WEATHER DATA FOR THE PREVAILING WEEK

Date of Foundation Pruning: 15/04/2021

Wednesday (14/04/2021)–Wednesday (21/04/2021)

Location	Temperature (℃)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	20-22	36-38	Nashik, Ozar, Palkhed, Dindori, Vani, Loni, Pimpalgaon Baswant, Niphad, Shirdi, Devla, Kalwan Thu- Drizzling.	Clear to Partly Cloudy	3-18	14-21	33-63
Pune	18-20	35-37	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Junnar, Baramati – No Rain.	Clear to Partly Cloudy	2-17	13-23	35-71
Solapur	22-24	36-38	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Kasegaon, Atpadi, Latur, Ausa, Tuljapur, Barshi, Pandharpur Thu- Light Rain.	Clear to Partly Cloudy	4-15	12-22	26-33
Sangli	21-23	34-36	Sangli, Kagvad, Shetfal, Palsi, Palus, Khanapur, Vita, Tasgaon, Shirguppi, Arag – No Rain. Kawthe Mahakal, Miraj, Walva Thu- Drizzling.	Clear to Partly Cloudy	3-18	12-25	24-62
Vijayapura	22-24	35-39	Vijayapura, Chadchan, Tikota, Telsang Thu- Light Rain.	Clear to Partly Cloudy	6-16	11-26	24-46
Hyderabad	23-25	35-38	Hyderabad, Medchal, Zahirabad Thu- Good Rain. Mon- Moderate Rain.	Clear to Partly Cloudy	3-11	20-26	44-71
Satara	19-21	32-34	Khatav, Phaltan, Man - No Rain. Satara Thu- Drizzling.	Clear to Partly	2-16	15-28	32-71

				Cloudy			
Ahmednagar	20-23	36-38	Ahmednagar, Nagar, Akole, Jamkhed, Kopargaon, Rahata, Sangamner, Shrigonda, Karjat Thu- Light Rain.	Clear to Partly Cloudy	6-17	13-19	25-44
Jalna	22-25	36-38	Jalna, Jafrabad Thu- Moderate Rain. Mantha Thu- Light Rain. Ambad, Gansawangi Thu- Drizzling.	Clear to Partly Cloudy	4-14	13-21	25-40
Buldhana	23-25	37-39	Buldana, Chikhli, D.raja, Sindkhedraja Thu- Good Rain.	Clear to Partly Cloudy	3-17	12-15	20-24
Kolhapur	22-23	32-34	Gagan-bavada, Kagal, Karveer - No Rain.	Clear to Partly Cloudy	2-19	18-30	67-96
Bengaluru Rural	22-24	32-35	Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur Fri- Light Rain. Sat to Mon- Drizzling. Tue- Moderate Rain. Anekal Fri- Good Rain. Sat & Tue- Moderate Rain. Sun & Mon- Drizzling.	Clear to Partly Cloudy	3-12	23-35	60-74
Belagavi	21-24	32-35	Belagavi, Athni, Chikodi, Gokak – No Rain. Khanapur Fri- Moderate Rain.	Clear to Partly Cloudy	2-18	18-34	52-83
Bidar	22-24	35-38	Bidar, Basavakalyan, Humnabad Mon- Light Rain.	Clear to Partly Cloudy	3-12	12-23	29-38
Bagalkot	21-24	34-37	Bagalkot, Badami, Bilagi, Hungund, Jamkhandi, Mudhol - No Rain.	Clear to Partly Cloudy	6-16	12-25	37-55

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:**
b) **Pan evaporation**: **7 to 9 mm.**

1. During rest period, provide only need based irrigation to protect the existing leaves from drying and also it contribute towards increasing the reserves of the vines through photosynthetic activity. The quantum of irrigation water applied should be approx. 7000 – 7500 L/ acre, once in a week. Care should be taken to reduce/stop the water in case new growth is observed on the shoot.
2. After foundation pruning, during shoot growth stage, apply 11,900 – 15,300 L/acre per day of irrigation water. If EC of the irrigation water is less than 1 dS/m, then apply 9,500 – 12,300 L/acre per day.
3. In case vigour is more than desired, then reduce irrigation water application to 6,000 – 7,500 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
4. **Cover the cordons of the pruned vines with shadenet**, if available, for uniform sprouting as well as reducing the irrigation water needs by 20-25 %. Shadenet coverage will reduce the temperature impact

on the cordons. However, remove shadenet after 3-5 leaf stage. If shadenet is not available, spray the cordons with water during the peak heat period i.e. 2-3 pm to reduce the heat effect on the buds.

