



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



WEATHER DATA FOR THE PREVAILING WEEK

Thursday (09/01/2025)– Wednesday (15/01/2025)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/h) Min- Max	R H%	
	Min	Max				Min	Max
Nashik	15-17	30-31	Nashik, Ozar, Kalwan, Pimpalgaon Baswant, Dindori, Palkhed, Loni, Vani – Thu – Wed – No Rain.	Clear to cloudy	8-12	15-34	32-61
Pune	16-18	31-32	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati, Indapur – Thu – Wed – No Rain.	Clear to cloudy	9-11	14-28	29-55
Solapur	15-18	32-34	Tuljapur, Ausa, Vairag, Barshi, Solapur, Pandharpur, Nannaj, Latur – Thu – Wed – No Rain.	Clear to cloudy	13-17	12-26	29-50
Sangli	16-19	32-33	Sangli, Walva, Palus, Kawtha, Miraj, Palsi, Shirguppi, Khanapur Vita, Shetphal – Thu – Wed – No Rain.	Clear to cloudy	15-18	13-29	31-54
Vijayapura	16-18	32-33	Chadchan, Tikota, Telsang, Vijayapura – Sun – Drizzling Rain.	Clear to cloudy	14-16	16-31	34-67
Hyderabad	16-19	30-31	Hyderabad, Medchal, Zahirabad – Thu – Wed – No Rain.	Clear to cloudy	8-10	15-36	30-58
Satara	16-18	31-32	Satara, Khatav, Phaltan – Thu – Wed – No Rain.	Clear to cloudy	8-11	17-31	32-55
Ahmednagar	14-17	31-33	Sangamner, Rahata, Kopargaon Karjat, Ahmednagar, Shrigonda, Akole, Jamkhed – Thu – Wed – No Rain.	Clear to cloudy	10-13	12-31	31-57
Jalna	14-17	30-32	Ambad, Ghansavangi, Jafrabad, Mantha, Jalna – Thu – Wed – No Rain.	Clear to cloudy	8-9	14-33	31-64
Buldhana	16-17	31-32	D.raja, Sindkhed, Buldana, Chikhli –Thu–Wed –No Rain.	Clear to cloudy	7-9	17-37	31-65
Kolhapur	18-20	32-33	Kagal, Karveer, Gagan-bavada – Thu–Wed –No Rain.	Clear to cloudy	10-11	18-34	40-53

<b>Bengaluru Rural</b>	14-16	25-26	Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru –Mon,Tue – Drizzling Rain.	Clear to cloudy	14-16	31-42	81-94
<b>Belagavi</b>	17-19	31-32	Belagavi, Chikodi, Athni, Gokak–Thu–Wed –No Rain.	Clear to cloudy	12-14	25-36	60-74
<b>Bidar</b>	15-18	31-32	Basavakalyan, Humanabad, Bidar – Thu –Wed –No Rain.	Clear to cloudy	9-11	17-32	36-64
<b>Bagalkot</b>	15-17	31-32	Bagalkot, Jamkhandi, Hungund – Sun – Drizzling Rain. Mudhol – Thu –Wed –No Rain.	Clear to cloudy	15-16	19-31	51-73

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

[https://www.wunderground.com/?cm\\_ven=cgi](https://www.wunderground.com/?cm_ven=cgi)

<https://imdagrmet.gov.in/weatherdata/BlockWindow.php>

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

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

**II. Water management (Dr. A.K. Upadhyay):**

**a. Number of days after Fruit pruning: 115**

**b. Expected Pan evaporation: 3.5 to 5 mm**

**Amount of irrigation advised:**

1. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. From flowering to fruit setting, apply irrigation through drip upto 2000-2500 L/ acre/ day. Vigour needs to be controlled.
3. Practice mulching to keep the bunds moistened. This will reduce the salinity build up in the root zone due to evaporation of the moisture from the surface of the bund.
4. During Berry development stage, apply irrigation through drip @ 5950 - 8500 L/ acre/ day for all grape growing regions.



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### Soil and Nutrient management :

1. Inflorescence necrosis could be a issue in dense canopy. Remove side shoots and reduce canopy to allow penetration of the sunlight for proper aeration. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. In early maturing and coloured varieties with possible reduction in temperature, possibility of berry cracking/ cracking of berries near the pedicel can be there. If the harvesting is scheduled with in 30 days, do not go in for application of boron and calcium. The application should be subject to deficiencies observed in the vineyard. Focus on canopy density and regulate accordingly. If cracking is there, then control secondary infections (disease and fruit flies).
3. Unnecessary sprays should be avoided as the leaf health is bound to affect the photosynthate formation. This will impact bunch development.
4. With the temperature likely to be low in coming week, apply 15 kg SOP in two splits and follow it up with SOP spray for building up the potassium levels in the vines.

