

**List of Chemicals to be monitored for the grape season 2010-2011**

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg) <u>updated on 10/11/2010</u>	Status in EU under Directive 91/414/EEC
<b>I) Organochlorine</b>			
1.	Aldrin (Aldrin and dieldrin combined expressed as dieldrin)	0.01*	Out/Banned
2.	Chlordane (cis & trans)	0.01*	Out/Banned
<b>3.</b>	<b><u>Chlorothalonil</u>**</b>	<b>1.00</b>	<b>In</b>
4.	DDT (all isomers, sum of p,p'-DDT, o,p'-DDT, p,p'-DDE and p,p'-TDE (DDD) expressed as DDT)	0.05*	Out/Banned
<b>5.</b>	<b><u>Dicofol</u>** (sum of p, p' and o,p' isomers)</b>	<b>2.00</b>	<b>Out/Banned</b>
6.	Dieldrin (see Aldrin)	0.01	Out/Banned
7.	Endosulphan (All isomers, sum of <i>alpha</i> - and <i>beta</i> -isomers and endosulphan sulphate expressed as endosulphan)	0.50	Out
8.	Endrin	0.01*	Out/Banned
9.	HCH (sum of isomers, except the <i>gamma</i> isomer)	0.01*	Out/Banned
10.	Heptachlor (sum of heptachlor and heptachlor epoxide expressed as heptachlor)	0.01*	Out/Banned
11.	Lindane ( <i>gamma</i> -HCH)	0.01*	Out
<b>II) Organophosphorus</b>			
12.	4-bromo-2-chlorophenol (metabolite of Profenophos)	0.01	Out
13.	Acephate	0.02*	Out
14.	Chlorfenvinphos	0.02*	Out/Essential use 835/2004
<b>15.</b>	<b><u>Chlorpyrifos</u>**</b>	<b>0.50</b>	<b>In</b>
16.	Chlorpyrifos methyl	0.20	In
17.	Diazinon	0.01*	Out
18.	Dichlorvos	0.01*	Out
19.	Dimethoate (Including Omethoate)	0.02*	In
20.	Edifenphos	0.01	Out/ Never notified and authorized in the EU
21.	Ethion	0.01*	Out/Essential Use
22.	Etrimfos	0.01	Out
23.	Fenitrothion	0.01*	Out
24.	Fenthion (fenthion and its oxygen analogue, their sulfoxides and sulfone expressed as parent)	0.01*	Out
25.	Glufosinate-ammonium (sum of glufosinate, its salts, MPP and NAG expressed as glufosinate equivalents)	0.10*	In
26.	Glyphosate (and the metabolite aminomethylphosphonic acid)	0.50	In
<b>27.</b>	<b><u>Iprobenphos</u>**</b>	<b>0.01</b>	<b>Out/ Never notified and authorized in the EU</b>
<b>28.</b>	<b><u>Malathion</u>** (sum of malathion and malaoxon</b>	<b>5.00</b>	<b>In</b>

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) <u>updated on 10/11/2010</u>	Status in EU under Directive 91/414/EEC
	<b>expressed as malathion)</b>		
29.	Methamidophos	0.01*	Out
30.	Monocrotophos	0.01	Out
31.	Omethoate (refer to Dimethoate)	0.02	Out
32.	Oxydemeton- methyl (sum of oxydemeton methyl and demeton-S-methylsulfone expressed as oxydemeton methyl)	0.01*	Out
33.	Parathion ethyl	0.05*	Out
34.	Parathion methyl (sum of Parathion methyl and paraoxon methyl expressed as Parathion methyl)	0.02*	Out
35.	Phenthoate	0.01	Out
36.	Phorate (sum of phorate, its oxygen analogue and their sulfones expressed as phorate)	0.05*	Out
<b>37.</b>	<b>Phosalone**</b>	<b>0.05*</b>	<b>Out</b>
38.	Phosphamidon	0.01*	Out
39.	Pirimiphos-methyl	0.05*	In
40.	Profenophos	0.05*	Out
41.	Propetamphos	0.01	Out
42.	Quinalphos	0.05*	Out
43.	Temephos	0.01	Out
44.	Thiometon	0.01	Out
45.	Triazophos	0.01*	Out/Essential use
<b>III)</b>	<b>Synthetic Pyrethroids</b>		
46.	Allethrin and Bioallethrin	0.01	Out
47.	Bifenthrin	0.20	Out/Application resubmitted for inclusion (Reg 33/2008)
48.	Cyfluthrin (including other mixtures of constituent isomers sum of isomers)	0.30	In
49.	Cypermethrin (including other mixtures of constituent isomers sum of isomers)	0.50	In (except beta isomer)
50.	Deltamethrin	0.20	In
51.	Ethofenprox (Etofenprox)	5.00	In
52.	Fenpropathrin	0.01*	Out
53.	Fenvalerate & Esfenvalerate (sum of RR & SS isomers)	0.10	Fenvalerate-Out Esfenvalerate-In
54.	Fenvalerate & Esfenvalerate (sum of RS & SR isomers)	0.02*	Fenvalerate-Out Esfenvalerate-In
<b>55.</b>	<b>Lambda-cyhalothrin**</b>	<b>0.20</b>	<b>In</b>
56.	Permethrin (sum of isomers)	0.05*	Out
57.	<i>tau</i> - Fluvalinate	0.10	Out
58.	Transfluthrin	0.10*	Not Included
<b>IV)</b>	<b>Triazines</b>		
59.	Atrazine	0.05*	Out

