radar, Tafaben, Trycell, Durmet, Strike, Billcore, Dursban, Glez, Niuchlore, Suben, Classic, Axichlore
28.	Malathion 50 EC	Sisthion, Mascithion, Melatox
29.	Phosalone 35 EC	Zolene, Voltane
29.	Methomyl 40 SP	Lannet, Dunet
30.	Dichlorvos 76 WSC	Nuvan, Pona, Suchlore, Vantaf, Mascivos, Luhon
19b.	Azadirachtin	Neemazal, Econeem, Achook, Nimbicidine, Neemark.
29a.	Phosalone 35 EC	Zolene, Voltane
26a.	Chlorpyrifos 20 EC	Radar, Tafaben, Trycell, Durmet, Strike, Billcore, Dursben, Glez, Niuchlore, Suben, Classic, Axichlore , Chloguard
29a.	Methomyl 40 SP	Lannet, Dunet
32.	Dicofol 18.5 EC	Kelthane, Difole, Kernel S, Tictok, Kolonil, Dicotoff, Dicomac