

WEATHER DATA FOR THE PREVAILING WEEK

(Assumption: Fruit Pruning date- 15/09/2019)

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (7/11/2019) – Thursday (14/11/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min- Max	R H%	
	Min	Max				Min	Max
Nashik	18-19	29-31	Nashik, Ojhar, Pimpalgaon Baswant, Dindori, Vani Palkhed Thu, Sun & Wed- Drizzling. Fri- Moderate Rain. Shirdi, Loni, Niphad, Kalwan, Satana, Devla Thu, Fri & Sun- Drizzling.	Clear to Partly Cloudy	02-15	44-56	82-95
Pune	18-20	29-30	Pune, Phursungi, Narayangaon, Junnar Fri & Mon to Wed- Drizzling. Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati Wed- Drizzling.	Clear to Partly Cloudy	01-15	48-58	81-92
Solapur	19-21	31-32	Solapur, Nanaj, Kati, Pandharpur, Kasegaon, Vairag, Barshi, Pangri Thu- Good Rain. Sat & Wed- Drizzling. Atpadi Thu- Light Rain. Osmanabad, Tuljapur, Ausa, Latur Thu- Light Rain. Fri- Drizzling.	Clear to Partly Cloudy	04-13	42-52	78-90
Sangli	19-20	30-31	Sangli, Miraj, Shirguppi, Kagwad, Arag Thu, Sat & Sun- Drizzling. Tasgaon, Kavthe Mahankal, Vita, Thu- Drizzling. Shetfal Thu & Wed- Drizzling.	Clear to Partly Cloudy	02-16	47-57	78-93

			Khanapur Thu & Fri- Drizzling.				
Bijapur	19-21	30-31	Bijapur, Tikota, Telsang, Chadchan Thu- Moderate Rain. Sat, Wed & Next Thu- Drizzling.	Clear to Partly Cloudy	04-15	43-53	80-89
Hyderabad	19-20	29-31	Hyderabad, Medchal Tue- Drizzling. Zahirabad Thu, Fri & Wed- Drizzling.	Clear to Partly Cloudy	02-14	49-57	82-90

Note: Above weather information is summary of weather forecasting given in following websites

<http://www.imd.gov.in/>, <http://wxmaps.org/pix/prec6.html>, <http://www.fallingrain.com/world/IN/>, <http://www.wunderground.com/>, <http://www.bbcweather.com-weather/1269750>, etc.

II. a) Days after pruning: 53

b) Expected growth stage of the crop: - : Early shoot growth after fruit pruning

III) Nutrient and Irrigation Management (Dr. A K Upadhyay)

Expected pan evaporation: 0 - 2 mm

Amount of irrigation advised:

1. Almost all areas are forecasted to receive rains. Previous week also many areas have received abundant rains.
2. No need to apply irrigation as the soils are already saturated with water either during this week and drizzle is forecasted that is likely to further add to that.

Nutrient management:

1. In many of the grape growing areas, continuous spells of rains were received, 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 even if pruning is being taken up. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done.**
2. If the rootzone is saturated then donot apply any fertilizer. Growth will be slow, donot worry. As and when the soil comes into field capacity (wapsa), root activity will increase and the growth will progress. After that only fertilizer should be applied.
3. In case leaf yellowing/ pale leaf colour is observed due to minimal root activity, spray urea (0.5g/L) + zinc sulphate (0.25g/L) followed by Magnesium sulphate @ 2-3g/L at 5-7 leaf stage during prebloom stage.
4. Due to continuous sprays the leaf will not look healthy, need based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact bunch development.
5. During berry development stage as fertilizer cannot be applied as basal or through fertigation, spray urea (1 g/L) + zinc sulphate (0.5g/L) followed by Magnesium sulphate @ 3g/L. Follow this up with Ferrous sulphate @ 2 g/L (spray solution should be acidic).

6. One foliar spray of SOP @ 2-4 g/L in this week depending upon the canopy of the vines should be carried out.
7. In case soil is at wapsa condition, then,
 - a. During shoot growth stage, then apply Zinc sulphate and Ferrous sulphate @ 15 kg/ acre based upon soil test value at 5-7 leaf stage followed by 10 kg/acre Magnesium sulphate application.
 - b. During flowering to setting stage, 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.
 - c. 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.
 - d. After berry setting, 2-3 sprays of calcium in the form of Calcium Chloride @ 2g/L or Ca chelate @ 0.5 g/L or Ca Essence @ 0.75g/L.
 - e. After 8-10 mm berry size, start application of nitrogen in the form of ammonium sulphate @ 25kg /acre in 4 splits in calcareous soil and as urea @ 15 kg/acre in other soils in 3 splits. Follow this up with Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks.

