WEATHER DATA FOR THE PREVAILING WEEK

Date of Foundation Pruning: 15/04/2021

Wednesday (02/06/2021)–Wednesday (09/06/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	24-25	28-34	Nashik, Dindori, Ozar, Palkhed, , Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan Fri to Tue- Light to Moderate Rain.	Clear to Partly Cloudy	07-20	35-59	83-89
Pune	22-24	28-33	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Baramati Sat-Mon- Light to Moderate Rain.	Partly Cloudy	07-19	41-59	73-87
Solapur	21-23	32-35	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Tuljapur, Pandharpur, Barshi Thu to Sat & Tue- Light Rain. Sun- Good Rain. Atpadi, Kasegaon Sun & Mon- Good Rain.	Clear to Partly Cloudy	12-18	41-51	70-84
Sangli	21-24	29-33	Sangli,Kagvad, Shetfal, Palsi, Palus, Khanapur, Vita, Tasgaon, Shirguppi, Arag, Miraj, Walva, Kawthe Mahakal Sat & Tue- Moderate Rain. Mon- Drizzling.	Partly Cloudy	09-19	43-52	76-84
Vijayapura	21-23	31-33	Vijayapura, Chadchan, Tikota, Telsang Fri- Good Rain. Sat- Tue Light to Moderate Rain.	Partly Cloudy	11-23	44-54	78-82
Hyderabad	22-24	33-38	Hyderabad, Medchal, Zahirabad Sat to Tue- Moderate to Good Rain.	Partly to Mostly cloudy	06-19	29-43	56-66
Satara	22-24	30-32	Satara Sat-Mon Light Rain. Man, Khatav, Phaltan Sat- Good Rain. Sun- Light Rain.	Clear to Partly Cloudy	08-15	44-55	72-86
Ahmednagar	21-23	30-35	Ahmednagar, Nagar, Kopargaon, Rahata, Sangamner, Shrigonda, Akole No Rain. Karjat Sat- Mon- Light to Moderate Rain. Jamkhed Sat & Mon- Light Rain. Sun- Moderate Rain.	Clear to Partly Cloudy	08-12	34-54	61-79
Jalna	22-23	32-34	Jalna, Ambad, Jafrabad Sat & Mon- Light Rain. Sun- Moderate Rain. Mantha Fri- Sun Moderate Rain Gansawangi Fri, Sun & Mon- Moderate Rain.	Clear to Partly Cloudy	06-16	40-50	66-71
Buldhana	24-25	33-36	Buldana, Chikhli, D.raja, Sindkhedraja Fri to Mon- Moderate Rain.	Partly Cloudy	08-16	39-44	63-67

Kolhapur	21-24	29-33	Gagan-bavada Thu to Mon- Moderate Rain. Kagal, Karveer Sat- Drizzling. Tue- Moderate Rain.	Clear to Partly Cloudy	09-18	42-53	77-85
Bengaluru Rural	20-23	30-32	Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur, Anekal Thu, Sat & Tue- Light Rain. Fri- Good Rain.	Clear to Partly Cloudy	06-17	39-52	79-86
Belagavi	22-24	28-32	Belagavi, Athni, Chikodi, Gokak, Khanapur Fri onwards Moderate to Good Rain.	Partly to Mostly cloudy	09-18	53-74	87-94
Bidar	19-23	35-37	Bidar, Basavakalyan, Humnabad Fri to Mon- Light to Moderate Rain.	Partly Cloudy	07-19	34-45	60-80
Bagalkot	22-24	31-34	Bagalkot, Bilagi Thu - Mon- Drizzling. Tue- Good Rain. Jamkhandi, Mudhol, Hungund, Badami Sat - Mon- Light Rain. Tue- Good Rain.	Partly Cloudy	12-23	39-44	68-75

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.accuweather.com/

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

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

a) **Days after foundation pruning: 49**

b) **Pan evaporation: 5 to 7mm**

Amount of irrigation advised:

1. All the grape growing regions are forecasted to receive from drizzling to moderate rains. The irrigation water application should be based upon the growth of the vines. In case rain exceeds 5 mm on a given day, irrigation water application can be skipped for that day. Generally, under wapsa (field capacity) condition of the soil, donot give irrigation.

2. **Shoot growth stage:**
    a) Irrigation water < 1dS/m : apply irrigation through surface drip @ 6,800 to 9,500 L/acre per day.
    b) Saline irrigation water (1.1 – 2.5 dS/m): apply irrigation through surface drip @ 8,500 to 11,900 L/acre per day.
    c) In case the shoot growth is vigorous, reduce irrigation water application till growth is controlled.
    d) If the soil is at field capacity (wapsa condition), then withhold irrigation water application till such time, the soil moisture content comes below field capacity (wapsa).
3. **Fruit Bud Differentiation stage:**
    a. Apply irrigation through surface drip @ 3500 to 5000 L/acre per day.
    b. 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.
    c. Flooding the vineyard is not advised as it leads to wastage of water. Concentrate irrigation water application in the root zone only.
4. **Cane maturity stage:** Apply irrigation through surface drip @ 3500 to 5000 L/acre per day.

Nutrient management

Shoot growth stage

1. After current rains, give foliar spray of SOP @ 2g/L.
2. After subcane is over, check for any interveinal leaf yellowing or marginal leaf yellowing. Interveinal veinal leaf yellowing means lime induced iron deficiency due to calcareous soil. Yellowing of leaf margin coupled with curling means potassium deficiency.
3. In calcareous soils, spray ferrous sulphate @2g/L twice at 3 days interval and apply 15-20kg/acre ferrous sulphate thgrough drip.
4. 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.
5. Possibility of leaf curling, check the leaf margins, if slight to more yellow, possibility of potassium deficiency. Foliar spray of SOP @ 3g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.