5. In case there is **probability of less irrigation water availability**, then flood the bund (not whole vineyard) at pruning and mulch the bunds. Flooding the bund will reduce the accumulated salt load in the root zone and mulching will reduce the evaporation of water from soil surface. Thus, this will reduce the salt load in the soil and at the same time saturate the soil leading to proper sprouting. Further, in case less irrigation water is available still the newly emerging shoots will not be damaged due to salinity.
6. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
7. During fruit bud differentiation stage, shoot vigour to be controlled and hence, the irrigation water applied should be from 5000 to 6000 L/ acre/ day.
8. 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.
9. 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.
10. Flooding the vineyard is not advised as it will lead to wastage of water. Concentrate irrigation water application in the root zone only.

Soil and Nutrient management

1. During rest period, apply 10-15 kg urea, 25-30 kg SSP and 10-15 kg Sulphate of Potash per acre every 15-20 days till foundation pruning is not done.

Pre-pruning operations

1. If planning for foundation pruning in next 10- 15 days, it is advised to get soil and water analysed for planning nutrient and water application schedule for foundation pruning season.
2. Apply 8-10 tons FYM/ acre atleast 15-20 days before pruning. In case soil is calcareous, apply Sulphur along with it.

3. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. Mixing of sulphur with FYM/ compost further improves its efficacy.
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.
5. In case Single super phosphate needs to be applied as basal, then mix 200 kg Single super phosphate in the FYM and apply in the soil. This improves the phosphorus utilization by vines.
6. Never apply water soluble fertilisers like urea, ammonium sulphate etc. as basal, as they will leached and contaminate the ground water. They should be applied only from sprouting onwards.

Shoot growth stage

1. Apply 50 kg urea/ acre in 5-6 splits after sprouting. In calcareous soils, donot apply urea, instead use Ammonium sulphate @ 85 kg/acre in atleast 7-8 splits from sprouting onwards.
2. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application. If still the growth continues, then reduce irrigation. Then resume when growth is maintained at desired level.
3. Based upon soil test value, apply Zinc sulphate @10 kg/acre along with Ferrous sulphate @10kg/acre followed by Magnesium sulphate @15kg/acre in atleast 2 splits during 5-7 leaf stage. Boron application should be strictly based upon soil and petiole test.
4. In calcareous soils, spray magnesium sulphate and potassium sulphate @2 gm each/ L during active growing stage.

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.

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

Nil

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

Management in new vineyard:

1) The cloudy weather will help in reducing the temperature in the vineyard. This will support for early and uniform bud sprouts.
2) In the vineyard after the re-cut, shoot growth will be at faster rate. For uniform and early bud sprouts, irrigation and nutrition requirement should be the priority.
3) Among the nutrients, nitrogen plays an important role. Nitrogen to the re-cut plants can be supplied through urea, 18:46:0, 12:61:0, etc.
4) During this period, the temperature is exceeding 35^{o}C while the R. H. is also reducing upto 25%. Under such condition, irrigation should be based on the requirement.
5) Under light soil, the irrigation to be in different time interval. Frequent irrigation can be the better option since the water holding in light soil is less.
6) The water holding capacity of black cotton soil is more hence, the irrigation can be based on the requirement.

7) To reduce the temperature and increase RH, irrigate the bund completely. This will help to increase the root spread also. Irrigation during day time should be avoided.
8) During this period, the incidence of thrips will be more on succulent shoots. Hence, the measures for control of thrips to be taken up. During this growth stage, the deficiency symptoms of potash will also be seen on the older leaf. Hence, depending upon the symptoms, corrective measures either for thrips or potash deficiency to be taken up.
9) Many of the times double shoots comes out from the single bud. Under such condition, maintain only single bud.
10) During the bud swelling stage, the insect like flea beetle may become more serious. This pest eat the food material from the sprouted bud thereby spoiling the re-cut of the vine.

