



WEATHER DATA FOR THE PREVAILING WEEK

Thursday (10/10/2024)– Wednesday (16/10/2024)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	22-24	28-33	Nashik, Dindori, Ozar, Kalwan Pimpalgaon Baswant, Vani, Palkhed, Loni –Thu – Wed – Drizzling Rain.	Clear to cloudy	9-14	57-81	85-92
Pune	21-22	25-31	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Baramati, Narayangaon–Thu–Wed– Drizzling Rain. Indapur–Thu, Sat, Sun – Drizzling Rain	Clear to cloudy	8-13	56-71	82-87
Solapur	20-21	31-34	Tuljapur, AUSA, Vairag, Barshi, Solapur–Thu–Mon–Drizzling Rain, Tue,Wed – Heavy Rain. Nannaj, Latur–Thu –Wed – Drizzling Rain. Pandharpur – Sat– Drizzling Rain.	Clear to cloudy	16-17	41-53	75-82
Sangli	21-22	29-32	Khanapur Vita. Shetphal, Walva, Palus, Kawthe, Palsi, Shirguppi, Miraj – Thu –Mon–Drizzling Rain. Tue,Wed – Moderate to Heavy Rain.	Clear to cloudy	10-16	59-71	85-89
Vijayapura	20-21	31-32	Chadchan, Tikota, Vijayapura, Telsang – Thu–Mon–Drizzling Rain. Tue,Wed – Moderate to Heavy Rain.	Clear to cloudy	16-17	53-65	82-89
Hyderabad	20-21	30-31	Hyderabad, Medchal, Zahirabad–Thu–Wed–Drizzling Rain.	Clear to cloudy	13-14	52-55	90-93
Satara	20-21	25-30	Satara, Phaltan, Khatav–Thu – Wed –Drizzling Rain.	Clear to cloudy	7-10	64-78	86-92
Ahmednagar	21-22	29-31	Sangamner, Jamkhed, Rahata, Kopargaon, Karjat–Thu– Wed – Drizzling Rain. Shrigonda, Ahmednagar – Thu– Wed– Light to Moderate Rain. Akole – Sat,Wed –Drizzling Rain.	Clear to cloudy	11-14	57-69	82-87

Jalna	22-23	30-32	Ambad, Ghansavangi, Jalna–Sun–Wed– Drizzling Rain. Mantha, Jafrabad–Thu– Wed – Drizzling Rain.	Clear to cloudy	9-12	53-62	83-89
Buldhana	23-24	32-34	D.raja, Buldana, Chikhli – Sun–Wed – Drizzling Rain. Sindkhedraja – Thu–Wed – Drizzling Rain.	Clear to cloudy	8-11	60-63	86-90
Kolhapur	23-24	28-34	Kagal, Karveer, Gagan-bavada–Thu – Wed – – Drizzling Rain.	Clear to cloudy	4-6	71-81	94-95
Bengaluru Rural	20-21	28-29	Anekal, Doddaballapur, Bengaluru-east, Bengaluru-north, Bengaluru - Thu – Wed – Drizzling Rain to Light Rain.	Clear to cloudy	9-18	62-65	89-94
Belagavi	22-24	30-32	Belagavi, Gokak– Thu – Wed – Moderate to Heavy Rain. Chikodi, Athni - Thu –Wed - Drizzling Rain to Light Rain.	Clear to cloudy	8-12	67-76	93-95
Bidar	21-22	32-33	Basavakalyan, Humanabad, Bidar–Thu – Wed –Drizzling Rain to Light Rain.	Clear to cloudy	9-12	56-66	91-96
Bagalkot	20-21	29-31	Bagalkot, Jamkhandi, Hungund Thu–Wed –Light to Moderate Rain. Mudhol –Thu – Wed – Moderate to Heavy Rain.	Clear to cloudy	13-17	54-62	86-90

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/Fruit pruning: 176/26

b. Expected Pan evaporation: 1 to 4 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, donot 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. 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.
4. During **shoot growth stage** (Fruit pruning season), apply irrigation through drip @ 1700 - 6800 L/ acre/ day for all grape growing regions. In case vigour is more than desired, then reduce irrigation water application by half to 2500 L/acre and stop nitrogen application. Still if growth is more, stop the irrigation till such time the growth is brought under control and then start irrigation.

