

# ICAR-NATIONAL RESEARCH CENTRE FOR GRAPES, Manjri, Pune.





# $Thursday\ (11/09/2025)-Wednesday\ (17/09/2025)$

	_	erature C)		Cloud	Wind Speed (Km/hr	D H9/
Location	Min	Max	Possibility of Rain	Cover	) Min- Max	R H%
Nashik	19-22	30-31	Nashik, Ozar, Kalwan, Pimpalgaon Baswant, Dindori, Palkhed–Thu–Sat,Tue– Drizzling Rain, Mon,Wed–Light to Moderate Rain, Sun–Heavy Rain. Loni, Vani–Thu,Sun–Tue–Light to Moderate Rain, Fri–Sat–Drizzling to Light Rain.	Clear to cloudy	10-14	59-98
Pung- ing-sing iCAR	्र भार 20-21 <sub>0</sub>	तीय कृ ।( <del>2</del> 9५ <del>2</del> 2t	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon— Thu,Fri,Tue—Drizzling Rain, Sat—Light to Moderate Rain, Sun—Heavy Rain, Mon,Wed—Drizzling to Light Rain. Baramati, Indapur—Thu,Wed—Drizzling to Light Rain, Sat—Moderate to Heavy Rain, Sun—Heavy Rain, Sun—Heavy Rain, Fri—Drizzling Rain.		•द्र, पुणे e 12-14	46-95 II ai ang lu NRCG
Solapur	20-23	29-34	Tuljapur, Ausa, Vairag, Barshi, Pandharpur, Solapur –Thu,Sun,Wed– Light to Moderate Rain, Mon– Drizzling to Light Rain. Sat,Tue– Heavy Rain. Fri–Drizzling Rain. Nannaj–Thu,Sat,Sun,Wed– Heavy Rain. Fri,Mon,Tue– Light to Moderate Rain. Latur–Thu–Sun,Tue,Wed– Heavy Rain., Mon– Light to Moderate Rain, Fri,Sat–Drizzling Rain.	Clear to cloudy	14-19	39-89
Sangli	22-23	24-30	Sangli, Miraj, Walva, Palus, Kawtha, Palsi, Khanapur Vita-Thu,Fri- Drizzling Rain, Sat-Sun- Drizzling to Light Rain, Mon- Light to Moderate Rain, Tue-Heavy Rain, Wed- Moderate	Clear to cloudy	11-16	48-97

			to Heavy Rain. Shirguppi–Thu–Drizzling Rain, Fri–Sat–Light to Moderate Rain, Sun–Drizzling to Light Rain, Mon–Wed–Moderate to Heavy Rain. Shetphal–Thu,Sun,Wed–Light to Moderate Rain, Mon–Drizzling to Light Rain. Sat,Tue–Heavy Rain. Fri–Drizzling Rain.			
Vijayapura	20-24	27-32	Chadchan, Tikota, Telsang, Vijayapura–Thu,Sun,Wed– Light to Moderate Rain, Fri– Drizzling to Light Rain, Sat,Tue–Moderate to Heavy Rain, Mon–Heavy Rain.	Clear to cloudy	14-29	41-92
Hyderabad	22-23	29-32	Hyderabad, Medchal, Thu,Sat,Wed– Light to Moderate Rain, Fri–Heavy Rain. Sun–Tue– Drizzling Rain. Zahirabad – Thu,Sun–Drizzling Rain. Fri,Sat– Heavy Rain,Mon–Tue– Light to Moderate Rain, Wed–Moderate to Heavy Rain.	Clear to cloudy	13-18	47-87
Satara	/	तीय कृ 12428t	Satara, Khatav  -Thu-Mon-Drizzling Rain, Fri,Sat,Tue,Wed-Light to Moderate Rain, Sun-Heavy Rain. Phaltan -Thu-Fri-Drizzling Rain. Sat-Moderate to Heavy Rain. Sun-Heavy Rain, Mon-Tue-Light to Moderate Rain, Wed-Drizzling to Light Rain.	Clear to cloudy	न्द्र, पुणे e <sub>8-10</sub>	54-97 training to NRCG
Ahmednagar	21-22	30-33	Sangamner, Rahata, Kopargaon,—Thu—Sat,Tue,Wed—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun—Heavy Rain, Mon—Drizzling to Light Rain.  Akole—Thu—Sat,Tue—Drizzling to Light Rain. Sun—Heavy Rain, Mon—Light to Moderate Rain, Wed—Moderate to Heavy Rain.  Ahmednagar, Shrigonda Karjat—Thu,Fri,Wed—Drizzling Rain, Sat,Sun—Heavy Rain, Mon—Moderate to Heavy Rain, Tue—Light to Moderate Rain.  Jamkhed—Thu,Fri—Drizzling Rain, Sat, Sun—Heavy Rain, Mon,Tue,Wed—Drizzling to Light Rain	Clear to cloudy	15-24	41-89
Jalna	22-23	30-31	Jalna, Ambad, Ghansavangi-	Clear to	11-21	49-89

