WEATHER DATA FOR THE PREVAILING WEEK

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

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (30/1/2020) – Thursday (06/2/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	11-16	28-32	No Rain	Clear to Partly Cloudy	1-19	22-28	53-78
Pune	13-18	30-33	No Rain	Clear to Partly Cloudy	0-12	24-29	54-84
Solapur	17-22	33-34	No Rain	Clear to Partly Cloudy	4-20	21-31	61-70
Sangli	14-20	32-34	No Rain	Clear to Partly Cloudy	2-11	20-29	63-77
Bijapur	17-21	33-34	No Rain	Clear to Partly Cloudy	5-19	18-30	61-70
Hyderabad	18-20	31-33	No Rain	Clear to Partly Cloudy	3-16	38-50	84-100

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: 137

b) Expected growth stage of the crop: Berry softening

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

Water management

Expected pan evaporation: 4.5 to 6 mm

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

1. From Berry development stage onwards till maturity, apply irrigation through drip @ 7,600-8500L/acre/day for Nasik and Pune region and 8500 - 10,200 L/ acre/ day for Sangli, Solapur, Bijapur and Hyderabad region.
2. Remember that if the soil is at field capacity (wapsa) then donot irrigate.

3. Flooding the vineyard is not advised as it will lead to wastage of water. Concentrate irrigation water application in the root zone only.
4. In case berry cracking is observed withhold irrigation water application for few days. Remove the cracked berries and check whether the soil is at field capacity (wapsa) or not. If below field capacity (wapsa) start irrigation water application.
5. 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.

Soil and Nutrient management

Berry Development stage:

1. Apply Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks. Total potassium application (SOP) should be approx. 60 kg/acre during this stage.
2. In calcareous soil, apply zinc sulphate @ 10 kg/acre along with Ferrous sulphate @ 10kg/ acre after 8-10 mm berry size and before Veraison initiation.
3. Apply Magnesium sulpahte @10kg/acre in two splits

Ripening to Harvest stage:

1. Apply Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks. Total potassium application (SOP) should be approx. 60 kg/acre during this stage. Follow this up with Magnesium sulphate @ 10 kg/acre in two splits. Spray Magnesium sulphate in calcareous soil.
2. Spray Magnesium sulphate and potassium sulphate @ 3g/L in calcareous soil.

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

Should not resort to flood irrigation as it may lead to Ukadya.

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

The minimum temperature in the atmosphere has started increasing. This will support the activities in the grape vineyard. Considering the growth stages and different purpose vineyard, following are the activities to be followed.

Re- cut of last season grafted vine:

Since the minimum temperature has started increasing above 15 degree C, the physiological processes of vine will be accelerated. This will help for early and uniform bud sprout. Considering this, the activity of re-cut should be planned.

Fifteen days before the recut a light trench of 3 to 4 inch depth and around 2 feet width may be opened between two vines. In this trench, apply well rotten FYM of about 2 basket per vine. Application for of single super phosphate@200g per vine, DAP @50kg per acre while ferrous sulphate@15 kg per acre will help for proper root development and correction of ferrous deficiency.

Recut position above graft joint is confusing many time. The shoot while taking recut should be matured. If maximum shoots are reached till the first wire of cordon with a thickness of about 12 to 14 mm, recut can be taken at this position. However, in other condition, re cut by leaving 4 to 5 buds above the graft joint will be sufficient.

Leaf removal either manually or using ethephon @ 3ml per litre water can help in early and uniform bud sprout.

Use of hydrogen cyanamide next day of recut will help for sprouting. The concentration will depend upon shoot thickness and temperature available at the time of recut. In general, 8mm thick shoot with 35 degree c temperature, 40ml hydrogen cyanamide per litre water will be enough.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
137	Nil	Moderate	Nil	Nil

In some areas of Nashik, where powdery mildew is reported application of sulphur @2g/l may be done. Prior to paper wrapping, an application of *Ampelomyces quisqualis* @5-6g/L or *Bacillus subtilis* @2g/L or Trichoderma formulations @ 4-5g/L may be given to the bunches for control powdery mildew. If not, the paper wrapping will provide a microclimate which will increase the disease. If there is a possibility of rain, chitosan@2g/L followed by *Ampelomyces quisqualis* @5-6g/L or *Bacillus subtilis* @2g/L or Trichoderma formulations @ 4-5g/L may be applied prior to paper wrapping. As diurnal range of temperature is high, there is a probability of pink berry occurrence. Before the berries move into veraison stage, proper paper wrapping needs to be done to avoid pink berry.

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

Days after pruning	Risk of pests			
	Mealybug	Mite	Thrips/leafhopper	Caterpillar
137	High	High	Low	Moderate to High

- Bunch-weber may be seen infesting bunches at some places. It is a minor pest so far. The most effective way to control them is to collect and kill them by hand as insecticides may not come into contact with it. 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.
- 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 (PHI 65 days) 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 or Abamectin 1.9 EC @ 0.75 ml/L (PHI 25 days) or Bifenazate 22.6 SC @ 0.5 ml/L (PHI 25 days) water may be applied if mite infestation is observed.