

WEATHER DATA FOR THE PREVAILING WEEK

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

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (21/11/2019) – Thursday (28/11/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	17-20	30-32	Nashik, Ojhar, Pimpalgaon Baswant, Dindori, Vani Palkhed Fri- Drizzling. Shirdi, Loni, Niphad, Kalwan, Satana, Devla Tue- Drizzling.	Clear to Partly Cloudy	03-16	33-40	76-79
Pune	18-19	30-31	Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati Tue- Drizzling.	Clear	04-17	40-46	75-84
Solapur	20-21	32-33	Solapur, Nanaj, Kati, Vairag, Barshi, Pandharpur, Kasegaon, Pangri, Osmanabad, Tuljapur, Ausa, Latur Thu- Drizzling.	Clear to Partly Cloudy	08-17	34-36	70-82
Sangli	19-20	30-32	Shetfal Thu- Drizzling.	Clear	07-20	41-47	72-82
Bijapur	19-20	31-32	Bijapur, Tikota, Telsang, Chadchan Thu- Drizzling.	Clear	08-20	35-45	76-86
Hyderabad	17-18	29-30	Hyderabad, Medchal, Zahirabad Tue- Drizzling.	Clear	03-14	48-58	88-100

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: 67

b) Expected growth stage of the crop: - : Berry setting stage after fruit pruning

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

Expected pan evaporation: 4-5 mm

Amount of irrigation advised (Dr. A.K. Upadhyay):

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. In case soil moisture is below field capacity (wapsa) condition then,

- a. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 7,000-8,400 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 3500 - 4500 L/ acre.
- b. 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.
- c. During Flowering to setting stage, apply irrigation through drip @ 2500 to 3500L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
- d. During Berry development stage, apply irrigation through drip @ 7,000- 8,400 L/ acre/ day.

IV. Soil and Nutrient management (Dr. A.K. Upadhyay)

1. 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.
2. 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.
3. 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.

Shoot growth stage:

1. 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 punning, 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.
2. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
3. If sodicity problem is there (available Na > 1000ppm), apply 10 kg Sulphate of potash per acre in 2 splits this week. The total SOP application should not exceed 40 kg/acre.
4. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage. One spray is sufficient during this 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). Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
3. 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.
4. Go for Petiole sampling at Full bloom stage

Berry Development stage:

1. After Berry setting, continue initially with Phosphoric acid application @ 2 kg followed by 5 kg 12-61-0/acre.
2. If the berry size is from 2-4mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
3. If the berry size is from 5-8mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
4. In the calcareous soil, spray magnesium sulphate @ 3g/L on the vines followed by fertigation of magnesium sulphate @ 10kg/acre from setting till 6-8 mm berry stage.
5. 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)

One has to apply GA very meticulously and it should be always applied with the effective fungicide by considering the stage of the vine. Unnecessary spray must be avoided. Use ESS sprays whenever possible.

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

During the last week the temperature during day time was found increasing while night temperature was reducing. With the excess and continuous rains during last fortnight the humidity in the atmosphere was increased. In black soil the condition were again different. The impact of these conditions on the present growth stages with remedial measures is as below,

A. Grafted Gardens :

In the new gardens, the grafting was done on two shoots. Each shoot was grafted with two bud scion stick resulting into sprouting of all buds. During the last week, the soil in wapsa condition favoured vegetative growth, of grafts. The luxurious growth was converted into dense canopy near the graft joint since immediately after grafting both shoots were tied with sutali. In this canopy severe infection with downy mildew is observed. In majority of the cases the organism entered into shoots turning into black colour just near the graft joint.

Following measures are to be followed immediately,

1. Out of 2 shoots from each scion stick retain only one healthy shoot.
2. Pinch off the other shoot at 3-4 leaf.
3. Tie the selected shoots to bamboo.
4. Remove 2-3 basal leaf on these shoots.
5. Remove infected shoots.
6. Spray Bordeaux mixture @ 0.5% with increased pH of spray solution upto 7.5.

Deficiency of micronutrient on leaf is also seen after rains. The leaf is pale yellow and this is mainly due to deficiency of ferrous and magnesium. Hence, after the disease control, spray the grafted plants with ferrous sulphate @ 2.5 – 3.0 g/L of water and magnesium sulphate @ 3.0 – 3.5 g/L water. After the wapsa condition is regained, application of magnesium sulphate @ 10-12 kg and ferrous sulphate @ 8-10 kg/acre may be given.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
67	High	Low to moderate	Low	Nil

As light drizzling is predicted in most of the areas with a maximum temperature hovering around 30-32⁰ C 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 areas where rains are prevalent and the crop is in berry setting stage 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. 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 in the evening. 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. For powdery mildew control application of sulphur@2-2.5g/l may be done.

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



- Thrips population may reduce temporarily due to rains for few days and thereafter increase again. Spraying of emamectin benzoate 5 SG @ 0.22 gram per litre water or cyantraniliprole 10 OD @ 0.7 ml per litre water is effective to manage thrips.

- Spraying of imidacloprid 17.8 SL @ 0.4 ml/L water or emamectin benzoate 5 SG @ 0.22 gram per litre water or lambda cyhalothrin 5 CS @ 0.5 ml per litre water or buprofezin 25 SC @ 1.25 ml/L water are effective to manage jassids.
- Imidacloprid 17.8 SL @ 0.4 ml/L water or lambda cyhalothrin 5 CS @ 0.5 ml per litre water are effective to manage flea beetle.
- 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 does not harm beneficial organisms in the vineyard.
- Sulphur 80 WDG @ 1.5-2.0 g/L water may be applied if mite infestation is observed.