

WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday(24/6/2020)– Wednesday (1/7/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23-24	29-31	Nashik, Pimpalgaon Baswant, Ojhar, Palkhed, Dindori, Vani Wed & Mon to Next Wed- Light Rain. Thu- Good Rain. Fri & Sat- Drizzling. Sun- Moderate Rain. Shiradi, Loni Wed to Fri & Next Wed- Light Rain. Sat to Tue- Drizzling. Niphad, Kalvan, Devla Wed, Fri & Tue - Light Rain. Thu- Good Rain. Sat to Mon & Next Wed- Drizzling.	Mostly Cloudy	4-18	62-76	92-94
Pune	23-24	29-32	Pune, Phursungi, Narayangaon, Junnar Wed & Mon- Good Rain. Thu & Next Wed- Moderate Rain. Fri & Tue- Drizzling. Sat & Sun- Light Rain. Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati Wed & Fri- Good Rain. Thu- Moderate Rain. Sat to Tue- Drizzling. Next Wed- Light Rain.	Mostly Cloudy	3-16	59-73	92-95
Solapur	24	30-34	Solapur, Nanaj, Kati, Pandharpur Wed, Fri, Sun & Tue- Moderate Rain. Thu, Sat & Mon- Drizzling. Next Wed- Light Rain. Vairag, Pangri, Barsi Wed, Fri & Tue- Light Rain. Thu, Sat, Mon & Next Wed- Moderate Rain. Sun- Good Rain. Osmanabad, Tuljapur, Latur, Ausa, Atpadi Wed & Sat- Light Rain. Thu, Fri & Mon- Moderate Rain. Sun- Good Rain. Tue & Next Wed- Drizzling. Kasegaon Wed to Fri- Moderate Rain. Sat & Sun- Drizzling. Mon to Next Wed- Light Rain.	Mostly Cloudy	2-14	58-74	89-92

Sangli	23	29-33	Sangli, Shetfal, Khanapur, Miraj, Shirguppi, Kagvad, Arag Wed, Thu, Sat & Tue- Light Rain. Fri- Good Rain. Sun- Drizzling. Mon & Next Wed- Moderate Rain. Kavtha Mahankal, Palus, Valva, Palsi, Vite, Tasgaon Wed- Moderate Rain. Thu & Fri- Good Rain. Sat & Sun- Drizzling. Mon to Next Wed- Light Rain.	Mostly Cloudy	3-19	57-73	94-95
Bijapur	23	29-33	Bijapur, Tikota, Telsang Wed & Sat- Light Rain. Thu, Fri & Mon- Good Rain. Sun & Tue- Drizzling. Next Wed- Moderate Rain. Chadchan Wed- Drizzling. Thu & Sun- Moderate Rain. Fri, Sat & Mon- Good Rain. Tue- Light Rain. Next Wed- Moderate Rain.	Mostly Cloudy	4-17	54-74	91-95
Hyderabad	24-25	30-33	Hyderabad, Medchal, Zahirabad Wed & Fri- Drizzling. Thu & Mon to Next Wed- Moderate Rain. Sat- Light Rain. Sun- Good Rain.	Mostly Cloudy	0-11	61-69	91-98

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: - 70 days

b) Expected growth stage of the crop: sub cane development

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

Water management

Expected pan evaporation: 4 to 5 mm

Amount of irrigation advised:

1. All the grape growing regions are forecasted to receive from drizzling to good rains. The irrigation water application should be based upon the growth of the vines. In case rain exceeds 5 mm on a given day, irrigation water application can be skipped for that day. Generally, under wapsa (field capacity) condition of the soil, donot give irrigation.
2. **Fruit Bud Differentiation stage:**
 - a. Apply irrigation through surface drip @ 2000 to 3000 L/acre per day.
 - b. 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.
 - c. Flooding the vineyard is not advised as it leads to wastage of water. Concentrate irrigation water application in the root zone only.
3. **Cane maturity stage:** Apply irrigation through surface drip @ 2000 to 3000 L/acre per day.
4. In case of monsoon rains, remove mulch cover on the bund and allow the rain water to seep into the soil. This will leach the accumulated salts in the rootzone. The mulch so removed can be mixed with the soil to improve the soil porosity.

Nutrient Management

1. During fruit bud differentiation stage:

- a. After current rains, give foliar spray of SOP @ 3-4g/L depending upon canopy.
- b. Apply Magnesium sulphate @ 15kg/ acre in atleast 2 splits from 45 to 55 DAP.
- c. In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.

2. Cane maturity stage:

- a. Potassium application is required from Cane maturity stage onwards. Apply 15 kg SOP in two – three splits during this week. Total application should not exceed 64 kg during cane maturity period. In calcareous soils, provide foliar application of Sulphate of Potash (@ 4g/L) once in this growth stage.
- b. Apply magnesium sulphate @ 15 kg/acre in two splits. The application should be done during 60-75 days after pruning. In calcareous soils, provide foliar application of Magnesium sulphate (@4g/L) in this growth stage.
- c. In case of calcareous soils where acute iron deficiency is observed, repeatedly spray 2-3g/L Ferrous sulphate two to three times at 4-5 days interval followed by 15-20 kg/ acre Ferrous sulphate application through drip. The fertigation dose should be split into atleast 3 doses of 5kg each.
- d. After current rains, give foliar spray of SOP @ 5g/L.
- e. Donot irrigate if soil is in waapsa condition.
- f. After rains, give foliar spray of SOP @ 2-4g/L depending upon canopy size.

