

Dear Sirs/Madam,

This is further to our e-mail of 25th January, 2007 issuing Amendment - 4. In this connection, enclosed please find revised Annexure 7 and Annexure 11 along with updated MRL values required to be following during the 2007 grape season.

You are requested to kindly taken note of the above amendment.

With regards,

S. Dave

Director - APEDA

**PESTICIDES RECOMMENDED FOR THE CONTROL OF VARIOUS DISEASES AND
INSECT PESTS BASED ON THE STUDIES AT NRC GRAPES AND AICRP ON
GRAPES OF ICAR (2006-2007)**



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S. No.	Pesticide recommended for major disease and pest	Nature of pesticide	Dose on formulation basis	MRL (mg/kg)				Pre-harvest Interval in Days (PHI)
				EU	UK	NL	Germany	
I	Downy Mildew							
1.	Mancozeb 75 WP, (Indofil M-45, Dithane M-45)	NS	1.5-2.0 g/L	2.00	2.00	3.00	2.00	35
2.	Ziram 80 WP, 27SC (Cuman L)	NS	1.5-2.0 g/L, 3.5 ml/L	2.00	#	3.00	2.00	66
3.	Propineb 70 WP (Antracol)	NS	3 g/L	2.00	2.00	3.00	2.00	40
4.	COC 50 WP (Blitox, Fytolan, Blue Copper)	NS	2.5 g/L, 2.4g/L	#	#	Cu = 20.00	40.00	42 (Avoid using after fruit set)
5.	Copper hydroxide 77 WP (Kocide 101)	NS	2.0 g/L	#	#	Cu = 20.00	40.00	42 (Avoid using after fruit set)
6.	Bordeaux Mixture (Copper sulphate + Lime ISI mark chemicals preferred)	NS	Pre-sprouting 1.0 % Post-sprouting 0.5%	#	#	Cu = 20.00	40.00	42 (Avoid using after fruit set)
7.	Captan 50 WP, 75 WP (Captaf)	NS	2.5 g/L, 1.67 g/L	0.02	0.02	0.02	0.02	60
8.	Chlorothalonil 75 WP (Kavach)	NS	2.0 g / L	1.00	1.00	1.00	1.00	60
9.	Fosetyl AL 80 WP (Aliette)	S	1.4-2 g/L	#	#	2.00	5.00	30
10.	Metalaxyl + Mancozeb 8+64 WP (Ridomil MZ, Tata Master)	S+NS	2.5 g/L	2.00+ Mancozeb 2.00	2.00+ Mancozeb 2.00	2.00+ Mancozeb 3.00	2.00 + Mancozeb 2.00	66
11.	Cymoxanil + Mancozeb 8+64 WP (Curzate M-8)	S+NS	2 g/L	# + Mancozeb 2.00	0.10 + Mancozeb 2.00	0.05 + Mancozeb 3.00	0.20 + Mancozeb 2.00	66