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) updated on <u>10/11/2010</u>	Status in EU under Directive 91/414/EEC
60.	Flufenzine	0.10	Out
61.	Simazine	0.20	Out/ Essential use 835/2004
<b>V) Acylamino acid fungicides</b>			
62.	Benalaxyl including other mixtures of constituent isomers including Benalaxyl-M (sum of isomers)	0.20	Benalaxyl-In Benalaxyl-M-Pending
<b>63.</b>	<b><u>Metalaxyl ** &amp; Metalaxyl-M</u></b>	<b>2.00</b>	<b>In</b>
64.	Oxycarboxin	0.05*	Out
65.	Propanil	0.10*	Out
<b>VI) Carbamates</b>			
66.	Bendiocarb	0.01	Out
67.	Benfuracarb	0.05*	Out
<b>68.</b>	<b><u>Benomyl (see carbendazim)**</u></b>	<b>0.30</b>	<b>Out/ Essential use 835/2004</b>
<b>69.</b>	<b><u>Carbaryl**</u></b>	<b>0.05*</b>	<b>Out</b>
70.	Carbofuran (sum of carbofuran and 3-hydroxy-carbofuran expressed as carbofuran)	0.02*	Out
71.	Carbosulfan	0.05*	Out
72.	Dazomet (Methylisothiocyanate resulting from the use of dazomet and metam)	0.02*	Out
73.	Fenobucarb	0.01	Out/ Never notified and authorized in the EU
74.	Indoxacarb (sum of R and S isomers)	2.00	In
75.	Iprovalicarb	2.00	In
<b>76.</b>	<b><u>Methomyl** and Thiodicarb (sum of methomyl and thiodicarb expressed as methomyl)</u></b>	<b>0.02*</b>	<b>Methomyl-In Thiodicarb-Out</b>
77.	Propoxur	0.05*	Out
78.	Thiobencarb (Benthiocarb)	0.10*	Out
79.	Thiodicarb (see Methomyl)	0.02	Methomyl-In Thiodicarb-Out
<b>VII) Pyrimidines</b>			
80.	Fenarimol	0.30	Out
<b>VIII) Triazoles</b>			
81.	Bitertanol	0.05*	Out
82.	Difenoconazole	0.50	In
<b>83.</b>	<b><u>Flusilazole**</u></b>	<b>0.05</b>	<b>In</b>
<b>84.</b>	<b><u>Hexaconazole**</u></b>	<b>0.10</b>	<b>Out</b>
<b>85.</b>	<b><u>Myclobutanil**</u></b>	<b>1.00</b>	<b>Out</b>
86.	Paclobutrazol	0.05	Out
<b>87.</b>	<b><u>Penconazole**</u></b>	<b>0.20</b>	<b>In</b>
88.	Propiconazole	0.05*	In
89.	Tebuconazole	2.00	In
<b>90.</b>	<b><u>Triadimefon **(sum of triadimefon and triadimenol)</u></b>	<b>2.00</b>	<b>Triadimefon-Out Triadimenol-In</b>