### Flowering to setting stage:

1. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis).
2. Apply 3-4 kg Phosphoric acid in two to three splits this week. Remember that the pH of the irrigation water should be near 6.0. OR apply SSP @ 125kg/acre as basal application. SSP should be mixed with FYM/Compost before application to minimize phosphorus fixation.
3. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
4. **Petiole nutrient testing: At 70% capfall stage, petiole samples should be taken for nutrient analysis. The leaf opposite the bunch should be removed for sampling.**

### Berry Development stage:

1. After Berry setting, continue initially with Phosphoric acid application @ 2 kg followed by 5 kg 12-61-0/acre.
2. If the berry size is from 2-4mm, spray calcium @ 2g Calcium Chloride / Calcium Nitrate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
3. If the berry size is from 5-8mm, spray calcium @ 2g Calcium Chloride / Calcium Nitrate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.



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4. After 6-8 mm berry size, start application of nitrogen in the form of ammonium sulphate @ 25kg /acre in 4 splits in calcareous soil and as urea @ 15 kg/acre in other soils in 3 splits. Follow this up with Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks.
5. Apply magnesium sulphate through drip @ 10kg/acre from 8-10mm berry size.
6. Foliar spray of sulphate of potash @ 3g/acre at 8-10mm berry size.
7. If soils are calcareous, then apply zinc sulphate and ferrous sulphate @ 5 kg/acre at 65-70 days after pruning.
8. Possibility of powdery mildew infection. Build up potassium levels in grapevine either through foliar spray @4-5 gm SOP/L and drip @ 15 kg SOP/L if not applied since last 20 days.

#### **Ripening to Harvest stage:**

1. Apply Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks. Follow this up with Magnesium sulphate @ 10 kg/acre in two splits. Spray Magnesium sulphate @ 4g/L in calcareous soil.



III. Canopy Management (Dr. R.G.Somkuwar)

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Based on the present growth stages and weather condition in grape vineyard, following suggestions are offered.

#### **1) The vineyard from pre- bloom stage to flowering stage:**

The GA<sub>3</sub> spray can be given only during clear weather for better results. Removal of 2 to 3 basal leaf will help for good aeration and coverage of fungicide. In case of white seedless varieties (Thompson Seedless and Tas-A-Ganesh) during full bloom stage, GA<sub>3</sub> spray @ 25 ppm can help for berry thinning as it acts as pollinicide.

The GA<sub>3</sub> schedule for elongated varieties (Sonaka, Manik Chaman, Super Sonaka, Sarita Seedless, Krishna Seedless, SSN, etc) is different than the above. In these varieties, GA<sub>3</sub> can be sprayed as below.

- a) Pre-bloom stage: 10 ppm GA<sub>3</sub>
- b) Pre-bloom stage: 15 ppm GA<sub>3</sub>
- c) 25% flowering: 10 ppm GA<sub>3</sub>
- d) 50% flowering: 10 ppm GA<sub>3</sub>
- e) 60-80% flowering: 10 ppm GA<sub>3</sub>
- f) 90-100% flowering: 60 ppm GA<sub>3</sub>
- g) After berry set: 40-50 ppm GA<sub>3</sub> + 10 ppm IAA

## 2) Berry setting to 8 mm berry size:

The vineyard where berry setting is completed, bunch thinning and berry thinning need to be considered important. The bunches should be retained based on objectives (raisin, local market, and export). The retention of berries per bunch should be based on the bunch type, variety, etc. Berry retention based on the variety is as below.

Variety	No of rachis/bunch		No of berries/bunch	
	Local	Export	Local	Export
Thompson Seedless	12-14	10-12	130-140	100-120
Tas-A-Ganesh	12-14	10-12	130-140	100-120
Sonaka	14-16	12-14	140-150	130-140
Manik Chaman	14-16	12-14	140-150	130-140
Sarita Seedless	14-16	12-14	140-150	130-140
Red Globe	10-12	8-10	80-90	70-75
Nanasaheb Purple Seedless	10-12	8-10	80-90	75-80
Crimson Seedless	10-12	10-12	120-130	100-120

## 3) Leaf requirement for bunch development:

The leaf requirement for bunch development should be given priority. For development of 500 g bunch (100-120 berries), one shoot should have at least total 12 leaf with leaf area of about 160-170<sup>2</sup> cm. Approximately 6-8 berries are developed with the support of one leaf. The leaf requirement can be fulfilled upto berry setting. Hence, during the pre-bloom stage to complete the leaf requirement application of nitrogenous fertilizer (urea, 12:61:0, ammonium sulphate, etc) can be applied through drip. Depending upon the curve of shoot tip, the fertilizer requirement can be decided.