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				EU	UK	NL	Germany	
12	Dimethomorph 50 WP + Mancozeb (Acrobat +Mancozeb)	S + NS	0.5 to 0.75 g/L + 2g/L	# + Mancozeb 2.00	# + Mancozeb 2.00	0.05 + Mancozeb 3.00	2.00 + Mancozeb 2.00	66
13.	Azoxystrobin 23 SC (Amistar)	S	200 ml /Acre	2.00	2.00	2.00	2.00	7
II	<u>Powdery Mildew</u>							
14.	Penconazole 10 EC (Topas)	S	0.5 ml/L	0.20	0.20	0.20	0.20	50
15.	Triadimefon 25 WP (Bayleton)	S	0.5-1.0 g/L	2.00	2.00	2.00	2.00	45
16.	Hexaconazole 5 EC, 5 SC (Contaf)	S	1.0 ml / L or 0.5 ml/L along with 5 g / L potassium bicarbonate	0.10	0.10	0.10	0.10	38
17.	Myclobutanil 10 WP (Systhane)	S	0.4 g/L	1.00	1.00	1.00	1.00	30
18.	Flusilazole** 40 EC (Nustar)	S	25 ml / 200L	#	#	0.05	0.01	50 **
19.	Fenarimol 10 EC (Rubigan)	S	0.4 ml / L	0.30	0.30	0.30	0.30	30
20.	Difenoconazole 25EC (Score)	S	0.5 ml / L	#	#	0.05	0.05	45
21.	Dinocap 48 EC (Karathane)	NS	0.3 - 0.35 ml/L	#	#	0.05	0.50	50
22.	Sulfur 40 SC, 55.16 SC, 80 WP, 80 WDG, 85 WP (Sulfex, Kumulus, Sultaf, Thiovit)	NS	3 ml, 3ml, 2.5 g, 1.87-2.5 g, 1.5-2 g per L respectively	#	#	50.00	50.00	Avoid using after fruit set
23.	Potassium bi-carbonate (Available as Potassium Bicarbonate)	NS	5 to 10 g / L	—	—	—	--	--
24.	Azadirachtin 0.03% (Tricure)	Neem based EC formulation	4 ml/L	--	--	--	-	2
13a.	Azoxystrobin 23 SC (Amistar)	S	200 ml / Acre	2.00	2.00	2.00	2.00	7
III	<u>Anthraco</u>							
2a.	Ziram 80 WP, 27SC (Cuman L)	NS	1.5-2.0 g/L, 3.5 ml/L	2.00	#	3.00	2.00	66
3a	Propineb 70 WP (Antracol)	NS	3 g/L	2.00	2.00	3.00	2.00	40

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				EU	UK	NL	Germany	
4a.	COC 50 WP (Blitox, Fytolan, Blue Copper)	NS	2.5 g/L, 2.4g/L	#	#	Cu = 20.00	40.00	42 (Avoid using after fruit set)
5a.	Copper hydroxide 77 WP (Kocide 101)	NS	2.0 g/L	#	#	Cu = 20.00	40.00	42 (Avoid using after fruit set)
25.	Iprobenphos 48 EC (Kitazin)	S	2.0 ml/L	#	#	#	0.01	50
26.	Carbendazim 50 WP, 46.27 SC (Bavistin)	S	1 g/L, 1 ml/L	0.30	0.30	0.30	0.30	50
IV	Post harvest berry rots							
27.	Iprodione 50 WP (Rovral)	NS	2.0 g / L	10.00	10.00	10.00	10.00	7
V	Flea beetles							
28.	Carbaryl 50 WP (Sevin)	NS	2.0 g/L	0.05	0.05	0.05	3.00	42
29.	Imidacloprid 200 SL (Confidor)	S	0.3 ml/L	#	#	1.00	0.05	60
30.	Thiamethoxam 25 WG (Actara)	S	0.25 g/L	#	#	0.05	0.01	40
31.	Lambda-cyhalothrin 05 EC/CS (Karate EC & Karate Zeon CS)	NS	0.50 ml/L	0.20	0.20	0.20	0.20	30
32.	Clothianidin 50 WDG (Dantop)	S	0.12 g/L	#	#	#	0.01	40
VI	Thrips and Jassids							
30a.	Thiamethoxam 25 WG (Actara)	S	0.25 g/L	#	#	0.05	0.01	40
33.	Spinosad 45 SC (Tracer)	NS	0.25 ml/L	#	0.50	0.20	0.20	28
34.	Emamectin benzoate 05 SG (Proclaim)	NS	0.22 g/ml/L	#	#	#	0.01	25
35.	Difenthiuron 50 SC (Polo)	S	0.80 g/ml/L	#	#	#	0.01	45
36.	Dimethoate 30 EC (Rogor)	S	1 ml/L	0.02	0.02	0.02	0.02	100 (Should not be used after blossom)
37.	Endosulfan 35 EC (Thiodan)	NS	2ml/L	0.50	0.50	0.50	0.50	65