			Thu,Fri,Tue- Drizzling Rain,	cloudy		
			Sat, Wed-Light to Moderate Rain, Sun-Heavy Rain, Mon-Drizzling			
			to Light Rain.			
			Mantha-Thu, Tue, Wed-Drizzling			
			Rain, Fri,Sat,Mon–Drizzling to			
			Light Rain, Sun–Moderate to			
			Heavy Rain. Jafrabad–Thu,Sat–Heavy Rain,			
			Fri, Tue–Drizzling to Light Rain,			
			Mon, Wed- Moderate to Heavy			
			Rain, Sun – Drizzling Rain.			
			D.raja, Buldana,			
			Chikhli–Thu, Tue, Sat, Wed–Drizzling Rain, Fri, Mon–Drizzling to			
			Light Rain, Sun–Moderate to	Clear to		
Buldhana	23-24	30-32	Heavy Rain.	cloudy	7-16	60-95
			Sindkhed–Thu,Fri,Tue– Drizzling			
			to Light Rain, Sat,Sun–Heavy Rain, Mon– Moderate to Heavy			
			Rain.			
	×		Kagal, Karveer, Gagan-bavada			5508
\\\\-\\/	/		-Thu—Drizzling Rain,	Clear to		2 1
Kolhapur	22-23	26-32	Fri,Sun,Mon– Drizzling to Light		न्द्र, <sup>4-8</sup> ण	59-99
	भार	ताय पृ	Rain, Sat, Fue-Light to Moderate Rain, Wed-Moderate to Heavy	पा स्त्राधन न	יאי, קטו	
	ICA	R-Nat	Ram! Research Centre for G	irapes, Pun	e	
ырзыц ICAR	ICA	R-Nat	Ram. Research Centre for G Anekal, Doddaballapur,	irapes, Pun	e	uaiag b NRCG
ICAR	ICA	R-Nat	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north,	•	e	បត់តម្លាប់ NRCG
ICAR Bengaluru	20-22	27-31	Ram. Research Centre for G Anekal, Doddaballapur,	Clear to	10-21	naingh NRCG 54-94
ICAR			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru – Thu,Fri,Mon–Drizzling Rain, Sat–Moderate to Heavy Rain,	•		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru – Thu,Fri,Mon–Drizzling Rain, Sat–Moderate to Heavy Rain, Sun,Tue–Drizzling to Light Rain.	Clear to		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru – Thu,Fri,Mon–Drizzling Rain, Sat–Moderate to Heavy Rain, Sun,Tue–Drizzling to Light Rain. Wed–Heavy Rain.	Clear to		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru – Thu,Fri,Mon–Drizzling Rain, Sat–Moderate to Heavy Rain, Sun,Tue–Drizzling to Light Rain.	Clear to		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light	Clear to		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to	Clear to		
ICAR Bengaluru			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain.	Clear to cloudy		
Bengaluru Rural			Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to	Clear to cloudy  Clear to	10-21	
ICAR Bengaluru	20-22	27-31	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain. Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to	Clear to cloudy		54-94
Bengaluru Rural	20-22	27-31	Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak—Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain.  Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to Heavy Rain.	Clear to cloudy  Clear to	10-21	54-94
Bengaluru Rural	20-22	27-31	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain. Chikodi— Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed— Moderate to Heavy Rain. Athni —Thu,Fri—Drizzling Rain,	Clear to cloudy  Clear to	10-21	54-94
Bengaluru Rural	20-22	27-31	Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak—Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain.  Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to Heavy Rain.	Clear to cloudy  Clear to	10-21	54-94
Bengaluru Rural	20-22	27-31	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain. Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to Heavy Rain. Athni—Thu,Fri—Drizzling Rain, Sat,Sun—Drizzling to Light Rain, Mon—Light to Moderate Rain, Mon—Light to Moderate Rain, Tue,Wed—Moderate to Heavy	Clear to cloudy  Clear to	10-21	54-94
Bengaluru Rural	20-22	27-31	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain. Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to Heavy Rain. Athni—Thu,Fri—Drizzling Rain, Sat,Sun—Drizzling to Light Rain, Mon—Light to Moderate Rain, Tue,Wed—Moderate to Heavy Rain.	Clear to cloudy  Clear to cloudy	9-14	54-94
Bengaluru Rural	20-22	27-31	Ram.  Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru — Thu,Fri,Mon—Drizzling Rain, Sat—Moderate to Heavy Rain, Sun,Tue—Drizzling to Light Rain. Wed—Heavy Rain.  Belagavi, Gokak— Thu,Sun—Drizzling Rain, Fri,Mon,Tue—Drizzling to Light Rain, Sat,Wed—Moderate to Heavy Rain. Chikodi—Thu,Sun—Drizzling Rain, Fri,Sat—Light to Moderate Rain, Mon—Wed—Moderate to Heavy Rain. Athni—Thu,Fri—Drizzling Rain, Sat,Sun—Drizzling to Light Rain, Mon—Light to Moderate Rain, Mon—Light to Moderate Rain, Tue,Wed—Moderate to Heavy	Clear to cloudy  Clear to cloudy	10-21	54-94

