



राष्ट्रीय अंगूर अनुसंधान केन्द्र
(भारतीय कृषि अनुसंधान परिषद)

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Annexure-5
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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)	Pre-harvest Interval (PHI in days)
I	Downy Mildew				
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.	Copper hydroxide 53.8 DF	NS	1.5 g/L	50.0	12
5.	Chlorothalonil 75 WP	NS	2.0 g/L	3.0	60
6.	Fosetyl Al 80 WP	S	1.4-2.0 g/L	100.0	7
7.	Metalaxyl + Mancozeb 8+64 WP	S+NS	2.5 g/L	2.0 + 5.0	66
7a.	Metalaxyl-M + Mancozeb 4+64 WP	S+NS	2.5 g/L	2.0 + 5.0	66
8.	Cymoxanil + Mancozeb 8+64 WP	S+NS	2.0 g/L	0.2 + 5.0	66
9.	Ametoctradin 27 + Dimethomorph 20.27 SC	NS + S	800-1000mL/ha	6.0 + 3.0	34
10.	Dimethomorph 50 WP + Mancozeb 75 WP as tank mixture	S+NS	0.5 to 0.75 g/L + 2.0 g/L	3.0 + 5.0	66
11.*	Fenamidone + Mancozeb 10+50 WG	S+NS	2.5 to 3 g/L	0.5 + 5.0	66
12.*	Azoxystrobin 23 SC	S	494 mL/ha	2.0	7

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg)	Pre-harvest Interval (PHI in days)
13.	Iprovalicarb + Propineb 5.5+61.25WP	S+NS	2.25 g/L	2.0 + 1.0	55
14.*	Famoxadone 16.6 % + Cymoxanil 22.1 % SC	S+NS	500 mL/ha	2.0 + 0.2	27
15.*	Kresoxim methyl 44.3 SC	S	600-700 mL/ha	1.0	30
16.	Fluopicolide 4.44% + Fosetyl-Al 66.67% WG	S	2.25 to 2.5 kg/ha	2.0 + 100	40
17.*	Pyraclostrobin 5% + Metiram 55% 60WG	S+NS	1.5-1.75 kg/ha	1+5	15
18.	Mandipropamid 23.4% SC	NS	0.8 mL/L	2.0	5
II Powdery Mildew					
19.	Penconazole 10 EC	S	0.50 mL/L	0.2	50
20.	Triadimefon 25 WP	S	0.50-1.0 g/L	2.0	45
21.	Hexaconazole 5EC	S	1.0 mL/L	0.01	60
22.	Myclobutanil 10 WP	S	0.40 g/L	1.0	30
23.	Flusilazole 40 EC	S	25 mL / 200 L	0.01	60
24.	Fenarimol 10 EC	S	0.40 mL / L	0.3	30
25.	Difenoconazole 25EC	S	0.50 mL / L	3.0	45
12a.	Azoxystrobin 23 SC	S	494 mL / ha	2.0	7
15a.	Kresoxim methyl 44.3 SC	S	600-700 mL/ha	1.0	30
26.	Dinocap 48 EC	NS	0.30 - 0.35 mL/L	0.02	65(avoid application when tender shoots are present in canopy)
27.	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
28.	Tetraconazole 3.8EW	S	0.75 mL/L	0.5	30
III Anthracnose					
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)
29.	Carbendazim 50 WP, 46.27 SC	S	1.0 g/L, 1.0 mL/L	0.30	50

Sr. No.	Chemical recommended for major disease & pest	Nature of chemical	Dose on formulation basis	EU MRL (mg/kg)	Pre-harvest Interval (PHI in days)
30.	Thiophanate methyl 70 WP	S	0.71- 0.95g/L	0.1	50 Use of Thiophanate methyl should be avoided after flowering stage
IV Flea beetle					
31.	Imidacloprid 17.8 SL	S	0.30-0.40 mL/L	1.0	60 (Use of imidacloprid should be avoided during pre-flowering and flowering stage)
32.	Lambda-cyhalothrin 05 CS	NS	0.25-0.50 mL/L	0.2	30
V Thrips					
33.	Emamectin benzoate 05 SG	NS	0.22 g/L	0.05	25
34.	Fipronil 80 WG	NS	0.05-0.06 g/L	0.005	60 (only one application before flowering stage)
32a.	Lambda-cyhalothrin 05 CS	NS	0.50 mL/L	0.2	30
VI Mealybugs					
35.	Buprofezin 25 SC	NS	1.00-1.50 mL/L	1.0	40
36.	Methomyl 40 SP	S	1.25 g/L	0.02	61 (only one application before flowering stage)
VII Plant Growth Regulators					
37.	Hydrogen cyanamide 50 SL	S	30-40 mL/L	0.01	90-120
38.	Forchlorfenuron (CPPU) 0.1% L	S	1-2 ppm	0.01	60
39.	Gibberellic acid (GA3) Technical	S	100 ppm (Cumulative Usage)	5.00	7
40.	1-Naphthyl acetic acid 4.5% L	S	100 ppm	0.05	15
41.	Chlormequat chloride 50 SL	S	250 ppm	0.05	PHI data not available
VIII Herbicides					
42.	Paraquat dichloride 24 SL	NS	5 mL/L	0.02	PHI data not available

NS = Non-systemic, S = Systemic

*Resistance in downy mildew based on Cys b gene (G143A) has been detected against QoI fungicides (Fenamidone, Azoxystrobin, Famoxadone, Kresoxim methyl and Pyraclostrobin) in India from Sangli area. Use of these formulations containing these fungicides during high risk periods should be avoided.

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, Methomyl and Fipronil where not more than one application per season should be given.
The PHI of the fungicide Flusilazole and insecticide Methomyl pertains to one application by foliar spray only.
- 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.