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

GA3 must be applied as per the stage of the vines. However, weather forecast has to be seen and based on this spraying may be taken.

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

Problems in the grape vineyard:

With the continuous and excess rainfall in the last week, the temperature has been reduced while the relative humidity is increased. This has resulted into increase vigor, more succulent leaf, yellow leaf and higher disease incidence.

The root activity is either reduced or stopped reducing the uptake of nutrients. To overcome this problem, following measures are to be taken.

- i) To control the vigor, apply potash (SOP or 0:0:51) through spray.
- ii) Side shoots to be removed while shoot to be pinched.
- iii) Excess shoots are to be removed so as to make the canopy open.
- iv) Spraying of fungicides to be done during the wet leaf.
- v) Under leaf wet condition, instead of spray dusting may be preferred.

In some of the vineyards, fillage, flower drop and inflorescence rot is being observed. To avoid further problems, following measures are suggested.

- i) Open canopy only can help in maintaining aeration in the canopy. This will reduce the humidity thereby reducing the flower inflorescence drop.
- ii) Application of potash will help in strengthening the vine.
- iii) Application of cytokinin based PGR will help to reduce the gibberellins content in vine thereby reducing the chances of fillage.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
53	HIGH	NIL	Moderate	Bacterial leaf spot Rust

There is a chance of severe downy mildew infection. For downy mildew control application Metiram 44% + Dimethomorph 9% WG @ 2.5g/L or Dimethomorph @ 1g/L + Mancozeb @ 2g/L (tank-mix) L or Iprovalicarb + propineb @ 2.25g/L or Mandipropamid @ 0.8g/L or Benalaxyl-M 4% + Mancozeb 65% WP @ 2.75g/L should be applied. In case of high humidity areas where rains are prevalent, application of Fosetyl-Al @ 1.5-2g/L or potassium salt of phosphoric acid @ 4g/l + Mancozeb @ 2g/L may be done. Please note use of copper should not be done where potassium salt of phosphoric acid is used. Dusting of Mancozeb @ 4-5kg/acre during the rains may be done. Application of cyazofamid @ 200ml/Ha may also be given for control of downy mildew but as it is a high risk fungicide, proper care must be taken regarding its dose and frequency of spray. If the infection of downy is too high, application of chlorine dioxide may be done. No spraying should be done while the rains are on, but may be done only when there is an open sky for two hours. Mancozeb will also give an additional protection against bacterial leaf spot disease. In regions where cloudy conditions are prevailing, but with high humidity, foliar application of Bacillus sp @ 2g/L or Trichoderma sp @ 4-5g/L may be done. Care should be taken not to apply biocontrol agents where copper formulations are applied. In Sangli region where anthracnose is prevalent application of thiophenate methyl @ 1g/L should be continued. A mineral oil spray may be given if water accumulates in the bunches or if the vines are in late flowering stage.

VII. Insect and Mite Pest Management (Dr. D.S. Yadav)

Growth stage	Risk of pests					
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle	Jassid
Early shoot growth stage after forward pruning	Moderate to high	Nil	Low to Moderate	High	High	Moderate to high

- In case of 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.
- For flea beetle management, fipronil 80 WG @ 0.0625 g per litre (before flowering stage) or Imidacloprid 17.8 SL @ 0.4 ml/L water is effective.
- Vineyards may have moderate mealybug infestation as well. However, higher relative humidity will favour build-up of natural enemies and natural biological control of mealybugs. Therefore, avoid spraying broad spectrum insecticides. Use of insecticides for mealybug control should be avoided. Entomogenous fungus such as *Metarhizium*, *Beauveria* and *Lecanicillium* can be used for plant wash at 15 days interval to reduce mealybug populations. If, insecticide application seems inevitable, the only buprofezin 25 SC @ 1.25 ml/L water may be used for management of mealybugs as this insecticide is less harmful to beneficial organisms in the vineyard.
- Spraying of imidacloprid 17.8 SL @ 0.4 ml/L water or emamectin benzoate 5 SG @ 0.22 gram per litre water or fipronil 80 WG @ 0.06 gram per litre water or buprofezin 25 SC @ 1.25 ml/L water during night are effective to manage jassids.