WEATHER DATA FOR THE PREVAILING WEEK

(Assumption: Fruit Pruning date- 15/04/2019)

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (23/05/2019) – Thursday (30/05/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	23-24	38-39	**No Rain**	Clear	09-20	26-28	75-84
Pune	23-24	37-38	**No Rain**	Clear	05-19	27-30	81-84
Solapur	28-29	41-42	**Solapur Fri Drizzling** **Other location** No Rain	Clear to Partly cloudy	09-18	18-20	45-49
Sangli	25	40-41	**No Rain**	Clear to Partly cloudy	11-22	19-22	76-79
Bijapur	27-29	41-42	**No Rain**	Clear to Partly cloudy	12-22	17-20	56-63
Hyderabad	27-29	41-43	**No Rain**	Clear to Partly cloudy	05-16	17-23	49-63

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:40

b) Expected growth stage of the crop: - Early shoot growth/5-leaf stage

Expected pan evaporation: 7.5 to 11 mm

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

Amount of irrigation advised:

1. **Shoot growth stage:**

a) Irrigation water < 1dS/m : apply irrigation through surface drip @ 10,200 to 11,560 L/acre per day during shoot growth stage for Nasik and Pune region; from 12,240 - 14,960 L/acre per day for Sangli, Solapur, Hyderabad and Bijapur region.
b) Saline irrigation water (1.1 – 2.0 dS/m): apply irrigation through surface drip @ 12,750 to 14,450 L/acre per day during shoot growth stage for for Nasik and Pune region; from 15,300 – 18,700 L/acre per day for Sangli, Solapur, Hyderabad and Bijapur region.
c) In case of rains, donot irrigate if the soil is already at field capacity.
d) Mulching the vineyards during this period will reduce the salinity build up in the root zone due to upward movement of saline water from lower soil layer. This will also reduce the irrigation water requirement by another 10%.

2. **Fruit Bud Differentiation stage:** Apply irrigation through surface drip @ 5000 to 6000 L/acre per day during shoot growth stage for Nasik and Pune region and from 6000- 6500 L/acre per day for Sangli, Solapur, Hyderabad and Bijapur region.

Foundation pruning season:

1. **At shoot growth stage**, apply 25 kg urea/ acre in 2 -3 splits after sprouting. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application. In calcareous soils, donot apply urea, instead use Ammonium sulphate @ 40 kg/acre in atleast 3 splits from sprouting onwards till next 10 days.
2. **In case irrigation water has more than 100ppm sodium and the soil available sodium levels are above 1000 ppm**, apply Sulphate of potash @ 40-50 kg/ acre during Shoot growth stage.
3. After **3-5 leaf stage,** apply magnesium sulphate, zinc sulphate and ferrous sulphate @ 20kg/acre in atleast 2 splits.
4. During **fruit bud differentiation stage**, based upon soil test values, apply 45 – 50 kg phosphoric acid or 250 kg SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils.
5. In case faster growth is observed (intermodal distance > 5 cm approx.), skip nitrogen application. Still the growth is not checked then reduce the irrigation water application.
6. **Possibility of leaf curling could be there**. Check the reasons whether excess growth or moisture stress or sucking pest injury or potassium deficiency. In case of excess growth, then follow the advise given in item no.3. For moisture stress, check whether the irrigation water is saline or quantity of water applied is less. If saline, then increase the quantity of irrigation water application to remove the salts. The sucking pest injury like hoppers has relationship with potassium build up in the vines and could lead to leaf curling. Control sucking pest and at the same time foliar application of potassium sulphate is advised to mitigate the potassium deficiency followed by application through fertigation @ 20-25 kg/acre.
7. 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 counting the leaves even if they have been removed.
8. Keep a close watch on the development of **leaf blackening** symptoms from the margin.
9. Apply 10-15 kg Magnesium Sulphate/ acre between **50-60 days after pruning**.
10. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) followed by Sulphate of Potash (@ 4g/L) once in this growth stage.
11. Potassium application is required from **Cane maturity stage onwards**. Approx. 64 kg of sulphate of potash (soluble grade) should be applied in this stage. Split the application into atleast five doses to reduce the leaching losses of the potassium. Apply 15 kg SOP in two – three splits during this week.

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

This is the time to apply cytokinin and uracil to enhance the fruitfulness. Almost all the vineyards must have subcane system. When 3 leaves comes after subcane the above chemicals have to be given twice or these chemicals have to be applied 40 days after pruning. Cytokinin (6 BA)has to be applied at 40 DAP(10 ppm) Likewise uracil has to be applied at 45 DAP (20ppm). These agrochemicals must be repeated once again in the same sequence so as to increase the bud fruitfulness.

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

New vineyard:

In this vineyard, first instalment of cordon development is either completed or at the stage of completion. Under such situation, the fruit bud differentiation should mainly be targeted. Uniform sunlight on each bud is pre requisite for effective fruit bud differentiation. Hence, training of individual shoot on foliage wire and also removal of 2-3 basal leaf should be attended. In addition, spray of 6 BA @ 10ppm and Uracil @ 25 ppm at an interval of 4-5 days will help to initiate the differentiation in growing bud. Application of phosphorous through foliar spray @ 2-3 g/lit as well as through soil will help in obtaining fruitful canes in the coming season.

Old vineyard:

In this vineyard, the sub cane development is completed and the shoot is at the stage of pinching again at 7^{th} leaf on the side shoot. The green shoot will be turning from pink to milky white with reduced growth. This will help in formation of reserve food material in the developing cane. However, during this stage with the change in weather condition, the incidence of powdery mildew will be more. The organism suck the sap from growing leaf thereby reducing the chlorophyll. This will lead to early leaf fall. Hence, removal of excess shoots and training on the foliage wire will help to maintain open canopy. Application of fungicides will also be easy so as to get uniform coverage while spraying.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
40	NIL	LOW	LOW	-

As temperature is on the rise water spray may be given in plots where pruning has just taken place. In regions where early sprouting is present, application of fungicides like Hexaconazole @1ml/L or Tetraconazole @ 0.75 ml /L or Difenoconazole @1ml/L or Fluopyram 200+Tebuconazole 200SC @0.5ml/L may be given for the control of powdery mildew as well as to restrict excess vegetative growth and help in fruit bud differentiation. To protect from anthracnose, a prophylactic spray with thiophenate methyl/carbendazim may be given @1g/L of water.

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

Days after pruning	**Risk of pests**				
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle
3-4 leaves stage after foundation pruning	High	Moderate	High	High	Low

- Spraying of imidacloprid 17.8 SL @ 0.4 ml per litre water will help in controlling thrips and mealybug on new growth.
- In case of thrips or 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.

- Mite infestation may start appearing, therefore, monitor the vineyards carefully. If mite infestation is observed, sulphur 80 WDG @ 1.5-2.0 gram per litre water is effective.