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) <u>updated on 10/11/2010</u>	Status in EU under Directive 91/414/EEC
<b>IX) Imidazole</b>			
91.	<u>Fenamidone</u> **	0.50	In
92.	<u>Iprodione</u> **	10.00	In
<b>X) Oxazole</b>			
93.	Famoxadone	2.00	In
<b>XI) Phthalimide</b>			
94.	Captafol	0.02*	Out/Banned
95.	<u>Captan</u> **	0.02*	In
<b>XII) Benzimidazole</b>			
96.	<u>Carbendazim (including Benomyl)</u> **	0.30	Carbendazim - In Approved with restrictions to crops and application rates  Benomyl-Out/Essential use 835/2004
97.	Thiophanate-methyl	0.10*	In
<b>XIII) Dithiocarbamates</b>			
98.	<u>Dithiocarbamates (Mancozeb**, Maneb, Propineb**, Metiram, Thiram, Zineb** and Ziram** collectively estimated as CS2)</u>	5.00	All In except Zineb
<b>XIV) Nicotinoids</b>			
99.	Acetamiprid	0.01*	In
100.	<u>Clothianidin (see thiamethoxam)</u> **	0.60	In/Additional provisions to protect honey bees introduced by Directive 2010/21/EU
101.	<u>Imidacloprid</u> **	1.00	In/Additional provisions to protect honey bees introduced by Directive 2010/21/EU
102.	Thiacloprid	0.02*	In
103.	<u>Thiamethoxam (sum of thiamethoxam and clothianidin expressed as thiamethoxam)</u> **	0.50	In/Additional provisions to protect honey bees introduced by Directive 2010/21/EU
<b>XV) Dinitrophenol</b>			
104.	<u>Dinocap** (sum of dinocap isomers and their corresponding phenols expressed as dinocap) and Meptyldinocap</u>	0.05*	Dinocap-In/Approved with restrictions to crops and application rates  Meptyldinocap- Decision Pending

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) <u>updated on 10/11/2010</u>	Status in EU under Directive 91/414/EEC
<b>XVI) Aliphatic Nitrogen fungicides</b>			
105.	<u>Cymoxanil</u> **	0.20	In
<b>XVII) Morpholine</b>			
106.	<u>Dimethomorph</u> **	3.00	In
107.	Tridemorph	0.05*	Out
<b>XVIII) Substituted Thiourea</b>			
108.	Diafenthiuron	0.01	Out
109.	<u>Diuron</u> ** (Diuron including all components containing <u>3,4- dichloroaniline moiety expressed as 3,4- dichloroaniline</u> )	0.05*	In
110.	Iodosulfuron-methyl (iodosulfuron-methyl including salts, expressed as iodosulfuron-methyl)	0.02*	In
111.	Isoproturon	0.05*	In
112.	Linuron	0.05*	In
113.	Lufenuron	1.00	In
114.	Pencycuron	0.05*	Out
<b>XIX) Benzoylphenyl urea</b>			
115.	Flufenoxuron	1.00	Out
<b>XX) Strobilurin</b>			
116.	<u>Azoxystrobin</u> **	2.00	In
117.	Kresoxim methyl	1.00	In
118.	Pyraclostrobin	1.00	In
119.	Trifloxystrobin	5.00	In
<b>XXI) Phenyl pyrazole</b>			
120.	<u>Fipronil</u> ** (sum of fipronil + sulfone metabolite (MB46136) expressed as fipronil)	0.005*	In/Additional provisions to protect honey bees introduced by Directive 2010/21/EU
<b>XXII) Pyrazole</b>			
121.	<u>Fenpyroximate</u> **	0.30	In
<b>XXIII) Nitrophenyl ether</b>			
122.	Oxyfluorfen	0.10	Out
<b>XXIV) Dinitroaniline</b>			
123.	Pendimethalin	0.05*	In
124.	Trifluralin	0.10*	Out
<b>XXV) Anilide/acetanilide and chloroacetanilide</b>			
125.	Alachlor	0.05*	Out
126.	Butachlor	0.01	Out
127.	Carboxin	0.05*	Out
128.	Flufenacet (sum of all compounds containing the N fluorophenyl-N-isopropyl moiety expressed as flufenacet equivalent)	0.05*	In
129.	Metolachlor (with S-Metolachlor)	0.05*	Metolachlor-Out