			Rain, Mon,Tue— Light to Moderate Rain, Wed—Moderate to Heavy Rain. Basavakalyan—Thu—Sun,Tue,Wed —Heavy Rain, Mon—Tue—Light to Moderate Rain.			
Bagalkot	20-21	27-31	Bagalkot, Jamkhandi, Hungund—Thu,Sun,Wed—Light to Moderate Rain, Fri,Mon—Drizzling Rain, Sat,Tue—Moderate to Heavy Rain. Mudhol — Thu,Tue—Drizzling Rain, Fri,Wed— Moderate to Heavy Rain, Sat—Heavy Rain, Sun,Mon—Drizzling to Light Rain.	Clear to cloudy	16-25	40-89

Note: Above weather information is summary of weather forecasting given in following websites

https://www.wunderground.com/?cm\_ven=cgi

https://imdagrimet.gov.in/weatherdata/BlockWindow.php

https://www.timeanddate.com/weather/india

ICAR-National Research Centre for Grapes does not claim accuracy of it.

भारतीय कृषी संशोधन परिषद-राष्ट्रीय द्राक्ष संशोधन केंद्र, पुणे ICAR-National Research Centre for Grapes, Pune ter management

II. Water management

ICAR

Pan evaporation: 3 to 5 mm



### Amount of irrigation advised:

- 1. All the grape growing regions are forecasted to receive from drizzling to moderate rains. In case the soil is under wapsa (field capacity) condition, do not irrigate the vineyard.
- 2. If the soils especially medium and heavy, are saturated with water, then, do not irrigate for atleast 5-7 days till the soil comes to wapsa condition.
- 3. Cane maturity stage: Apply irrigation through surface drip upto 3000 L/acre per day.
- 4. In case of monsoon rains, remove mulch cover on the bund and allow the rain water to seep into the soil. This will leach the accumulated salts in the rootzone. The mulch so removed can be mixed with the soil to improve the soil porosity.

