

# मौसम पूर्वानुमान आधारित साप्ताहिक सलाह

## Weather Forecast Based Weekly Advisory

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

### I. Weather Data for the Prevailing Week

Thursday (02/05/2019) -- Thursday (09/05/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	21-22	35-37	No Rain	Partly cloudy to Clear	07-23	22-31	79-88
Pune	20-22	35-37	No Rain	Partly cloudy to Clear	07-22	21-34	81-87
Solapur	23-27	39-41	No Rain	Partly cloudy to Clear	10-19	12-18	44-64
Sangli	21-23	37-39	No Rain	Partly cloudy to Clear	10-25	20-24	73-85
Bijapur	22-26	39-40	No Rain	Partly cloudy to Clear	11-27	12-15	53-69
Hyderabad	25-28	40-42	No Rain	Partly to Mostly cloudy	07-22	14-18	40-48

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: 19

b) Expected growth stage of the crop: - Very early pruning stage

### III. Water management (Dr. A.K. Upadhyay)

Expected pan evaporation: 9.5 to 11 mm

#### Amount of irrigation advised:

#### 1. Shoot growth stage:

- Irrigation water < 1dS/m: apply irrigation through surface drip @ 12,920 to 14,960 L/acre per day.
- Saline irrigation water (1.1 – 2.0 dS/m): apply irrigation through surface drip @ 16,150 to 18,700 L/acre per day
- 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%.

- In case there is **probability of less irrigation water availability**, then flood the bund (not whole vineyard) at pruning and mulch the bunds. Flooding the bund will reduce the accumulated salt load in the root zone and mulching will reduce the evaporation of water from soil surface. Thus, this will reduce the salt load in the soil and at the same

time saturate the soil leading to proper sprouting. Further, in case less irrigation water is available still the newly emerging shoots will not be damaged due to salinity.

3. **Cover the cordons of the pruned vines with shadenet**, if available, for uniform sprouting as well as reducing the irrigation water needs by 20-25 %. Shadenet coverage will reduce the temperature impact on the cordons. However, remove shadenet after 3-5 leaf stage.
4. If shadenet is not available, **spray the cordons with water** during the peak heat period i.e. 2-3 pm to reduce the heat effect on the buds.
5. **Fruit Bud Differentiation stage:** Apply irrigation through surface drip @ 5500 to 6000 L/acre per day during shoot growth stage for Nasik, Pune, Sangli and Hyderabad region and from 6000- 6500 L/acre per day for Solapur and Bijapur region.

#### **IV. Soil and Nutrient requirement (Dr. A.K. Upadhyay)**

##### **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 5<sup>th</sup> 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.

#### **V. Requirement of growth regulators (Dr. S.D. Ramteke)**

Nil.

## VI. Canopy management (Dr. R.G. Somkuwar)

During the coming week, the temperature in Nashik and Pune region is expected to lower down by 2-3 degree while in Solapur and Sangli regions; it will also be higher than these regions. In addition, the relative humidity will also be increased. This may support the vegetative growth in pruned vineyards. In the present situation, the vines under framework development need following management.

- i) Cordon development to be done using “stop n go” method. The shoot turned for cordon development should be pinched at 6 to 7 leaf when it is grown to 8-9 leaf. This will help to sprout side shoots easily and faster.
- ii) The side shoots to be pinched at 3-4 leaf. This will be considered as short sub cane. The development of short sub cane will help in development of remaining part of cordon.
- iii) In case of developing trunk, the fertilizer management needs to be followed properly. During this stage, irrigation along with fertilizer containing nitrogen and phosphorous only be supplied to the vines. The proportion of irrigation and nitrogen should be more while developing the trunk and cordon.
- iv) During the stage of cordon development, the incidence of thrips will be more. Hence, spray of insecticide to be given priority.
- v) The vines grafted on Dogridge rootstock shows the deficiency symptoms of ferrous during first year mainly during cordon development (3-4 leaf stage of shoots on cordon). Hence, 3-4 sprays of ferrous sulphate @ 2-3 g/L water to be given.

## VII. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
19	Nil	Low	Nil	--

There is no major concern for diseases as rains are not forecasted. 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. .

## VIII. Insect and Mite management. (Dr. D.S. Yadav)

Days after pruning	Risk of pests				
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle
Just after foundation pruning	High	Nil	Nil	Nil	Low
Sprouting stage	High	Nil	Low to moderate	Low	Moderate

- Spot plant wash with buprofezin 25 SC @ 1.25 ml per litre water with 1.5-2.0 litre water per plant.
- Preventive spray of imidacloprid 17.8 SL @ 0.4 ml per litre water will help in controlling flea beetle, thrips and mealybug on new sprouts

Crop advisory relevant to different places is prepared by experts, considering forecasted weather, crop growth stages in majority of vineyards and ground information on incidence of different conditions in different grape growing areas received from regular interaction with progressive grape growers. No claims are made on its correctness.

Usefulness of this information may be communicated to us at [director.nrcg@icar.gov.in](mailto:director.nrcg@icar.gov.in).