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) updated on 10/11/2010	Status in EU under Directive 91/414/EEC
130.	Novaluron	0.01*	S-Metolachlor-In Pending/Extension provisional authorization (2009/579)
<b>XXVI) Miscellaneous group of chemicals</b>			
<b>131.</b>	<b><u>1-Naphthylacetic acid (alphanaphthyl acetic acid)**</u></b>	<b>0.05*</b>	<b>Out</b>
<b>132.</b>	<b><u>2,4-D (sum of 2,4-D and its esters expressed as 2,4-D)**</u></b>	<b>0.05*</b>	<b>In</b>
133.	6-Benzyl adenine	0.01	Out
134.	Abamectin (sum of avermectin B1a, avermectinB1b and delta-8,9 isomer of avermectin B1a)	0.01*	In
135.	Azadirachtin	1.00	Out
136.	Bifenazate	0.01*	In
<b>137.</b>	<b><u>Buprofezin**</u></b>	<b>1.00</b>	<b>Out</b>
138.	Cartap hydrochloride	0.01	Out
<b>139.</b>	<b><u>Chlormequat Chloride (CCC)**</u></b>	<b>0.05*</b>	<b>In</b>
140.	Diflubenzuron	1.00	In
<b>141.</b>	<b><u>Homobrassinolide</u></b>	<b>0.05†</b>	<b>Not mentioned</b>
142.	Diquat	0.05*	In
143.	Dithianon	3.00	Out
144.	Dodine	0.20*	Out
<b>145.</b>	<b><u>Emamectin Benzoate**</u></b>	<b>0.05</b>	<b>Decision Pending</b>
146.	Ethephon	0.70	In
147.	Fenazaquin	0.20	Out
148.	Flubendiamide	0.01*	Decision Pending
<b>149.</b>	<b><u>Forchlorfenuron (CPPU)**</u></b>	<b>0.05*</b>	<b>In</b>
<b>150.</b>	<b><u>Fosetyl-Al (sum fosetyl + phosphorous acid and their salts, expressed as fosetyl)</u></b>	<b>100.00</b>	<b>In</b>
<b>151.</b>	<b><u>Gibberellic acid**</u></b>	<b>5.00</b>	<b>In</b>
152.	Hexythiazox	1.00	Out
<b>153.</b>	<b><u>Hydrogen cyanamide (Cyanamide including salts expressed as cyanamide)</u></b>	<b>0.05</b>	<b>Out</b>
154.	Isoprothiolane	0.01	Out
155.	Mandipropamid	2.00	Pending/Extension provisional authorization (2009/579)
156.	Mepiquat Chloride	0.30	In
157.	Metribuzin	0.10*	In
158.	Milbemectin (sum of MA4+8,9Z-MA4, expressed as milbemectin)	0.05*	In
159.	Oxadiazon	0.05*	In
<b>160.</b>	<b><u>Paraquat**</u></b>	<b>0.02*</b>	<b>Out</b>
161.	Propargite	7.00	Out
162.	Pyriproxyfen	0.05*	In
<b>163.</b>	<b><u>Spinosad (sum of Spinosyn A+D)**</u></b>	<b>0.50</b>	<b>In</b>

Sr. No.	Chemicals	Harmonized EU-MRL (mg/kg ) updated on <u>10/11/2010</u>	Status in EU under Directive 91/414/EEC
164.	Spiromesifen	0.02*	Pending/Extension provisional authorization (2009/579)
165.	Trichlorfon	0.50	Out
166.	Tricyclazole	0.05*	Out
<b>167.</b>	<b>Uracil</b>	<b>0.05†</b>	<b>Not mentioned</b>
<b>XXVII) Inorganic</b>			
168.	Cadmium	0.05#	Heavy metal contaminant
<b>169.</b>	<b>Copper compounds</b> (all copper fungicides as elemental Cu; Bordeaux Mixture, Copper oxychloride, Copper hydroxide)**	<b>50.0</b>	<b>In</b>
170.	Lead	0.20#	Heavy metal contaminant
<b>171.</b>	<b>Sulphur</b>	<b>0.00</b>	<b>Sulphur-In Lime sulphur-Out Listed in Annex 4 of EU‡</b>

\* EU-MRL set at LOQ (mg/kg) as per

[http://ec.europa.eu/sanco\\_pesticides/public/index.cfm?event=substance.selection](http://ec.europa.eu/sanco_pesticides/public/index.cfm?event=substance.selection)

† These are natural products. EU-MRL does not exist for these chemicals. Hence, their MRL is set at the LOQ of the method developed and validated at the National Referral Laboratory of the NRC for Grapes.

\*\* Pesticides registered for use in grapes for control of insect pests, diseases and weeds approved by the CIB of Ministry of Agriculture, Government of India, New Delhi under the Insecticides Act 1968

#Reference: Commission Regulation (EC) No 1881/2006 of 19<sup>th</sup> December 2006

‡ Annex IV: Active substances of plant protection products evaluated under Directive 91/414/EEC for which no MRLs are required because residues arising from use of the active substance are indistinguishable from natural background levels or other sources.

In = Chemicals authorized in EU

Out = Authorization of these chemicals in EU is withdrawn

Out/Banned = Chemicals are Banned in EU