Management in old vineyard:

1) While opening the trench, root cutting should not exceed 30%. The trench should not be exposed for a longer time, whereas it should be closed immediately after the opening. Exposure of a trench more than two days with day temperature of 42^0C and above will damage the root cell.
2) The exposure of trench to hot sun for a longer time will lead to dead arms of the cordons.
3) Soil and water testing before the foundation may be given priority. This will indicate the present status of soil.
4) Application of hydrogen cyanamide with minimum dose (15 to 20 ml/L) is essential for early and uniform bud sprouts.
5) After the bud sprouts, shoot thinning considering the spacing in the vineyard be done. For one square feet spacing, 0.5 shoots are to be maintained while the remaining shoots to be removed.
6) While shoot removal, downward growing shoots, double shoots are considered first.
7) Sub cane should be developed only when the shoot vigour is high and the irrigation water is available in sufficient quantity.
8) For sub cane development, pinch the shoot at 7 leaf when it grows till 9 leaf.
9) During the vegetative growth stage, irrigation water and nitrogenous fertilizer should be the priority.
10) In case of high temperature and reduced vegetative growth, mulching on the bund should be given priority. This will help in controlling the water loss from the soil surface and also maintain the temperature in the root zone.
11) During the fruit bud differentiation stage, PGR sprays to be given at proper growth stage. First spray of 6 BA @ 10 ppm to be given at 3-4 leaf emergence after the sub cane.
12) Second spray of Uracil @ 25 ppm after 5 days of 6 BA (at about 5-6 leaf on sub cane) while the third spray of 6 BA @ 10 ppm (after pinching of sub cane at 5 leaf).
13) At the same time, fertilizer sprays like 0:40:37 @ 1.5 to 2.0 g/L water or 0:52:34 @ 2 to 2.5 g/L water cane be given.
14) Six to 7 sprays at an interval of 3-4 days will be sufficient to achieve fruit bud differentiation in the vine.

V. Disease management (Dr. Sujoy Saha)

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

The cordons should be washed with Mancozeb and sulphur alternatively after pruning. Pruned material should be collected and put in the compost pit.

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

Days after pruning	Risk of pests				
	Mealybug	Mite	Thrips/leafhopper	Caterpillar	Flea beetle
>165 days after fruit pruning Stage: Vine resting stage after harvest	High	High	Low	Nil	Nil
Just after foundation pruning to sprouting	Moderate	Nil	Moderate	Nil	Moderate to High
New vineyards after	Moderate	Nil	Very high	Nil	Moderate

recut					

- Spot plant wash with buprofezin 25 SC @ 1.25 ml per litre water with 1.5-2.0 litre water per plant.
- Sulphur 80 WDG @ 1.5-2.0 g/L or abamectin 1.9% EC @ 0.75 ml/L water may be applied if mite infestation is observed at vine resting stage after harvest.
- Give preventive spray of imidacloprid 17.8 SL @ 0.4 ml per litre water at the time of bud sprouting after April pruning to manage flea beetle and mealybug shoot malformation.
- For flea beetle management, spray imidacloprid 17.8 SL @ 0.4 ml per litre or fipronil 80 WG @ 0.06 g per litre or lambda cyhalothrin 4.9 CS @ 0.5 ml per litre water during early morning hours. If that is not found sufficient to manage flea beetle, give soil drenching of imidacloprid 17.8 SL @ 1.5 ml per vine also.
- For thrips management in new vineyards after recut, give regular applications of effective insecticides such as spinosad 45 SC @ 0.25 ml/l, spinetoram 11.7 SC @ 0.3 ml/l, cyantraniliprole 10 OD @ 0.7 ml/l, emamectin benzoate 5 SG @ 0.22g/l or fipronil 80 WG @ 0.0625 g/l water when thrips population is 5 per shoot or above.