S. No.	Pesticide recommended for major disease and pest	Nature of pesticide	Dose on formulation basis	MRL (mg/kg)				Pre-harvest Interval in Days (PHI)
				EU	UK	NL	Germany	
24a.	Azadirachtin (Neemazal T/S 1%, Neemazal F 5%, Econeem plus 1%, Ozoneem Thrishul 1%)	Neem based EC formulation	1% & 5% @ 2 & 1ml/L	--	--	--	-	3
31a.	Lambda-cyhalothrin 05 EC/CS (Karate EC & Karate Zeon CS)	NS	0.50 ml/L	0.20	0.20	0.20	0.20	30
29a.	Imidacloprid 200 SL (Confidor)	S	0.30 ml/L	#	#	1.00	0.05	60
32a.	Clothianidin 50 % WDG (Dantop)	S	0.12 g/L	#	#	#	0.01	40
VII Mealy bugs								
38.	Chlorpyrifos 20 EC (Dursban)	NS	2.0 ml/L	0.50	0.50	0.50	0.50	40
39.	Malathion 50 EC (Malathion)	NS	2.0 ml/L	0.50	0.50	0.50	0.50	40
40.	Phosalone 35 EC (Zolone)	NS	2.0 ml/L	1.00	1.00	1.00	1.00	40
41.	Methomyl 40 SP (Lannate)	NS	1.0 g/L	0.05	0.05	0.05	0.05	61
42.	Dichlorvos 76 EC (Nuvan)	NS	1.0 ml/L	0.10	0.10	0.10	0.10	15
43.	Cartap Hydrochloride 50 SP (Padan)	S	2.0 g/L	#	#	1.00	0.01	40
44.	Buprofezin 25 SC (Applaud)	NS	1.25 ml/L	#	#	0.05	0.02	30
24b.	Azadirachtin (Neemazal T/S 1%, Neemazal F 5%, Econeem plus 1%, Ozoneem Thrishul 1%)	Neem based EC formulations	1% & 5% @ 2 & 1 ml/L	--	--	--	--	3
VIII Caterpillars								
40a.	Phosalone 35 EC (Zolone)	NS	2.0 ml/L	1.00	1.00	1.00	1.00	40
38a.	Chlorpyrifos 20 EC (Dursban)	NS	2.0 ml/L	0.50	0.50	0.50	0.50	40
41a.	Methomyl 40 SP (Lannate)	NS	1.0 g/L	0.05	0.05	0.05	0.05	61
33a.	Spinosad 45 SC (Tracer)	NS	0.25 ml/L	#	0.50	0.20	0.20	28
31b.	Lambda-cyhalothrin 05 EC/CS (Karate EC & Karate Zeon CS)	NS	0.50 ml/L	0.20	0.20	0.20	0.20	30

S. No.	Pesticide recommended for major disease and pest	Nature of pesticide	Dose on formulation basis	MRL (mg/kg)				Pre-harvest Interval in Days (PHI)
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24c.	Azadirachtin (Neemazal T/S 1%, Neemazal F 5%, Econeem plus 1%, Ozoneem Thrishul 1%)	Neem based EC formulations	1% & 5% @ 2 & 1 ml/L	--	--	--	--	3
IX	Mites							
45.	Dicofol 18.5 EC (Kelthane)	NS	1.0 ml/L	2.00	2.00	2.00	2.00	100
35a.	Difenthiuron 50 SC (Polo)	S	0.8 ml/L	#	#	#	0.01	45
24d.	Azadirachtin (Neemazal T/S 1%, Neemazal F 5%, Econeem plus 1%, Ozoneem Thrishul 1%)	Neem based EC formulations	1% & 5% @ 2 & 1 ml/L	--	--	--	--	3

NS= Non systemic

S= Systemic

= No MRLs given as yet

Note

- All the doses mentioned above are for high volume sprayers, where normal spray volume is 1000 L/ha. Spray volume can however, be changed as per Efficiency of sprayers used.
- After fruit set, 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.