### **Soil and Nutrient management:**

- 1. In many of the grape growing areas, continuous spells of rains have been received and further also possibility of rains are there. The soils are already saturated. This has affected the rooting activity. Due to prolonged saturation, the roots may have started decaying. Donot disturb the soil in the root zone. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done. Growth will be slow and cane maturity will be affected but donot worry. Only after wapsa, fertilizer application should be done.
- 2. Due to continuous sprays the leaf will not look healthy, need based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact cane maturity.
- 3. After current rains, give foliar spray of SOP @ 3-5 g/L depending upon canopy size.
- 4. In case of calcareous soils where acute iron deficiency is observed, repeatedly spray 2-3g/L Ferrous sulphate two to three times at 3 days interval followed by 15-20 kg/ acre Ferrous sulphate application through drip. The fertigation dose should be split into atleast 3 doses of 5kg each. Apply 5kg/ acre soluble sulphur through drip every week. Also spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only.
- 5. Possibility of leaf curling, check the leaf margins, if slight to more yellow, possibility of potassium deficiency. Foliar spray of SOP @ 3-4g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.

  6. In coloured varieties like Jumbo, Nanasaheb Purple etc.; leaf curling along with reddening/bronzing of the leaf margin can be observed if potassium deficiency is there. Foliar spray of SOP
- bronzing of the leaf margin can be observed if potassium deficiency is there. Foliar spray of SOP (a) 3g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.
- 7. In case due to rains and for preventive control, if bordeax or copper sprays are given, then there is possibility of leaf reddening in coloured varieties like Krishna Seedless etc. No specific pattern will be there. This may be due to copper toxicity. Regulate copper sprays.
- 8. After cane maturity, raise Sunnhemp or Dhaincha for green manuring purpose.
- 9. The light intensity is reduced due to cloudy conditions, management of canopy to improve light penetration is important for cane maturity.

#### **Pre-pruning operations – Fruit pruning season**

- 1. In case pruning is planned during October, raise Sunnhemp or Dhaincha for green manuring purpose.
- 2. The vineyards where sodicity problems are there, apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use sulphur for similar purpose. The application should be alongwith FYM/compost etc. They should be mixed in the soil and not left on the top.

- 3. In case of calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
- 4. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
- 5. In areas where rains have not been received and the irrigation water availability is less, it is suggested to flood the rootzone(only) with water to leach out the salts and wet the entire soil depth before pruning and then cover with mulch. Thereafter irrigate as per availability of water.

# III. Canopy Management

During the last few days, the frequency of the rain is reduced and the day temperature is also increasing. This condition is resulting into reduction in the relative humidity in the grape vineyard. During this period, the grape vineyard is in different stage of growth. Based on the weather and the crop growth stage, the following advice is offered to the grape growers.

#### 1) Rainfall during cane maturity stage:

During this period, the increase in temperature and reduction in relative humidity is supporting the vegetative growth. The water from root zone is getting removed and the soil will be coming to wafsa condition. In addition, root activity will also be improved thereby increasing the shoot growth. This condition generally favours for increase in internodal length thereby increasing the shoot vigour, emergence of side shoots, and increase in leaf area. This condition will delay the cane maturity. Under such conditions, the vines tend to develop dense canopy thereby leading to disease incidence. The delayed cane maturity may lead to problems in developing the pith in the canes. The immature canes generally do not develop bunches. Under such condition, following practices need to be followed.

- a) To achieve proper cane maturity in grapevine, shoot pinching and removal of side shoots also need to be done.
- b) Application of potassic fertilizers (based on the shoot age) through drip and through foliar sprays can help to control the vegetative growth. During this time, fertilizer grade 0.0.50 @ 3-4g/L water can be sprayed alternate days. In addition, SOP or 0.0.50 @ 1.0 kg/acre can be supplied through drips.
- c) At this stage, hard pinching can be avoided as this will lead to emergence of more side shoots and bunches.
- d) Training the shoots on foliage wire will help to receive proper sunlight so that cane maturity can be advanced.

- e) Under humid condition and dense canopy, major diseases like downy mildew can become the major problem. Severe incidence of downy mildew may lead to leaf fall before fruit pruning. Hence, copper based fungicides and biologicals like Trichoderma spray can be given priority.
- f) Under the condition of dry weather with semi-matured to matured leaf, powdery mildew can be the major problems. Under severe condition, leaf fall may also be seen in the vineyard. Hence, Bourdeaux mixture spray @ 0.75 to 1.0% concentration may help to control both the diseases.

