



**ICAR-NATIONAL RESEARCH CENTRE FOR GRAPES,
Manjri, Pune.
WEATHER DATA FOR THE PREVAILING WEEK**



Thursday (18/07/2024)– Wednesday (24/07/2024)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/h) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23-24	28-31	Vani, Loni, Nashik,Dindori,Ozar, Pimpalgaon Baswant, Palkhed, Kalwan —Thu – Wed –Drzzling to Light Rain .	Clear to cloudy	19-31	72-83	92-93
Pune	21-22	25-27	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon,- Baramati, .Indapur –Thu – Wed –Drzzling to Light Rain .	Clear to cloudy	23-30	70-84	85-91
Solapur	21-22	28-32	Tuljapur. Latur, Ausa, Solapur .Pandharpur Vairag, Barshi, Nannaj—Thu – Wed –Drzzling to Light Rain .	Clear to cloudy	28-34	62-67	79-91
Sangli	20-21	24-28	Palsi , Khanapur Vita. Shetphal, .Shirguppi, Walva, Palus, Miraj, Kawthe —Thu – Wed – Drzzling to Light Rain .	Clear to cloudy	26-34	75-89	88-93
Vijayapura	20-21	25-30	Vijayapura, Chadchan, Tikota , Telsang– Thu – Wed – Light to Moderate Rain .	Clear to cloudy	30-39	66-84	82-88
Hyderabad	22-23	27-31	Hyderabad, Medchal,. Zahirabad—Thu – Wed –Drzzling to Light Rain .	Clear to cloudy	30-33	59-74	78-83
Satara	20-21	24-25	Satara, Khatav, Phaltan – Thu – Wed – Drzzling to Light Rain .	Clear to cloudy	19-27	81-88	90-95
Ahmednagar	22-23	30-32	Rahata, Kopargaon, Sangamner, Akole, Shrigonda, Ahmednagar ,Karjat, Jamkhed— Thu –Wed – Drzzling to Light Rain.	Clear to cloudy	27-37	60-71	82-85
Jalna	22-23	30-31	Mantha, - Ambad, Ghansavangi, Jalna, Jafrabad– Thu – Wed – Drzzling to Light Rain .	Clear to cloudy	17-25	62-71	82-88
Buldhana	24-25	31-32	Chikhli Sindkhedraja, D.raja , Buldana – Thu – Wed –Drzzling to Light Rain .	Clear to cloudy	17-26	62-72	86-90
Kolhapur	21-22	25-28	Kagal, Karveer, Gagan-bavada – Thu -Wed – – Light to Moderate Rain.	Clear to cloudy	25-30	76-82	87-90

Bengaluru Rural	20-21	26-28	Anekal, Doddaballapur, Bengaluru-east, Bengaluru-north, Bengaluru- - Thu - Wed - Drzzling to Light Rain .	Clear to cloudy	26-29	57-67	81-87
Belagavi	22-23	25-26	Belagavi, Gokak , Chikodi, Athni - Thu - Wed Light to Moderate Rain.	Clear to cloudy	22-25	88-90	92-95
Bidar	22-23	28-32	Basavakalyan, Humanabad, Bidar— Thu – Wed – Drzzling to Light Rain .	Clear to cloudy	26-31	66-82	82-90
Bagalkot	20-21	25-29	Hungund , Bagalkot , Jamkhandi, Mudhol –Thu – Wed – Drzzling to Light Rain .	Clear to cloudy	27-34	63-75	81-86

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

a. Number of days after foundation pruning: 86

b. Expected Pan evaporation: 3.0 to 5.0 mm

Amount of irrigation advised :

1. There is possibility of drizzling to light rains in many regions. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. 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.
3. During fruit bud differentiation stage, shoot vigour to be controlled and hence, the irrigation water applied should be from 2000 to 3000 L/ acre/ day.
4. For fruit bud differentiation stage, stress needs to be given. In clayey soil as the water holding capacity is higher, please note that stress needs to be imposed early else fruitfulness will be affected.
5. **Cane maturity stage:** Apply irrigation through surface drip @ 2000 to 3000 L/acre per day.

6. 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 :

Fruit bud differentiation stage

1. Based upon soil test values, apply 20 – 25 kg/ acre phosphoric acid or 150 kg/ acre SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils. Do not apply beyond this until and unless the soil and petiole tests show low phosphorus availability.
2. Do not apply any water soluble fertilizer having nitrogen.
3. At 45 DAP, perform petiole test to know the nutrient content of the vines. The petioles should be collected from 5th leaf from the base of the shoot even counting the leaves that have been removed.
4. Apply Magnesium sulphate @ 15kg/ acre in at least 2 splits from 45 to 55 DAP.
5. In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.
6. Keep a close watch on the development of leaf blackening symptoms if irrigation water contains sodium more than 100ppm.
7. 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.
8. 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 @ 3g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.
9. If weather forecast predicts good rainfall, then give foliar spray of SOP @ 4-5g/L depending upon the canopy size, before the advent of rains.