****** The PHI of flusilazole pertains to one application by foliar spray only. For export to Germany, the use of pesticides has to be managed very carefully in last 60 days before harvest to ensure the MRL compliance.

“Combination Products” which contains two or more active ingredients as given in the above list can be used. However, the dose of the individual active ingredient should not exceed the recommended dose.

Annexure-11
Updated on: 07.02.2007

List of Pesticides to be Analyzed

Sr.No.	Chemicals	Value in mg/kg				
		EU	UK	Netherlands	Germany	Codex
	A) Organochlorine					
1	Aldrin(expressed as dieldrin)	0.01	0.01	0.01	0.01	
2	Chlordane (cis & trans)	0.01	0.01	0.01	0.01	
3	Chlorothalonil	1.00	1.00	1.00	1.00	0.50
4	DDT (all isomers)	0.05	0.05	0.05	0.01	
5	Dicofol	2.00	2.00	2.00	2.00	5.00
6	Dieldrin (See Aldrin)					
7	Endosulphan (All isomers)	0.50	0.50	0.50	0.50	1.00
8	Endrin	0.01	0.01	0.01	0.01	
9	HCH (alpha & beta)	0.01	0.01	0.01**	0.01	
10	Heptachlor	0.01	0.01	0.01	0.01	
11	Lindane	0.01	0.01	0.01	0.01	0.50
	B) Organophosphorus					
12	4-bromo-2-chlorophenol	0.01	0.01	0.01	0.01	
13	Acephate	0.02	0.02	0.02	0.02	
14	Chlorfenvinphos	0.05	0.05	0.05	0.05	
15	Chlorpyrifos	0.50	0.50	0.50	0.50	0.50
16	Chlorpyrifos-methyl	0.20	0.20	0.20	0.20	0.20
17	Diazinon	0.02	0.02	0.02	0.02	
18	Dichlorvos	0.10	0.10	0.10	0.10	
19	Dimethoate (Including Omethoate)	0.02	0.02	0.02	0.02	1.00
20	Ethion	0.50	0.50	0.50	0.50	
21	Etrimphos	#	#	0.05	0.02	
22	Fenitrothion	0.01	0.01	0.01	0.50	0.50
23	Fosetyl- Al	#	#	2.00	5.00	
24	Iprobenphos	#	#	#	0.01	
25	Malathion	0.50	0.50	0.50	0.50	8.00
26	Methamidophos	0.01	0.01	0.01	0.01	
27	Monocrotophos	#	#	0.05	0.01	

Sr.No.	Chemicals	EU	UK	Netherlands	Germany	Codex
28	Omethoate (refer to Dimethoate)					
29	Oxydemeton-methyl	0.02	0.02	0.02	0.02	
30	Parathion ethyl	0.05	0.05	0.05	0.05	
31	Parathion-methyl	0.02	0.02	0.02	0.02	
32	Phorate	0.05	0.05	0.05	0.05	
33	Phosalone	1.00	1.00	1.00	1.00	
34	Phosphamidon	0.15	#	0.20	0.15	
35	Profenophos	0.05	0.05	0.05	0.05	
36	Quinalphos	0.05	0.05	0.05	0.05	
37	Triazophos	0.01	0.01	0.01	0.02	
	C) Synthetic Pyrethroids					
38	Cyfluthrin	0.30	0.30	0.30	0.30	
39	Cypermethrin	0.50	0.50	0.50	0.50	0.50
40	Deltamethrin	0.20	0.20	0.20	0.10	0.20
41	Ethofenprox (Etofenprox)	#	#	0.01	1.00	
42	Fenvalerate & Esfenvalerate (sum of RR & SS isomers)	0.10	0.10	0.10	0.10	1.00
43	Fenvalerate & Esfenvalerate (sum of RS & SR isomers)	0.02	0.02	0.02	0.02	1.00
44	Lambda-cyhalothrin	0.20	0.20	0.20	0.20	
45	Permethrin	0.05	0.05	0.05	0.05	2.00
	D) Triazines					
46	Atrazine	0.05	0.05	0.05	0.10	
47	Simazine	#	#	0.10	0.10	
	E) Acylamino acid fungicides					
48	Metalaxyl	2.00	2.00	2.00	2.00	1.00
	F) Carbamates					
49	Carbaryl	0.05	0.05	0.05	3.00	5.00
50	Carbofuran	0.10	0.02	0.05	0.02	
51	Carbosulfan	0.05	0.05	0.05	0.05	
52	Indoxacarb	#	#	0.50	0.30	
53	Methomyl	0.05	0.05	0.05	0.05	5.00

