WEATHER DATA FOR THE PREVAILING WEEK

Date of Foundation Pruning: 15/04/2021

Wednesday (26/05/2021)–Wednesday (02/06/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	24-25	34-37	Nashik, Dindori, Ozar, Palkhed, , Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan Thu to Sun- Light Rain. Devla, Niphad No Rain.	Clear to Partly Cloudy	3-12	36-51	83-85
Pune	21-22	32-34	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Junnar No Rain. Baramati Sat- Moderate Rain. Mon- Light Rain.	Clear to Partly Cloudy	3-11	37-51	80-83
Solapur	22-23	36-40	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Tuljapur, Pandharpur Thu to Sat & Tue- Light Rain. Sun- Good Rain. Atpadi, Kasegaon Sun & Mon- Good Rain. Barshi Fri to Mon- Light Rain. Tue- Moderate Rain.	Clear to Partly Cloudy	5-14	24-30	55-64
Sangli	22-23	33-34	Sangli,Kagvad, Shetfal, Palsi, Palus, Khanapur, Vita, Tasgaon, Shirguppi, Arag, Miraj, Walva, Kawthe Mahakal Sat & Tue- Moderate Rain. Mon- Drizzling.	Clear to Partly Cloudy	2-11	39-44	78-81
Vijayapura	21-22	36-37	Vijayapura, Chadchan, Tikota, Telsang Thu- Drizzling. Fri- Good Rain. Sat- Moderate Rain. Sun & Tue- Light Rain.	Clear to Partly Cloudy	5-15	27-38	69-73
Hyderabad	21-25	36-40	Hyderabad, Medchal, Zahirabad Sat to Tue- Good Rain.	Clear to Partly Cloudy	4-12	21-42	55-71
Satara	21-23	31-33	Satara Sat- Light Rain. Man, Khatav, Phaltan Sat- Good Rain. Sun- Light Rain.	Clear to Partly Cloudy	3-11	43-52	78-87
Ahmednagar	22-24	37-38	Ahmednagar, Nagar, Kopargaon, Rahata, Sangamner, Shrigonda, Akole No Rain. Karjat Sun- Light Rain. Mon- Moderate Rain. Jamkhed Sat & Mon- Light Rain. Sun- Moderate Rain.	Clear to Partly Cloudy	4-13	20-31	63-68
Jalna	24-25	38-40	Jalna, Ambad, Jafrabad Fri- Good Rain. Sat & Mon- Light Rain. Sun- Moderate Rain. Mantha Fri- Moderate Rain. Sat & Sun- Good Rain.Gansawangi Fri & Sat- Good Rain. Sun & Mon- Moderate Rain.	Clear to Partly Cloudy	3-11	16-26	57-61
Buldhana	24-26	38-41	Buldana, Chikhli, D.raja, Sindkhedraja Fri & Sat- Good Rain. Sun & Mon- Moderate Rain.	Clear to Partly Cloudy	5-13	17-32	56-64
Kolhapur	23-24	31-33	Gagan-bavada Thu to Mon- Light Rain.	Clear to Partly	3-13	58-61	91-94

			Kagal, Karveer Sat- Drizzling. Tue- Light Rain.	Cloudy			
Bengaluru Rural	20-21	32-35	Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur, Anekal Thu, Sat & Tue- Light Rain. Fri- Good Rain.	Clear to Partly Cloudy	5-14	32-37	78-82
Belagavi	22-23	31-33	Belagavi, Athni Sat to Mon- Light Rain. Tue- Good Rain. Chikodi, Gokak, Khanapur Fri & Sun- Light Rain. Sat, Mon & Tue- Good Rain.	Clear to Partly Cloudy	4-12	43-46	81-83
Bidar	21-22	36-39	Bidar, Basavakalyan, Humnabad Fri & Tue- Light Rain. Sat to Mon- Good Rain.	Clear to Partly Cloudy	3-11	22-36	52-69
Bagalkot	22-23	34-36	Bagalkot, Bilagi Thu & Mon- Drizzling. Tue- Good Rain. Jamkhandi, Mudhol Tue- Moderate Rain. Hungund, Badami Sat & Mon- Light Rain. Tue- Good Rain.	Clear to Partly Cloudy	4-13	24-31	66-73

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: 42

b) Pan evaporation: 6 to 9 mm

1. In many areas drizzling to good rains are expected. If the soil is in wapsa condition, then do not irrigate.
2. Before starting irrigation, check for shoot vigour. If it is still vigourous, do not irrigate. Remove excess growth/ side shoots. Canopy should not be dense.
3. After foundation pruning, during shoot growth stage, apply 10,200 – 12,750 L/acre per day of irrigation water in areas where max. temperature is below 37°C, whereas in other areas apply 13,500 – 15,300 L/acre per day. If EC of the irrigation water is less than 1 dS/m, then apply 8,000 – 10,200 L/acre per day in areas where max. temperature is below 37°C whereas in other areas apply 10,200 – 12,240 L/acre per day.

4. In case vigour is more than desired, then reduce irrigation water application to 6000 – 8,500 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
5. During fruit bud differentiation stage, shoot vigour to be controlled and hence, the irrigation water applied should be from 3500 to 5000 L/ acre/ day.
6. 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.
7. During Cane maturity stage, apply irrigation @ 3500 to 5000 L/ acre/ day.
8. 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.
9. Flooding the vineyard is not advised as it will lead to wastage of water. Concentrate irrigation water application in the root zone only.

Shoot growth stage

1. 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.
2. In calcareous soils, spray ferrous sulphate @2g/L twice at 3 days interval and apply 15-20kg/acre ferrous sulphate thgrough drip.
3. 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.
4. 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.
5. 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. 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.

2. Donot 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 atleast 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.

Cane maturity stage:

1. 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.
2. 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.
3. 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.
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.

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 succulence 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)
42	Nil	Nil	Nil	Nil

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.

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

1. Adults of stem borer *Stromatium barbatum* start emerging during the last week of May to 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.

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.