

## WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday(22/4/2020)– Wednesday (29/4/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
<b>Nashik</b>	21-24	36-39	<b>Shirdi</b> Tue & Next Wed- Drizzling. <b>Niphad, Kalvan, Devla</b> Next Wed- Drizzling	Clear to Partly Cloudy	4-24	22-29	70-91
<b>Pune</b>	21-24	36-39	<b>Pune, Phursungi</b> Sun- Drizzling	Clear to Partly Cloudy	4-21	20-29	69-87
<b>Solapur</b>	26-29	39-41	<b>Solapur, Nanaj, Vairag, Kati, Osmanabad, Tuljapur, Latur, Ausa, Pandharpur, Pangri, Barsi</b> Next Wed- Drizzling	Clear to Partly Cloudy	6-20	14-26	50-61
<b>Sangli</b>	21-25	38-40	<b>Shetphal</b> Next Wed- Drizzling. <b>Khanapur</b> Tue & Next Wed- Drizzling	Clear to Partly Cloudy	5-21	15-28	76-84
<b>Bijapur</b>	24-27	38-40	<b>Chadchan</b> Next Wed- Drizzling	Clear to Partly Cloudy	6-21	15-26	49-65
<b>Hyderabad</b>	25-27	36-39	<b>Hyderabad, Medchal</b> Sat to Next Wed- Drizzling <b>Zahirabad</b> Next Wed- Drizzling	Partly Cloudy to Mostly Cloudy	3-14	26-44	70-91

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: - seven days

### b) Expected growth stage of the crop: Rest period

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

### Water management

Expected pan evaporation: 8.5 to 11.0 mm

### Amount of irrigation advised:

1. **Rest period:** Provide only need based irrigation to protect the existing leaves from drying and also contribute towards increasing the reserves of the vines through photosynthetic activity. The quantum of irrigation water applied should be approx. 7000 – 7500 L/ acre, once in a week. Care should be taken to reduce/stop the water in case new growth is observed on the shoot.
2. **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 at 3-5 leaf stage.
3. 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.
4. 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.
5. **Shoot growth stage:**
  - a) Irrigation water < 1dS/m : apply irrigation through surface drip @ 11,560 to 14,960 L/acre per day during shoot growth stage.
  - b) Saline irrigation water (1.1 – 2.5 dS/m): apply irrigation through surface drip @ 14,450 to 18,700 L/acre per day during shoot growth stage.
  - c) Mulching the vineyards during this period will reduce the salinity build up in the root zone as there will be no evaporation from the soil surface. This will also reduce the irrigation water requirement by another 10%.
  - d) In case the shoot growth is vigorous, reduce irrigation water application till growth is controlled.
  - e) If the soil is at field capacity (wapsa condition), then withhold irrigation water application till such time, the soil moisture content comes below field capacity (wapsa).
6. **Fruit Bud Differentiation stage:** Apply irrigation through surface drip @ 6000 to 7000 L/acre per day.
7. For fruit bud differentiation stage, stress needs to be given. In clayey soil as the water holding capacity is higher, please note that stress needs to be imposed early else fruitfulness will be affected.
8. Flooding the vineyard is not advised as it will lead to wastage of water. Concentrate irrigation water application in the root zone only.

## Nutrient Management

## Pre- Pruning Practices

1. If planning for foundation pruning in next 10- 15 days, it is advised to get soil and water analysed for planning nutrient and water application schedule for foundation pruning season.
2. The vineyards where sodicity problems are there, apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of the sodic soils are calcareous also, use sulphur for similar purpose.
3. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. Mixing of sulphur in organics further improves its efficacy.
4. Apply FYM/ compost/other organic sources including green manuring atleast 12-15 days before Foundation pruning. Application of organics improves the nutrient and water retention in the root zone and reduces nutrient losses from the profile. If possible mix 100 kg Single super phosphate in the FYM and apply in the soil.
5. Never apply water soluble fertilisers like urea, ammonium sulphate etc. as basal, as they will leached and contaminate the ground water. They should be applied only from sprouting onwards.
6. As the soils are alkaline in reaction with pH exceeding 7.4, during foundation pruning season plan for fertilizers with high acidifying potential for better utilization of the nutrients.

## Foundation pruning season:

1. **At shoot growth stage**, apply 25 kg urea/ acre in 2 -3 splits after sprouting. In calcareous soils, donot apply urea, instead use Ammonium sulphate @ 40 kg/acre in atleast 3 splits from sprouting onwards till next 10 days. Apply as per need only.
2. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application.
3. Based upon soil test value, apply Zinc sulphate @10 kg/acre along with Ferrous sulphate @10kg/acre followed by Magnesium sulphate @15kg/acre in atleast 2 splits during 5-7 leaf stage. Boron application should be strictly based upon soil test.
4. In calcareous soils, spray magnesium sulphate and potassium sulphate @2 gm each/ L once only during active growing stage.
5. **During fruit bud differentiation stage**, based upon soil test values, apply 20 – 25 kg phosphoric acid or 150 kg SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils.
6. 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.
7. Apply Magnesium sulphate @ 15kg/ acre in atleast 2 splits from 45 to 55 DAP.
8. In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.