Sr.No.	Chemicals	EU	UK	Netherlands	Germany	Codex
54	Thiodicarb (See Methomyl)					
	<u>G) Pyrimidines</u>					
55	Fenarimol	0.30	0.30	0.30	0.30	0.30
	<u>H) Triazoles</u>					
56	Bitertanol	0.05	0.05	0.05	0.05	
57	Flusilazole	#	#	0.05	0.01	0.50
58	Hexaconazole	0.10	0.10	0.10	0.10	0.10
59	Myclobutanil	1.00	1.00	1.00	1.00	1.00
60	Penconazole	0.20	0.20	0.20	0.20	0.20
61	Propiconazole	0.50	0.05	0.50	0.50	0.50
62	Tebuconazole	#	#	2.00	2.00	2.00
63	Triadimefon	2.00	2.00	2.00	2.00	
64	Difenoconazole	#	#	0.05	0.05	
	<u>I) Dicarboximides</u>					
65	Captafol	0.02	0.02	0.02	0.02	
66	Captan	0.02	0.02	0.02	0.02	
67	Iprodione	10.00	10.00	10.00	10.00	10.00
	<u>J) Benzimidazole</u>					
68	Carbendazim (Including Benomyl)	0.3	0.3	0.3	0.30	10.00
69	Thiophanate-methyl	0.10	0.1	0.1	0.10	
	<u>K) Dithiocarbamates</u>					
70	Carbon di sulfide (Mancozeb, Maneb, Propineb, Metiram, Thiram and Ziram collectively estimated as CS ₂)	2.00	2.00	3.00	2.00 (Thiram 4.00)	5.00
71	Ethylene thiourea	#	#	0.02	0.05	
	<u>L) Nicotinoids</u>					
72	Acetamiprid	#	#	#	0.01	
73	Clothianidin	#	#	#	0.01	
74	Imidacloprid	#	#	1.00	0.05	1.00
75	Thiacloprid	#	#	0.02	0.01	
76	Thiamethoxam	#	#	0.05	0.01	
	<u>M) Dinitrophenol</u>					

Sr.No.	Chemicals	EU	UK	Netherlands	Germany	Codex
77	Dinocap	#	#	0.05	0.50	0.50
	N) Aliphatic Nitrogen fungicides					
78	Cymoxanil	#	0.10	0.05	0.20	
	O) Morpholine					
79	Dimethomorph	#	#	0.05	2.00	
	P) Natural Product Derivative					
80	Buprofezin	#	#	0.05	0.02	
81	Cartap hydrochloride	#	#	1.00	0.01	
82	Emamectin Benzoate	#	#	#	0.01	
83	Spinosad (Sum of Spinosyn A+B)	#	0.50	0.20	0.20	0.50
	Q) Substituted Thiourea					
84	Difenthiuron	#	#	#	0.01	
	R) Others					
85	Azoxystrobin	2.00	2.00	2.00	2.00	
86	Fipronil	#	#	0.01	0.01	
87	Flufenoxuron	#	#	0.05	0.10	
88	Metaldehyde	#	#	0.50	0.20	
89	Oxyfluorfen	#	#	#	0.01	
90	Propargite	#	#	10.00	3.00	

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

No MRL exists, watch for amendments

EU Update: - 16th November 2006

UK Update:- 23rd January 2007

Netherlands Update: -21st January 2007

German MRL Update