Cane maturity stage

1. After current rains, give foliar spray of SOP @ 4-5 g/L depending upon canopy.
2. Potassium application is required from Cane maturity stage onwards. Approx. 64 kg of sulphate of potash (soluble grade) should be applied in this stage. Split the application into atleast five doses to reduce the leaching losses of the potassium. Apply 15 kg SOP in two – three splits during this week. In calcareous soils, provide foliar application of Sulphate of Potash (@ 4g/L) once in this growth stage.
3. Apply magnesium sulphate @ 15 kg/acre in two splits. The application should be done during 60-75 days after pruning. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) in this growth stage.
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.
5. To effectively manage calcareous soil, apply 5kg/ acre soluble sulphur through drip every week. Also spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only.
6. In case due to rains and for preventive control, if bordeaux 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.
7. After cane maturity, raise Sunnhemp or Dhaincha for green manuring purpose.

Pre-pruning operations – Fruit pruning season

1. In case pruning is planned during August - September, 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

Based on the weather data and growth stages, following suggestions are offered for vineyard management.

A) Old vineyard:

1. The recent rainfall in different grape growing regions has reduced the temperature and increased the relative humidity in the grape vineyard.
2. The increased humidity will help for build-up of inoculum of fungal diseases like downy mildew and anthracnose.
3. If the rain continues for 2-3 days, there will be anthracnose incidence on new shoots.
4. The vineyard after 90 days might be in the stage of cane maturity. If the new growth continues, the cane maturity will be delayed. Shoot pinching and removal of side shoot will help to create open canopy thereby reducing the chances of humidity build-up. The disease load will be reduced with effective coverage.
5. Application of potash through drip @ 1.0 to 1.25 kg per acre and spray @ 3.5 to 4.0 g/L water will help to advance cane maturity.
6. In many vineyards, irregular cane maturity is experienced by the grape growers. Bourdeaux spray @ 0.75 to 1.0% at 10 days interval will help to control the problem.
7. In case of leaf yellowing which is basically due to the deficiency of ferrous, magnesium and potash created by availability of calcium carbonate in excess amount in the soil. Hence, application of sulphur mixed with FYM will help to overcome the problem. At this stage, FYM application may not be possible. Under such condition, soluble grade ferrous and magnesium can be applied through drips.

8. To achieve regular cane maturity, application of phosphorous and potash grade fertilizer can be applied in the soil. Avoiding the stress to the vine will control this problem to certain extent. Spraying of Boudreaux mixture @ 0.75 to 1.0% and also drenching through soil will help to control.

B) New vineyard:

- 1) Due to recent rains in vineyard, there will be vigorous growth of new shoots. Under the situation of delayed cordon development, spraying of cytokinin based PGR (6BA @ 10 ppm) will help to increase cytokinin and reduce gibberellin level in the vine.
- 2) Control of shoot vigour is most important to achieve fruit bud differentiation. Hence, potash to be sprayed at minimum concentration of 2.0 to 2.5 g/L water.
- 3) Considering the bud differentiation, 2 to 3 sprays of 0.52.34 @ 2.0 to 2.5 g/L water can be given.

C) Rootstock plots:

- 1) The period of grafting new varieties on rootstock is approaching. Selection of specific scion is more important considering the life span of any variety.
- 2) Preparation of rootstock 10 days before grafting is required. Retention of 3-4 straight growing, vigorous and healthy rootstock shoots should be done before the grafting. In case of excess shoots available, shoot thinning to be done. In addition, the removal of side shoots in at least two instalments can be done to achieve straight and thick shoot (approx. 8.0 mm) at 1.0 feet height above the ground.

IV. Disease management

Days after foundation pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
86	Low	Nil	Moderate	Bacterial spot- High Rust- Nil

Application of Bordeaux mixture or copper hydroxide @1.5-2g/L may be done for the control of downy mildew. It is not necessary to apply any systemic fungicides at the present conditions. A preventive spray of Kasugamycin 5% +Copper Oxychloride 45% WP @750g/ha, may be given in all grape growing areas to manage bacterial spot and anthracnose. Downy mildew can be prevented by application of mancozeb which can also control bacterial spot. A foliar application of Trichoderma@ 4-5ml/L may be given as the moisture conditions will be suitable for multiplication of the biocontrol agents. Drip application of Trichoderma should continue at fortnightly intervals.



Bacterial spot



Anthracnose

V. Insect and Mite management

1. Due to optimum weather conditions, mealybug infestation may be noticed. Use of broad spectrum insecticides should be avoided for mealybug control. Buprofezin 25 SC @ 1.25 ml/l water may be given to manage mealybugs. Preventive plant wash, on stem and cordons, of biocontrol agents such as *Verticillium*, *Metarhizium*, *Beauveria* may be given. In case of mealybug infestation on canes, foliar application of imidacloprid 17.8 SL @ 0.4 ml per litre water should be given.
2. 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.
3. 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.
4. 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 stem and cordon wash with *Metarhizium* @ 3-5 ml per litre water and 1.5-2 litres water per plant.

