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

Thursday (07/11/2024)– Wednesday (13/11/2024)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	18-19	32-33	Nashik, Dindori, Ozar, Kalwan, Vani, Loni , Palkhed, Pimpalgaon Baswant –Thu – Wed – No Rain.	Clear to cloudy	10-12	24-33	47-58
Pune	16-17	31-32	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Indapur, Baramati – Thu–Wed–No Rain.	Clear to cloudy	9-11	27-31	50-62
Solapur	18-19	33-34	Tuljapur, Ausa, Vairag, Barshi, Nannaj, Solapur, Pandharpur, Latur –Thu–Wed–No Rain.	Clear to cloudy	15	23-29	55-63
Sangli	18-20	32-33	Shetphal, Walva, Palus, Kawtha, Khanapur Vita, Palsi, Shirguppi – Thu – Wed –No Rain.	Clear to cloudy	12-16	28-43	59-71
Vijayapura	18-20	32-33	Chadchan, Tikota, Vijayapura, Telsang – Thu – Wed –No Rain.	Clear to cloudy	15-16	25-34	61-77
Hyderabad	19-20	30-31	Hyderabad, Medchal, Zahirabad – Thu – Wed –No Rain.	Clear to cloudy	8-10	32-44	59-81
Satara	17-18	30-31	Satara, Phaltan, Khatav– Thu – Wed –No Rain.	Clear to cloudy	9-11	33-37	59-69
Ahmednagar	16-17	31-33	Akole, Sangamner, Rahata, Kopargaon, Karjat, Ahmednagar, Shrigonda, Jamkhed – Thu – Wed –No Rain.	Clear to cloudy	12-15	24-30	51-68
Jalna	17-18	31-33	Ambad, Ghansavangi, Mantha, Jalna, Jafrabad –Thu–Wed – No Rain.	Clear to cloudy	8-11	25-32	59-68
Buldhana	18-19	32-33	D.raja, Sindkhed, Buldana, Chikhli – Thu – Wed – No Rain.	Clear to cloudy	7-10	28-34	55-61
Kolhapur	20-22	33-34	Kagal, Karveer, Gagan-bavada– Thu – Wed – No Rain.	Clear to cloudy	8-9	40-48	64-74
Bengaluru Rural	19-20	27-29	Anekal, Doddaballapur, Bengaluru-east, Bengaluru-north, Bengaluru –Mon,Wed– Light to Moderate Rain.	Clear to cloudy	13-17	45-59	81-92

Belagavi	20-21	30-31	Belagavi, Chikodi, Gokak, Athni – Thu–Wed – No Rain.	Clear to cloudy	9-12	41-55	65-92
Bidar	18-19	31-33	Basavakalyan, Humanabad, Bidar – Thu–Wed – No Rain.	Clear to cloudy	9-10	39-42	71-76
Bagalkot	18-19	31-32	Bagalkot, Jamkhandi, Hungund, Mudhol – Thu–Wed – No Rain.	Clear to cloudy	13-16	25-36	64-80

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.

II. Soil and Nutrient management

a. Number of days after Fruit pruning: 52

b. Expected Pan evaporation: 3 to 5 mm

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. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
3. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil atleast 15-20 days before pruning. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. The efficacy of sulphur is improved if FYM/ Compost are applied along with sulphur and mixed in the soil. If SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
4. 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.

5. In case of calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
6. 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.
7. If the crop is between 5 leaf to prebloom stage, apply Zinc sulphate and Ferrous sulphate @ 15 kg/ acre based upon soil test value. Boron application should be carried out only if soil test value indicates low levels and the irrigation water does not contain boron. If during

foundation puning, the petiole test stated that boron was deficient then apply boron @ 1.5 kg to 5 kg depending upon the soil test value. Apply one kg boron at a time.

8. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.

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 8^{th} to 9^{th} 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 GA_3 @ 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 GA_3, 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 GA_3 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 fruit pruning	**Risk of diseases**			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
52	High	Low	High	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. Application of Copper Sulphate 47.15% + Mancozeb 30% WDG@5g/L or 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. There is no need to apply any systemic fungicides at the "ponga" stage. 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 Amisulbrom 17.7 SC@375ml/ha or Cyazofamid 34.5SC @200ml/ha or any of CAA fungicide formulations- (Iprovalicarb 5.5 + Propineb +61.25)-66.75WP @ 2.25 g/L or Mandipropamid 23.4% SC @ 0.8ml/L or (Ametoctradin 27 + Dimethomorph 20.27)-47.27 SC @ 0.8-1ml/L or (Cymoxanil 8+Mancozeb 64)-72 WP@2g/L. Drip application of Trichoderma should continue at fortnightly intervals. If there is moisture on the leaf, after a shower, dusting with mancozeb@ 3-5kg/acre should be done. There can be an initiation in powdery mildew infection in some areas and an application of sulphur 80WDG @2-3g/l may be given.

Bacterial spot

Anthracnose

Downy mildew

V. Insect and Mite Pest Management

Growth Stage: Initial shoot growth to pre flowering

- During the initial shoot growth stage, flea beetle and jassid infestation may increase in most of the grape areas. For the management fipronil 80 WG @ 0.06 g/litre water (not to be used during and after pre-flowering and flowering stages) may be given during night.
- Install light traps outside vineyards for jassids. If required, spraying lambda cyhalothrin 4.9 CS @ 0.5 ml per litre or imidacloprid 17.8 SL @ 0.4 ml per litre water at night is effective. While spraying during night time install a white colour light bulb at the backside of the tractor. The jassids will become active and it will increase the efficiency of the spray.

- If the crop is nearing pre flowering, flowering and berry setting stages, for flea beetle and thrips, the application of spinosad 45 SC @ 100 ml per acre or spinetoram 11.7 SC @120 ml per acre preferably at night is effective.
- Mealybug incidence may be noticed in the vineyards where buprofezin wash was given without removing the loose bark. Monitor vineyards at 10 days interval for mealybug presence. Remove loose bark of infested vines and give spot application of buprofezin 25 SC @ 1.25 ml per litre water. Do not spray any broad spectrum insecticides such as chlorpyrifos, dichlorvos, methomyl, profenophos, etc. for mealybug control.
- Girdler beetle infestation may be noticed in vineyards upto 2 years old. It causes damage by girdling plant stems, which weakens or even kills the plant if the stem is completely severed. The most effective management is hand-collecting and destroying the beetles, which become active around 9 p.m. and tend to remain on or near damaged plants. Insecticides are not economically viable due to the low infestation rate (1-2% of plants). If the stem is fully cut, a new shoot should be raised from below the damage to promote recovery. If the stem is not fully severed, apply cow dung at injury site and it should heal within two weeks and attain normal growth in most cases.
- 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 anisopliae* @ 3 ml/l.