



राष्ट्रीय अंगूर अनुसंधान केन्द्र  
(भारतीय कृषि अनुसंधान परिषद)

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**Annexure-5**  
Revision date: 5<sup>th</sup> December, 2011

**List of chemicals with CIB&RC label claim for use in grapes**

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg) updated as on 09/11/2011	Pre-harvest Interval (PHI in days)
<b>I</b>	<b>Downy Mildew</b>				
1.	Mancozeb 75 WP	NS	1.5-2.0 g/L	5.0	35 (avoid using after fruit set)
2.	Propineb 70 WP	NS	3.0 g/L	1.0	40 (avoid using after fruit set)
3.	COC 50 WP	NS	2.5 g/L, 2.4 g/L	50.0	42 (avoid using after fruit set)
4.	Chlorothalonil 75 WP	NS	2.0 g/L	1.0	60
5.	Fosetyl Al 80 WP	S	1.4-2.0 g/L	100.0	7
6.	Metalaxyl + Mancozeb 8+64 WP	S+NS	2.5 g/L	2.0 + 5.0	66
6a.	Metalaxyl-M + Mancozeb 4+64 WP	S+NS	2.5 g/L	2.0 + 5.0	66
7.	Cymoxanil + Mancozeb 8+64 WP	S+NS	2.0 g/L	0.2 + 5.0	66
8.	Dimethomorph 50 WP + Mancozeb 75WP as tank mixture	S+NS	0.5 to 0.75 g/L + 2.0 g/L	3.0 + 5.0	66
9.	Fenamidone + Mancozeb 10+50 WG	S+NS	2.5 to 3 g/L	0.5 + 5.0	66
10.	Azoxystrobin 23 SC	S	494 mL/ha	2.0	7
11.	Iprovalicarb + Propineb 5.5+61.25WP	S+NS	2.25 g/L	2.0 + 1.0	55

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg) updated as on 09/11/2011	Pre-harvest Interval (PHI in days)
12.	Famoxadone 16.6 % + Cymoxanil 22.1 % SC	S+NS	500 mL/ha	2.0 + 0.2	27
13.	Kresoxim methyl 44.3 SC	S	600-700 mL/ha	1.0	30
14.	Fenamidone 4.44% + Fosetyl-Al 66.66% WDG	S	2 to 2.5 kg/ha	0.5 + 100	27
15.	Pyraclostrobin 5% + Metiram 55% 60WG	S+NS	1.5-1.75 kg/ha	1+5	15
16.	Mandipropamid 23.4% SC	NS	0.8 mL/L	2.0	5
<b>II</b>	<b>Powdery Mildew</b>				
17.	Penconazole 10 EC	S	0.50 mL/L	0.2	50
18.	Triadimefon 25 WP	S	0.50-1.0 g/L	2.0	45
19.	Hexaconazole 5EC	S	1.0 mL/L	0.1	38
20.	Myclobutanil 10 WP	S	0.40 g/L	1.0	30
21.	Flusilazole 40 EC	S	25 mL / 200 L	0.05	50
22.	Fenarimol 10 EC	S	0.40 mL / L	0.3	30
23.	Difenoconazole 25EC	S	0.50 mL / L	0.5	45
10a.	Azoxystrobin 23 SC	S	494 mL / ha	2.0	7
13a.	Kresoxim methyl 44.3 SC	S	600-700 mL/ha	1.0	30
24.	Dinocap 48 EC	NS	0.30 - 0.35 mL/L	0.05	50 (avoid application when tender shoots are present in canopy)
25.	Sulfur 40 SC, 55.16 SC, 80 WP, 80 WDG, 85 WP	NS	3.0 mL, 3.0 mL, 2.50 g, 1.87-2.50 g, 1.50-2.0 g/L, respectively	50.0	15
26.	Tetraconazole 3.8EW	S	0.75 mL/L	0.5	30
<b>III</b>	<b>Anthracnose</b>				
2a	Propineb 70 WP	NS	3.0 g/L	1.0	40
3a.	COC 50 WP	NS	2.5 g/L, 2.40 g/L	50.0	42 (avoid using after fruit set)
27.	Carbendazim 50 WP, 46.27 SC	S	1.0 g/L, 1.0 mL/L	0.30	50
<b>IV</b>	<b>Flea beetles</b>				
28.	Imidacloprid 17.8 SL	S	0.30 mL/L	1.0	60

