



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



WEATHER DATA FOR THE PREVAILING WEEK

Thursday (16/01/2025)– Wednesday (22/01/2025)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	11-16	29-32	Nashik, Ozar, Kalwan, Pimpalgaon Baswant, Dindori, Palkhed, Loni, Vani – Thu – Wed – No Rain.	Clear to cloudy	6-15	15-34	32-61
Pune	13-18	30-34	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati, Indapur – Thu – Wed – No Rain.	Clear to cloudy	9-15	14-28	29-55
Solapur	14-18	30-33	Tuljapur, Ausa, Vairag, Barshi, Solapur, Pandharpur, Nannaj, Latur – Thu – Wed – No Rain.	Clear to cloudy	12-24	12-26	29-50
Sangli	13-18	31-34	Sangli, Walva, Palus, Kawtha, Miraj, Palsi, Shirguppi, Khanapur Vita, Shetphal – Thu – Wed – No Rain.	Clear to cloudy	13-21	13-29	31-54
Vijayapura	11-14	27-30	Chadchan, Tikota, Telsang, Vijayapura – Thu–Wed –No Rain.	Clear to cloudy	12-19	16-31	34-67
Hyderabad	13-16	28-32	Hyderabad, Medchal, Zahirabad – Thu–Wed –No Rain.	Clear to cloudy	11-16	15-36	30-58
Satara	13-18	30-34	Satara, Khatav, Phaltan – Thu – Wed – No Rain.	Clear to cloudy	12-20	17-31	32-55
Ahmednagar	12-18	29-32	Sangamner, Rahata, Kopargaon Karjat, Ahmednagar, Shrigonda, Akole, Jamkhed – Thu – Wed – No Rain.	Clear to cloudy	6-20	12-31	31-57
Jalna	12-19	29-33	Ambad, Ghansavangi, Jafrabad, Mantha, Jalna – Thu – Wed – No Rain.	Clear to cloudy	7-15	14-33	31-64
Buldhana	13-16	27-32	D.raja, Sindkhed, Buldana, Chikhli –Thu–Wed –No Rain.	Clear to cloudy	8-22	17-37	31-65
Kolhapur	12-18	31-34	Kagal, Karveer, Gagan-bavada – Thu–Wed –No Rain.	Clear to cloudy	12-18	18-34	40-53

Bengaluru Rural	14-16	27-30	Anekal, Doddaballapur, Bengaluru -east, Bengaluru-north, Bengaluru – Thu–Wed – No Rain.	Clear to cloudy	14-19	31-42	81-94
Belagavi	14-18	28-32	Belagavi, Chikodi, Athni, Gokak–Thu–Wed –No Rain.	Clear to cloudy	13-22	25-36	60-74
Bidar	12-17	29-33	Basavakalyan, Humanabad, Bidar – Thu –Wed –No Rain.	Clear to cloudy	10-17	17-32	36-64
Bagalkot	16-19	29-33	Bagalkot, Jamkhandi, Hungund, Mudhol – Thu –Wed –No Rain.	Clear to cloudy	17-25	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://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: 122

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.

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 koj (inflorescence necrosis).



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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 within 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.

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.
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.
2. Spray Magnesium sulphate and potassium sulphate @ 4g/L in calcareous soil.
3. 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.



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4. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of berry cracking.

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

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 GA₃ 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, GA₃ spray @ 25 ppm can help for berry thinning as it acts as pollinicide.

The GA₃ schedule for elongated varieties (Sonaka, Manik Chaman, Super Sonaka, Sarita Seedless, Krishna Seedless, SSN, etc) is different than the above. In these varieties, GA₃ can be sprayed as below.

- a) Pre-bloom stage: 10 ppm GA₃
- b) Pre-bloom stage: 15 ppm GA₃
- c) 25% flowering: 10 ppm GA₃
- d) 50% flowering: 10 ppm GA₃
- e) 60-80% flowering: 10 ppm GA₃
- f) 90-100% flowering: 60 ppm GA₃
- g) After berry set: 40-50 ppm GA₃ + 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 160-170² 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 12⁰C. 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 7⁰C 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.

IV. Disease management (Dr. Sujoy Saha):

Days after fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
122	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



Anthracnose
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Downy mildew

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.
- 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 wash with water. High pressure of spray and not washing with water after use of surfactant may cause damage to berries. This practice to be done only to wash away mealybugs and stopping them to spread to healthy bunches. This should only be done as spot application and not in the entire vineyard.
- 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.
- Some areas may see aphid infestation on bunches. Imidacloprid 17.8 SL @ 0.4 ml per litre (PHI 65 days) may be sprayed. Install yellow sticky traps for better management.





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