Soil and Nutrient management :

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.

Shoot Growth stage

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. In case organic fertilizers are applied, check the C:N ratio. Lower the ratio more the nitrogen release, hence possibility of enhanced growth. Control nitrogen application based upon growth of vine.
3. Based upon the soil test value, during shoot growth stage apply urea @ 15kg / acre this week in two splits. If the soil is calcareous, instead of urea apply ammonium sulphate @ 25 kg/ acre in three splits this week. Depending upon the crop vigour, regulate nitrogen application.
4. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.
5. Until and unless leaves are fully developed donot go for any foliar application of nutrients. It will lead to wastage of spray.
6. The quantity of nutrients to be applied through foliar, depends upon canopy size.

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. **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.**

III. Canopy Management

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

1. Pre-pruning preparation need to be followed. Approximately 15 days before the fruit pruning, a mixed spray of ethephon @ 2.5 to 3.0 ml/L water + 0.52.34 @ 5.0 g/L water should be taken up for leaf fall.
2. At the time of spray, the vine should be under stress. Hence, water withholding before 5-6 days of actual spray is required.
3. The quantity of water for spray will depend upon the leaf retention on a vine as in many of the grape vineyard due to disease infection, the leaf fall ranging from 10 to 60% is experienced.
4. Apply well decomposed farm yard manure @ 5-6 trollies per acre. In addition, based on the soil test report, SSP @ 300kg, DAP @ 50 kg, zinc, boron, ferrous sulphate, and magnesium sulphate should be added in the trench.
5. Bud testing can be done before fruit pruning. This will avoid error in pruning.
6. Approximately 5-6 canes of each category (6-8mm, 8-10mm, above 10mm) from sub-cane as well as straight canes should be collected randomly from one acre area. The collected material should be wrapped in wet gunny cloth and sent to laboratory for bud testing.
7. In the absence of bud testing report, fruit pruning can be done leaving 1-2 buds after the knot on sub-cane while retaining shorter internodes o straight cane.
8. Swabbing of canes with hydrogen cyanamide will depend on the cane diameter, weather condition in the grape vineyard and the bud condition (percentage of bud swelling). However, under normal condition, the concentration of hydrogen cyanamide can be 35-40 ml/L water.
9. Avoid swabbing of buds immediately after pruning. However, this can be performed on the next day for better results.
10. On 8th to 9th days after fruit pruning, the bud sprouting will initiate. During this stage change in weather (rainfall/cloudy weather) will increase the gibberellins in grapevine thereby leading to fillage.

11. To control the fillage, spray of cytokinin based PGR (6BA @ 10 ppm or CCC (as per Annexure-5) and 0.0.50 @ 0.75 to 1.0 g/L or 0.9.46 or 0.40.37 @ 0.75 to 1.0 g/L water can be sprayed on the vine.
12. Removal of excess shoots during the period of 14 to 17 days should be done. This will help for aeration in the canopy thereby reducing the microclimate that will help to control the downy mildew incidence and inflorescence rot.
13. First spray of GA₃ @ 10 ppm should be done at parrot green stage of a bunch while the second spray after 5 days of first spray to be done. This will help to obtain loose and bunch after berry setting by the process of cell multiplication and cell elongation.
14. To increase the efficiency of GA₃, pH of the spray solution should be 5.5 to 6.0. The water used for spraying should be of good quality.
15. If possible, spraying should be done when the relative humidity in the atmosphere is above 60%. During this time, the leaf is in active phase so that the absorption can be increased.
16. Under the cloudy condition, avoid GA₃ spray.
17. Retention of grape bunches should be done based on the objectives (local vs. export vs. raisin).
18. Depending upon the objectives, bunch retention (based on spacing, cane diameter, etc) to be done.