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg) updated as on 09/11/2011	Pre-harvest Interval (PHI in days)
29.	Clothianidin 50 WDG*	S	0.12 g/L	0.6	40
30.	Lambda-cyhalothrin 05 EC*	NS	0.50 mL/L	0.2	30
31.	Thiamethoxam 25 WG*	S	0.25 g/L	0.5	40
<b>V</b>	<b>Thrips</b>				
29a.	Clothianidin 50 WDG*	S	0.12 g/L	0.6	40
32.	Emamectin benzoate 05 SG	NS	0.22 g/L	0.05	25
33.	Fipronil 80 WG	NS	0.05 g/L	0.005	60
30a.	Lambda-cyhalothrin 05 EC *	NS	0.50 mL/L	0.2	30
34.	Spinosad 45 SC*	NS	0.25 mL/L	0.5	28
31a.	Thiamethoxam 25 WG*	S	0.25 g/L	0.5	40
<b>VI</b>	<b>Jassids</b>				
29b.	Clothianidin 50 WDG*	S	0.12 g/L	0.6	40
30b.	Lambda-cyhalothrin 05 EC *	NS	0.50 mL/L	0.2	30
31b.	Thiamethoxam 25 WG*	S	0.25 g/L	0.5	40
<b>VII</b>	<b>Mealy bugs</b>				
35.	Buprofezin 25 SC	NS	1.25 mL/L	1.0	40
36.	Methomyl 40 SP	NS	1.0 g/L	0.02	61 (one application only at pre-flowering stage)
37.	Imidacloprid 70 WG*	S	0.45 g/L/vine as soil drench	1.0	60
<b>VIII</b>	<b>Caterpillars (<i>Helicoverpa armigera</i> and <i>Spodoptera litura</i>)</b>				
34a.	Spinosad 45 SC*	NS	0.25 mL/L	0.5	28
30c.	Lambda-cyhalothrin 05 EC *	NS	0.50 mL/L	0.2	30
32a.	Emamectin benzoate 05 SG	NS	0.22 g/L	0.05	25
<b>IX</b>	<b>Mites</b>				
38.	Fenpyroximate 5 SC*	NS	1.5 mL/L	0.3	60
25a.	Sulphur 80 WDG	NS	1.50-2.0 g/L	50.00	15

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg) updated as on 09/11/2011	Pre-harvest Interval (PHI in days)
<b>X</b>	<b>Plant Growth Regulators</b>				
39.	Hydrogen cyanamide 50 SL	S	30-40 mL/L	0.05	90-120
40.	Forchlorfenuron (CPPU) 0.1% L	S	1-2 ppm	0.05	22 (for 1 ppm dose) 30 (for 2 ppm dose)
41.	Gibberellic acid (GA3) Technical	S	100 ppm (Cumulative Usage)	5.00	7
42.	1-Naphthyl acetic acid 4.5% L	S	100 ppm	0.05	PHI data not available
43.	Chlormequat chloride 50 SL	S	250 ppm	0.05	PHI data not available
<b>XI</b>	<b>Herbicides</b>				
44.	Paraquat dichloride 24 SL	NS	5 mL/L	0.02	PHI data not available

NS = Non-systemic, S = Systemic

#### 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 the efficiency of sprayers used. However, the amount of each pesticide based on its active ingredient recommended for 1 ha area on the basis of 1000 L spray solution should be strictly maintained to minimize pesticide residues.
- Recommended PHI will be valid only if two applications of an agrochemical are given per fruiting season at the interval of 7-15 days at recommended dose except in case of Flusilazole and Methomyl.  
The PHI of the fungicide Flusilazole and insecticide Methomyl pertains to one application by foliar spray only.
- Imidacloprid (17.8 SL or 70 WG) application (spraying or soil drenching) should not exceed more than two times per fruiting season.
- The chemicals at Sl. No. 42, 43 and 44 are having label claim for grapes with CIB&RC, but no PHI data is available for EU MRL. The farmers need to be cautious about the dose and stage of application as per the need.
- \* As per the Office Memorandum F. No. 13035/18/2010-PP.I dated 21.10.2010 (extended for one year on 08.11.2011) of the Govt. of India, Ministry of Agriculture, Department of Agriculture and Cooperation regarding the label expansion of insecticides for control of insect-pests of grapes.
- The responsibility of usage of chemicals for the management of any of the above pests and diseases will rest with the growers in compliance with the requirements of the importers / EU and, in the minimum; all chemicals listed in Annexure 9 should be tested.