WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday(6/5/2020)– Wednesday (13/5/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23-24	39-40	**No Rain.**	Clear to Partly Cloudy	4-20	17-25	63-76
Pune	23-25	38-40	**No Rain.**	Clear to Partly Cloudy	2-20	18-26	62-81
Solapur	29-30	40-42	**Osmanabad,Tuljapur, Latur, Ausa** Sat & Sun- Drizzling.	Clear to Partly Cloudy	5-15	18-23	40-55
Sangli	24-26	38-41	**Khanapur** Sun- Drizzling.	Clear to Partly Cloudy	5-19	19-29	74-82
Bijapur	27-28	39-41	**Bijapur, Tikota, Telsang** Mon- Drizzling.	Clear to Partly Cloudy	6-16	19-26	57-67
Hyderabad	26-27	39-40	**Hyderabad, Zahirabad, Medchal** Sat to Next Wed- Drizzling.	Clear to Partly Cloudy	3-14	31-40	72-76

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: - 21 days

b) Expected growth stage of the crop: 3-5 leaf stage

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

Water management

Expected pan evaporation: 8.5 to 11 mm

Amount of irrigation advised:

1. 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.
2. **Shoot growth stage:**

a) Irrigation water < 1dS/m : apply irrigation through surface drip @ 11,560 to 12,920 L/acre per day for Nasik and Pune region and from 12,920 to 14,960 L/acre per day for Sangli, Solapur, Bijapur and Hyderabad regions..
b) Saline irrigation water (1.1 – 2.5 dS/m): apply irrigation through surface drip @ 14,450 to 16,150 L/acre per day for Nasik and Pune region and from 16,150 to 18,700 L/acre per day for Sangli, Solapur, Bijapur and Hyderabad regions.
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).

3. **Fruit Bud Differentiation stage:** Apply irrigation through surface drip @ 6000 to 7000 L/acre per day.
4. 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.
5. Flooding the vineyard is not advised as it leads to wastage of water. Concentrate irrigation water application in the root zone only.

Nutrient Management

1. 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.
2. 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.
3. Always check for leaf curling symptoms, which could be because of salinity, high temperature, less water application or potassium deficiency. In young leaves possibility of sucking pest injury could also be there. Accordingly make necessary interventions.
4. **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 and in any case donot exceed 65kg urea/acre.
5. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application.
6. 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.
7. In calcareous soils, spray magnesium sulphate and potassium sulphate @2 gm each/ L once only during active growing stage.
8. **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. Donot apply beyond this until and unless the soil and petiole tests show low phosphorus availability.
9. **During fruit bud differentiation stage,** donot apply any water soluble fertilizer having nitrogen.
10. 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 even counting the leaves that have been removed.
11. Apply Magnesium sulphate @ 15kg/ acre in atleast 2 splits from 45 to 55 DAP.
12. 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)

This may be the time for subcane development, water stress may be avoided. Shoot thinning may be done.

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

Old Vineyard:

In majority of the old grape vineyard, the bud sprouting is becoming a major problem. The **following reasons might have contributed** for delayed and erratic bud sprouts.

i) Excess bunch load during last season
ii) No rest to the vine
iii) High temperature and reduced humidity in the vineyard
iv) Shortage of irrigation water
v) Irregular cane diameter and different pruning position
vi) No use of hydrogen cyanamide

The above mentioned reasons are mainly contributing to delayed or low bud sprouts.

Considering these, following are the management practices:

a) After the harvest of fruits, the rest of minimum 8 to 10 days is required.
b) Under the situation of excess load, nutrient and irrigation during the rest period should be 10% higher than normal time.
c) Water spray on cordon twice in a day. The cordon should be completely wet with water so that the temperature will reduce and relative humidity will increase
d) Apply minimum dose of hydrogen cyanamide (15-20 ml/L) either as spray or pasting.
e) Pruning on cane with uniform level.
f) After the bund breaking, the roots might have been exposed to bright sunlight. The trench must be closed immediately after application of FYM and other recommended nutrients. This will help in formation of new feeder roots and control the dead arms on the cordon.

New vineyard:

In these vineyards, the framework development (trunk and cordon development) is in process. The increase in maximum temperature will have adverse effect on vine development. Under this situation, the developing vine will start drying suddenly. Following changes will be observed in these vineyards.

1) The vineyards at the stage of framework development only will show the symptoms of sudden vine drying problem.
2) Initially, few leaves are drying and within a short period of 1-2 days, complete vine dries off. These problems are common in the first year vineyard when the temperature starts suddenly rising.
3) In the vineyard with excess irrigation water application will be severely affected. Around 5-6 vines in one acre will suffer with this problem.
4) The problem will be more in black soil as compared to the light soil.
5) The bark just near the soil surface will be blackish and wet with watery ooze suspecting fungal infection.
6) The uprooted roots will be black in colour indicating the disruption of water and food supply to the growing shoots.

During the last year this problem was identified in the vineyard of Mr. Dattatray Nilkantrao Patil of Aagalgaon village in Kawathe Mahakal taluka. Based on the problem identified.

The following suggestions were given:

1) Drenching of Carbendazim 50WP @ 1.5g + Imidachloprid 17.8SL @ 1.5ml/litre water in the collar region.
2) Repeat the same drenching on third day under severe condition only, otherwise, drenching of hexaconazole @ 1.0 ml/litre water in the collar region after 3 days of first drenching.
3) The drenching of solution on collar region by hand was found more effective than drenching through drip.
4) In the beginning, drenching of solution on selected vine by hand can be done while on dose through drip in entire vineyard will help to control further spread.
5) After the control of present problem, drenching the vines with 2-3 litre Trichoderma per acre.
6) No pinching of shoots for a week and allow to grow.
7) Apply urea @ 1.5 to 2.0 kg/acre through drip only once to initiate the vigor

VI. Disease management (Dr. Sujoy Saha)

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

Drizzles in early pruned areas can trigger both anthracnose as well as bacterial leaf spot. Hence, application of carbendazim 12% + mancozeb 63% @ 2 gm / litre or Kasugamycin 5% + Copper oxychloride 45% @ 2.5 g/Litre may be applied for the control of both If it is only anthracnose, application of thiophenate methyl 70WP @ 1g/L may be done. If it is only bacterial leaf spot application of mancozeb 75WP @ 2g/L may be doneIn case of early sprouting, spray of copper hydroxide@1.5g/litre or 0.5% Bordeaux mixture may be given. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable the BCA to multiply. Non uniform sprouting may be prevented.

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

- Newly grafted vineyards may experience heavy thrips and moderate jassid infestation on new growth after re-cut or shoot tipping. Fipronil 80 WDG @ 0.06 g/L water or emamectin benzoate 5 SG @ 0.22 g/l water are effective against both thrips and jassids.
- After foundation pruning at the time of shoot growth, thrips incidence may be high. To manage thrips, give foliar application of Fipronil 80 WDG @ 0.06 g/L water or emamectin benzoate 5 SG @ 0.22 g/L or cyantraniliprole 10 OD @ 0.7 ml/L water.
- Mealybug population may start to decline in areas where maximum temperature is nearing 40 degree Celcius. If insecticidal intervention is required to manage mealybug, then imidacloprid 17.8 SL @ 0.4 ml/L water may be sprayed as whole plant wash.