## 4) Effect of low temperature:

In some of the grape growing areas (Bori, Indapur, Satana, Phaltan, etc), early pruning is done. In many of the grape growing regions, minimum temperature is below 12<sup>0</sup>C. In white seedless varieties, the grape bunches at nearing veraison stage suffers with change in green colour to pink colour. This is a physiological disorder. Pink pigmentation is observed when the minimum temperature starts dropping below 7<sup>0</sup>C for one to two days. Though there is no control measure available to stop pink colour formation but some of the management practices can be followed to save the grape bunches. Covering the grape bunch with

paper (before veraison starts), increase the irrigation in grape vineyard and burning file in different spots to increase the temperature can help to minimize the problem.

After berry set (4-6 mm berry size) the berry develops at faster rate. However, during the period of low temperature, physiological activities a vie slow down thereby reducing the berry size. The root activity is also seen reduced. This needs to be accelerated by increasing soil temperature. Application of mulch on bund, small trench on the side of bund, increasing phosphorous dose, irrigation, etc. are some of the major practices that can be followed.

### 5) Effect of dew on berry development:

Since the current experienced sufficient rainfall with longer period in all the grape growing regions, in the coming months, the dew formation during morning hours will be more and the period may also be extended even upto afternoon. This will increase the relative humidity in the vine canopy. The increase in humidity will help to activate the inoculum of major disease like downy mildew. Dry weather in the canopy during evening time may lead to incidence of powdery mildew in case of vineyards after berry setting. More than the use of fungicide, canopy plays a crucial role in controlling the diseases in the grape vineyard. Removal of 2-3 basal leaf, removal of excess shoots, side shoots, arranging the shoots on foliage wire after berry set, etc will help to reduce the relative humidity in the canopy thereby improving the spray coverage for the control of diseases.



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### IV. Disease management (Dr. Sujoy Saha):

Days after fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
115	Low	Moderate	Low	Bacterial spot- Very Low Rust- Very Low

In Sangli areas where bacterial spot and anthracnose were prevalent on berries, two sprays of Kasugamycin 5% + Copper Oxychloride 45% WP @ 750g/ha, may be given. Application of Copper Sulphate 47.15% + Mancozeb 30% WDG@5g/L or Thiophenate methyl/carbendazim @1g/L will provide a good control against anthracnose. Powdery mildew infection is incident in some areas and an application of sulphur 80WDG @



2-3g/L may be given. Use of *Ampelomyces quisqualis* needs to be increased for powdery mildew management.



Bacterial spot  
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Anthracnose



Downy mildew  
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V. **Insect and Mite Pest Management (Dr. D.S. Yadav)**

**Growth Stage: Berry development stage to veraison after October pruning**

- Mealybug, thrips and mites population may be noticed due to favourable weather conditions.
- Spot application of Buprofezin 25 SC @ 1.25 ml per litre water (PHI 65 days) is effective against mealybugs. Entomogenous fungus such as *Metarhizium*, *Beauveria* and *Lecanicillium* can be used for plant wash to reduce mealybug populations. If PHI with above insecticides is not available, then spot plant wash with trisiloxane polyether surfactant @ 0.3 ml per litre water with 10-12 litre water per plant to remove mealybug and honeydew from plant and bunches in the field can be given, followed by bunch wash with water.
- Remove excess shoot growth to manage thrips. If pesticide application is necessary, then abamectin given for the management of mites will also control thrips.



- Mite infestation may increase in most of the grape areas. Sulphur 80 WDG @ 1.5-2.0 g/L or Abamectin 1.9 EC @ 0.75 ml/L (PHI 30 days) or Bifenazate 22.6 SC @ 0.5 ml/L (PHI 30 days) water may be applied if mite infestation is observed.
- All the cracked/damaged berries should be removed from the grape bunches and vineyards. Collect these berries in a container and place this container about 100 feet away from the vineyards. The vinegar flies will get attracted towards these rotting berries. Spray spinosad 45 SC @ 0.25 ml per litre water over the container to kill them.
- Aphid infestation may be seen in many grape growing regions especially Sangali and Solapur. These aphids are black in colour and honeydew may be seen on bunches and shoots due to its feeding. Imidacloprid 17.8 SL @ 0.4 ml per litre of water is effective. But, these aphids will keep coming for the next month and repeated application of insecticides is not advisable. Install yellow sticky traps to manage them. Application of *Lecanicillium lecanii*, *Beauveria bassiana* and *Metarhizium anisopliae* is also effective against aphids.