6. 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.

Fruit bud differentiation stage

1. After current rains, give foliar spray of SOP @ 3-4 g/L depending upon canopy.
2. Based upon soil test values, apply 20 – 25 kg phosphoric acid or 150 kg SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils. Donot apply beyond this until and unless the soil and petiole tests show low phosphorus availability.
3. Donot apply any water soluble fertilizer having nitrogen.
4. 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.
5. Apply Magnesium sulphate @ 15kg/ acre in atleast 2 splits from 45 to 55 DAP.
6. In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.
7. Keep a close watch on the development of leaf blackening symptoms if irrigation water contains sodium more than 100ppm.
8. 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.
9. 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.

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.

III. Requirement of growth regulators (Dr. S.D. Ramteke)

Nil

IV. Canopy management (Dr. R.G. Somkuwar)

Management of grape vineyard after rainfall:

During the last week, many of the grape vineyards experienced excess and continuous rains. This condition resulted into high vigor thereby leading to reduction in fruit bud differentiation. Under such condition, following suggestions are offered.

1. Heavy rainfall resulted into moisture saturation in the root zone as well as in soil between the rows. This will activate feeder roots (white roots). Hence, the vine may impart more vigor.
2. The temperature in the vineyard will be reduced and the relative humidity will be increased. The gibberellins in the vine will be increased and the cytokine will be reduced thereby leading to increase in vigor.
3. Along with the shoot growth, side shoots on the main cane will be emerging at faster rate. Due to dense canopy, the pressure of disease development will be more.
4. High vigor will lead to increase in inter nodal length.
5. There will be sudden deficiency symptoms of potash on older leaf.

6. While the temperature is increasing, the succulency of leaf will be increasing. During this condition, thrips damage may be experienced.

Suggestions:

1. Irrigation to be given based on the soil type and water holding capacity.
2. Shoot pinching to be followed. This will help to control the vigor.
3. Side shoots on each sub cane or straight cane need to be removed. This will help in reducing the microclimate thereby reducing the chances of disease incidence.
4. Spray 6 BA and Uracil with minimum concentration in case of side shoot growth after the sub cane. However, in case of developed sub cane, only P and K containing fertilizer may be given through spray.
5. Hard pinching of growing shoots need to be avoided.

V. Disease management (Dr. Sujoy Saha)

Days after foundation pruning	**Risk of diseases**			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
49	Nil	Nil	Low	Bacterial spot

In areas receiving light to moderate drizzles application of Thiophenate methyl @1g/L tank mixed with Mancozeb@2g/L may be given to protect from anthracnose and bacterial spot diseases. In early pruned areas application of Bordeaux mixture (1%)/copper hydroxide @ 1.5-2g/l may be done. Drip application of Trichoderma may be continued in areas receiving rainfall. In some areas of Nashik, where bacterial spot is incident application of Mancozeb @2g/litre may be given. Foliar spray of Trichoderma may also be given @2-3ml/L but it should not be given immediately after application of copper fungicides. It is advised not to spray any systemic fungicides in this season. In areas receiving light to moderate drizzles application of Thiophenate methyl @1g/L tank mixed with Mancozeb@2g/L may be given to protect from anthracnose and bacterial spot diseases. In early pruned areas application of Bordeaux mixture (1%)/copper hydroxide @ 1.5-2g/l may be done. Drip application of Trichoderma may be continued in areas receiving rainfall. In some areas of Nashik, where bacterial spot is incident application of Mancozeb @2g/litre may be given. If rainfall is

continuous, dusting of Mancozeb 75WP @3-5kg/ acre may be done. Foliar spray of Trichoderma may also be given @2-3ml/L but it should not be given immediately after application of copper fungicides. It is advised not to spray any systemic fungicides in this season. In some regions of Sangli, where powdery mildew is observed, application of sulphur @2g/L may be done. It is advised not to use any systemic fungicides at this stage

VI. Insect and Mite management. (Dr. D.S. Yadav)

1. Adults of stem borer *Stromatium barbatum* start emerging during first fortnight of June. Installation of light traps will be helpful in monitoring the initiation of emergence of stem borer adults. Run the light traps for 3 hours daily, during evening between 7.00 pm – 10.00 pm and destroy the collected beetles in water mixed with insecticide. Application of neem oil or neem seed kernel extract or hanging neem leaves inside vineyards may act as repellant for adults of *Stromatium barbatum*. If adult stem borers are noticed, application of fipronil 80 WG @ 0.06 g/litre, lambda cyhalothrin 5 CS @ 0.5 ml/litre or imidacloprid 17.8 SL @ 0.3 ml/litre water may be given directed at main stem and cordons during night. Follow the following link for detailed information on youtube video https://www.youtube.com/watch?v=Yvx7dIbPEAU
2. Chafer beetles are adults of white grubs. They start emerging after good rains during May-June months. They are active during nighttime and remain hidden during the day. After mating about 50 eggs are laid by a single female in the soil and where they feed on the roots. However, the damage to roots by their grubs in grapes is not a major problem. The major damage is caused by the adults by feeding on leaves. Mostly grape plants at the border of the vineyard are affected. Foliar application of lambda cyhalothrin 4.9 CS @ 0.5 ml per liter water at night is effective to kill the beetles.
3. Spraying of imidacloprid 17.8 SL @ 0.4 ml per litre water will help in controlling mealybug on new growth.
4. In case of thrips or caterpillar infestation, application of fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre water is effective.
5. Remove excess growth to manage thrips post second pinching.

6. 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 water is effective.