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

Nil

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

### **. New vineyard:**

In these vineyards, the framework development is in process. Trunk development is completed and at the stage of cordon development, following precautions are to be taken

- 1) The shoot growth turned for cordon development should be vigorous.
- 2) For vigorous growth apply only nitrogen and phosphorous based fertilizers only (urea, 12:61:0, 18:46:0 and other fertilizers with N & P grades available in the market).
- 3) Sufficient irrigation (wapsa condition) will help for wetting the root zone thereby increasing the relative humidity in the vineyards leading to proper vegetative growth.
- 4) In case of leaf cupping symptoms on older leaves, spraying of potash 1.0 to 1.5g/L water during evening time will help to correct the deficiency.
- 5) The cordon development should be done by “stop and go” method.
- 6) When the shoot growth is turned for cordon development, it should be pinched at 6-7 leaf when it is 9-10 leaf.
- 7) After the shoot pinching, side shoot emergence will also be at faster rate. These side shoots are to be pinched at 3-4 leaf while the terminal shoot tip to be turned for development of next instalment of cordon.
- 8) Application of plant growth regulators like 6BA @ 10ppm and uracil @ 25ppm will be required when the lateral shoot arises with 3-4 leaf.
- 9) Insect damage may also be experienced on new shoots. Spray of recommended insecticide will help to control the damage.
- 10) Under the condition of shortage of irrigation water, mulching on the bund or even on the place where the dripper water falls will be sufficient.

### **Old Vineyard:**

In these vineyards, we will experience different stages (foundation pruning to be started, bud swelling, 5-6 leaf stage and also sub cane development stage). Under these condition, following practices to be followed:

- 1) While doing foundation pruning, retain only single bud on the cane. This will avoid irregular bud sprouts.

- 2) There may be cordon damage due to stem borer, deadwood due to exposure for longer time, etc.). Extension of cordon is also important at this stage.
- 3) For extension, last season cane should be selected and tied to the wire.
- 4) The length of selected cane should not exceed five internodes.
- 5) For sprouting on both type of canes, hydrogen cyanamide to be applied on old cordon only.
- 6) In case of 5-6 leaf stage shoot growth, shoot thinning should be done on priority. Shoot on each vine to be retained based on the spacing allocated to each vine.
- 7) For one square feet area allocated to each vine, 0.5 to 0.6 shoots are to be maintained. This will help for uniform growth and distribution of nutrients.
- 8) Sub cane can be developed under the condition of availability of sufficient irrigation water and increased vigor. Straight canes can be the option in other case.
- 9) Single or double sub cane development to be decided based on the sprouting condition of cordon.
- 10) If there are more gaps on the cordon with reduced shoot numbers, double sub cane can be the option. In other case, single sub cane will be sufficient.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
7	Nil	Nil	Very low	nil

In very early pruned vines, there is a chance of incidence of anthracnose in early shoots or if there is a chance existence of inoculum in the old, improperly pruned canes. Drizzles in these areas can trigger both anthracnose as well as bacterial leaf spot. Hence, application of carbendazim

12% + mancozeb 63% @ 2 gm / liter or Kasugamycin + Copper oxychloride @ 2.5 g/Litre may be applied for the control of both. Immediately, after pruning, the cordon, has to be washed/drenched with mancozeb @2.5 – 3 g/ liter followed by sulphur @ 2g/ liter after 7 days. This will also clear the downy mildew inoculum from the cordons. In case of early sprouting, spray of copper hydroxide@1.5g/litre or 0.5% Bordeaux mixture may be given. Drip application of Trichoderma to be started. Non uniform sprouting may be prevented.

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

For flea beetle management, spray imidacloprid 17.8 SL @ 0.4 ml per litre or fipronil 80 WG @ 0.06 g per litre or lambda cyhalothrin 4.9 CS @ 0.5 ml per litre water during early morning hours. If that doesn't work give soil drenching of imidacloprid 17.8 SL @ 1.5 ml per vine also.

Spray imidaclorid 17.8 SL @ 0.4 ml per litre water if mealybug shoot malformation is observed on new shoots.

For thrips management, spray emamectin benzoate 5 SG@ 0.22 g per litre or fipronil 80 WG @ 0.06 g per litre or cyantraniliprole 10 OD @ 0.7 ml per litre water.