IV. Disease management

Days after foundation/fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
More than 176/26	Low	Low	Moderate	Bacterial spot-High Rust-Nil

In Sangli areas where bacterial spot and anthracnose were prevalent on berries, Mancozeb 75 WP @2-3g/L, and two sprays of Kasugamycin 5% +Copper Oxychloride 45% WP @750g/ha,

may be given. Periodic application of *Trichoderma* sp and *Bacillus subtilis* will also help in controlling these two diseases. Application of Thiophenate methyl/carbendazim @ 1g/L will provide a good control against anthracnose. At “ponga” stage an application of copper hydroxide @ 1.5g/L may be given. Systemic fungicides for downy mildew control should be started at 3-5 leaf stage. Uneven sprouting should be avoided. In some areas where heavy infection of downy mildew is seen, it is advised to remove the infected leaves mechanically followed by a spray of copper fungicides or mancozeb. Drip application of *Trichoderma* should continue at fortnightly intervals. There is no need to apply any systemic fungicides at the “ponga” stage. If there is moisture on the leaf, after a shower, dusting with mancozeb @ 3-5kg/acre should be done. If the infection of anthracnose is heavy, application of triazoles will help in the management of the disease.



Bacterial spot



Anthracnose



Downy mildew

V. Insect and Mite management

Foundation pruning growth stage: Cane maturity and afterwards

- Caterpillar (*Spodoptera litura*) infestation may increase in most of the grape areas as humidity is high. For the management of caterpillars, emamectin benzoate 5 SG @ 0.22 g/litre or fipronil 80 WG @ 0.06 g/litre or cyantraniliprole 10 OD @ 0.7 ml per litre water may be given. Installation of light traps outside vineyards is the best strategy to manage caterpillar population.
- Mealybug population and movement of ants may be noticed under the bark. Due to build-up of relative humidity and increase in temperature, plant wash with entomopathogenic fungi viz. *Metarhizium*, *Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.
- Do not spray any broad-spectrum insecticides such as chlorpyrifos, dichlorvos, methomyl, profenophos, etc. for mealybug control. Higher humidity will favour development of natural enemies which will slowly kill mealybugs. In case chemical spray is required, prefer buprofezin 25 SC @ 1.25 ml per litre of water for plant wash.
- Incidences of new species of stem borer (red colour larva) may be noticed under bark in Sangali, Solapur, Nashik, Pune, Bijapur grape areas. Remove the loose bark and give good plant wash mainly targeting cordons and main trunk with *Metarhizium* @ 2.5 ml/l.



Fruit pruning growth stage: Dormant bud to sprouting

- Caterpillar (*Spodoptera litura*) infestation may increase in most of the grape areas as humidity is high. Caterpillars may chew on buds and new sprouts. Collection of caterpillars by hand at night after 9 pm is the best strategy to manage them during bud sprouting stage as most of the insecticides may not be effective during that period.
- Remove loose bark and give preventive plant wash with buprofezin 25 SC @ 1.25 ml/litre + *Metarhizium anisopliae* @ 2-3 ml per litre water. At 15 days interval, plant wash with entomopathogenic fungi viz. *Metarhizium*, *Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.
- Give soil drenching with *Metarhizium* just after fruit pruning to manage flea beetle grubs, thrips pupa and ants in soil.
- For flea beetle management, remove weeds from inside and around the vineyards. Harrowing may be done in inter row space. Foliar application of lambda cyhalothrin 4.9 CS @ 200 ml per acre or imidacloprid 17.8 SL @ 160 ml per acre or fipronil 80 WG @ 25 g per acre or spinosad 45 SC @ 100 ml per acre may be given. The foliar spray may preferably to give at night after 7 pm.