### 2) Management of grafting in new plot:

## **Preparation of rootstock:**

The period of grafting of new variety on the rootstock is started. During this period, the temperature (30-35°C) and 80-90% relative humidity will be available. This condition will favour the successful grafting in the field condition. However, before the grafting, the rootstock should possess following characters.

- 1) The rootstock shoot should be of 8-10 m diameter at about 30cm above the ground.
- 2) The shoots of rootstock should be straight.
- 3) The rootstock shoot should be healthy.
- 4) The shoots should be in sap flow condition.

To achieve this, the appropriate type of shoots needs to be retained while the remaining shoots to be removed. Under the condition of excess number of shoots, retain only three to four straight growing with larger internode and proper thickness. If the shoot has more side shoots, it needs to be removed to obtain straight and thick shoot at the graft position. Hence, at least 15 days before the actual grafting, the rootstock shoots to be prepared.

#### **Preparation of scion:**

The scion selected for grafting should be from healthy, disease free and high yielding vines. Generally, the vine selected for scion grafting should not be used for yield. However, in majority of the grape vineyards, this is not being followed. The scion selected should be completely matured with dark brown pith in it. Such canes have sufficient food material stored in it. Following practices can be followed while grafting.

- a) The selected scion should be completely matured with dark brown pith.
- b) The selected scion should be from high yielding and disease-free vines.
- c) While selecting the scion on sub-cane, select the portion of canes only after three buds above the knot developed.
- d) Dip the scion in Carbendazim @ 3-4 g/L water for about 2-3 hours. This will help to remove disease inoculums (if any).
- e) Under the condition of dry weather, irrigate the rootstock plants with sufficient water so that the sap flow continues. This will help for early callus formation.

## IV. Disease management

Days after	Risk of diseases					
foundation pruning	Downy mildew	Powdery mildew	Anthracnose	Others (specify)		
135	Moderate	Low	High	Bacterial spot- Moderate Rust-Low		

Pre-pruning drip application of Trichoderma should be done. In early pruned areas, at 'ponga' stage, one spray of copper hydroxide @ 1.5g/L may be given. Application of systemic fungicides need not be done at this stage.

# Insect and Mite management



- Stem borer, *Celosterna scabrator* adults may be seen in vineyards and/or near light at night at homes near vineyards. They are easily visible during daytime feeding on the bark of the young stem of grapes. They can be easily captured by hand and killed whenever noticed in the vineyards during this period. Spraying any insecticide is not economically effective to manage adults.
- Due to optimum weather conditions, mealybug infestation may be noticed. Use of broad-spectrum insecticides should be avoided for mealybug control. Preventive plant wash, on stem and cordons, of biocontrol agents such as *Verticillium, Metarhizium, Beauveria* may be given. In case of shoot malformation due to mealybug or infestation on canes, remove excess shoot growth and give foliar spray of imidacloprid 17.8 SL @ 0.4 ml per litre water.
- In case of thrips or caterpillar infestation, remove excess canopy. Application of fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre water is effective. Light traps may be installed outside the vineyards to manage moths for reducing caterpillar infestation.
- Mite infestation may start appearing, therefore, monitor the vineyards carefully. If mite infestation is observed, sulphur 80 WDG @ 1.5-2.0 gram per litre or abamectin 1.9 EC @ 0.75 ml/l water is effective.
- Red colour stem borer (*Dervishiya cadambae*) has started egg laying and infestation under bark in grape areas. Install light traps near the vineyards to manage moths of this stem borer. Remove loose bark from stem and cordons and give preventive wash on stem and cordons with biocontrol agent *Metarhizium* @ 3-5 ml per litre water minimum once in the month during July to September months. If infestation is

- observed, remove the loose bark and give spot stem and cordon wash with *Metarhizium* @ 3-5 ml per litre water and 1.5-2 litres water per plant on the infested plants only.
- In new vineyards, flea beetle infestation may be observed. In case of heavy infestation, give soil drenching with imidacloprid 17.8 SL @ 1.5 ml per plant and foliar application with spinetoram 11.7 SC @ 0.3 ml per litre or fipronil 80 WG @ 0.0625 g per litre water.



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