

WEATHER DATA FOR THE PREVAILING WEEK

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

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (12/12/2019) – Thursday (19/12/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	15-17	29-30	No Rain	Clear	02-18	34-41	79-86
Pune	18	29-30	Yavat, Patas, Supa, Baramati Thu- Drizzling.	Clear to Partly Cloudy	01-13	40-43	75-87
Solapur	19-20	31	Vairag, Barsi, Pangri Sat- Drizzling.	Clear to Partly Cloudy	07-18	36-39	74-80
Sangli	18-29	30-31	No Rain	Clear to Partly Cloudy	02-18	39-42	76-85
Bijapur	18-19	30-31	No Rain	Clear	08-19	35-40	80-85
Hyderabad	17-18	29	Hyderabad, Medchal Sun - Drizzling.	Clear to Partly Cloudy	04-15	48-55	90-100

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: 88

b) Expected growth stage of the crop: Berry development stage after October pruning

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

Expected pan evaporation: 3.2-4 mm

Amount of irrigation advised:

1. During shoot growth stage, apply irrigation through drip @ 5,440- 6,800 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 2,100 – 3,400 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
2. During Flowering to setting stage, apply irrigation through drip @ 2,100 to 3,400L/ acre/ day.
3. During Berry development stage, apply irrigation through drip @ @ 5,440- 6,800L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 2,100 – 3,400 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
4. 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.

IV. Soil and Nutrient management

Shoot growth stage:

1. Inflorescence necrosis could be a issue in dense canopy. Remove side shoots and reduce canopy to allow penetration of the sunlight for proper aeration. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis).
3. If SOP not applied, then apply 15 kg SOP and follow it up with SOP spray for building up the potassium levels in the vines. This will be especially beneficial during low temperature and rainy conditions.

Flowering to setting stage:

1. 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.
2. Go for petiole sampling at Full bloom stage (2/3rd Cap fall stage). The petiole sampled should be opposite the bunch.

Berry Development stage:

1. After berry setting till 8mm berry size, 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.
2. 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.
3. 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)

NA

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

In the coming week, the weather is predicted to be clear. This will have positive effect on berry development. However in late pruned vineyards, in Pandharpur region, the bunches are in pre-bloom stage. In this region, mainly elongated varieties are grown. These varieties need elongated berry with loose bunch architecture to fetch good price. However, some of the major problems faced during this period is of reduced shoot growth.

The bunch development on a vine required specific number of leaves above bunch (10-12) so as to feed the bunch for its development. Number of bunches/ vine and number of leaves above helps in maintaining the source:sink ratio. Hence, shoot development to be given priority.

During this period, if the night temperature goes below 15°C, the root activity sometimes reduces. To cater the need of developing bunch, the roots should be active. Hence, following practices are suggested.

- 1) Apply nitrogenous fertilizers during pre-bloom stage only to achieve 10-12 leaf above bunch.
- 2) Retain proper number of bunches/vine (1.0 bunch/sqft area for local market, 1.0 bunch/1.5 sqft area for export market) and remove the extra bunches.
- 3) Late coming and weak bunches are to be removed first.
- 4) Berry thinning after berry setting to be given priority. (110-120 berries in Thompson seedless, Tas-A-Ganesh, clone-2A) while 70-80 berries/bunch in Nanasaheb Purple; 125-150 berries/bunch in Sonaka)
- 5) Removal of side shoot and pinching of extra growth should be done to improve photosynthesis.

VI. Disease management (Dr. Sujoy Saha)

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

As the temperature is going down, the risk of downy mildew will decrease. However, the infected portions may be pruned and discarded. There is absolutely no need for panic spray of fungicides. 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)

1. Thrips and caterpillar population may be high in most of the grape growing areas. The vineyards in berry setting and early berry development are most susceptible for thrips damage. 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 and caterpillar both.
2. Caterpillars have started damaging bunches in most of the grape areas where humidity is high. The most effective way to control them is to collect and kill them by hand as insecticides may not reach inside the bunch. The caterpillars on leaves are also needs to be killed as they can go inside the bunch later on. Spraying of emamectin benzoate 5 SG @ 0.22 gram per litre water (pre harvest interval 25 days) at night is effective to manage them.
3. 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.
4. Sulphur 80 WDG @ 1.5-2.0 g/L water may be applied if mite infestation is observed.