Fruit Bud Differentiation stage: Apply irrigation through surface drip @ 2000 to 3000 L/acre per day.

In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.

Cane maturity stage: Apply irrigation through surface drip @ 2000 to 3000 L/acre per day.

If marginal leaf chlorosis observed, then foliar spray of SOP @ 2-5g depending upon canopy size atleast twice followed by 25 to 50 kg SOP /acre application through drip

NOTE:

In some vineyards, problem of yellowing of the leaves along the margin along with vein reddening is observed. This is due to potassium deficiency. The deficiency of potassium can be due to insufficient potassium application or calcareous soils affecting the potassium uptake. It could also be due to sodicity problem in the vineyard. This deficiency can lead to more powdery mildew infestation and sucking pest (leaf hopper) incidence. Sodicity problems could also lead to sodium toxicity and potassium deficiency with leaves showing leaf blackening and necrosis symptoms in Thompson Seedless and its clone or leaf reddening symptoms in coloured varieties along the leaf margin.

Under such situation, Potassium deficiency can be corrected by a combination of foliar spray (minimum three to four) of 0.5% sulphate of potassium (5g/litre SOP) and soil application of potassium fertilizers. In sunny days the spraying should be done in morning or evening when humidity is high and temperature is low. Spraying during day time when temperature is high and humidity is low reduces potassium uptake into the leaves. Apply 25 to 50 kg SOP /acre as single dose or via fertigation (in 3 to 4 splits) within one week, depending upon extent/severity of potassium deficiency.

However, for any measures to succeed, calcareous or sodicity conditions should be managed, then only appreciable effect of potassium application can be observed.

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

Nil

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

During the last week, majority of grape growing regions received rainfall. However, there were either no rainfall or only cloudy weather experienced by the grape growing regions. The temperature in the atmosphere has been reduced while the relative humidity was increased. This condition favours vegetative growth. This will have effect on vine development in different way. Following points are therefore suggested based on the growth stage.

A) **Excess vigor:** In the late pruned vineyard with the recent rainfall or even cloudy weather, the humidity builds up will support for excess shoot vigor. Hence, following measures are suggested.

- i) Shoot pinching to be done immediately.
- ii) Removal of side shoot on priority so that each bud on the shoot will receive sunlight at least for 4-5 hours.
- iii) Removal of small single leaf on the bud should be considered important.
- iv) Potassic fertilizer for control of vegetative growth and also the side shoot pinching to be done on priority.
- v) Spray of potash @ 2 to 3.0 g/L water can be done once the rain stops.
- vi) Application of growth regulators (6 BA and uracil) for fruit bud differentiation can be taken up.
- vii) Spray 0:40:37 @ 2.5 g/L water (4-5 sprays at an interval of 2-4 days). In addition of 0:0:50 @ 3 to 4 g/L water (2 to 3 times) under heavy black cotton condition)

In early pruned vineyard: The cane maturity is initiated. However, with the increase in relative humidity and low temperature, the shoot growth at tip will increase. This will create the problem of cane maturity. The delayed cane maturity will reduce the stored food material in the proposed cane. These leaf are found deficit in ferrous and magnesium. In addition, the damage due to flea beetle and caterpillar will also be seen in coming days.

To avoid this,

- i) Shoot pinching and application of SOP through soil should be done.
- ii) Removal of young shoots (than our requirement) to be done immediately.
- iii) Retention of these green portion will lead to infection by anthracnose.
- iv) Irrigation to be kept minimum or can be avoided depending upon the soil type.

B) **Rootstock planting:**

In this garden, all the rootstock plants might have not reached to the level of grafting due to shortage of irrigation, lack of fertilizers and high temperature. Hence, at this stage the re-cut of rootstock leaving 1 or 2 buds at base may be taken up. The following practices are suggested.

- i) Fresh re-cut of rootstock to be taken leaving 1 to 2 buds at base.
- ii) Apply DAP @ 30kg/acre basis to speed up the vegetative growth and root development.
- iii) Retention of only 3-4 shoot from the sprouted shoots.
- iv) The crowded shoots may lead to weak shoots. These type of shoots will not support for grafting during August-Sept. In addition, the crowding will be prone for insect infection.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
70	Low	Nil	High	Bacterial spot

As cloudy conditions are prevailing in most of the regions a preventive spray of sulphur @2g/l may be given .Application of Kasugamycin 5% + Copper oxychloride 45% @ 0.75 g/Litre may be applied for the control of both bacterial spot and anthracnose. 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 done. Mancozeb will simultaneously control downy mildew infection, if any. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable the BCA to multiply.

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

Days after pruning	Risk of pests					
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle	Chafer beetle
Sub cane development	High	Moderate to High	Moderate	High	Low	High

- Chafer beetles start emerging during the last week of May to first fortnight of June. Installation of light traps will be helpful in monitoring the initiation of emergence of the beetles and also to manage them. Run the light traps for 3 hours daily, during evening between 7.00 pm – 10.00 pm and destroy the collected beetles in water mixed with insecticide. If chafer beetles are noticed, application of fipronil 80 WG @ 0.06 g/litre, lambda cyhalothrin 5 CS @ 0.5 ml/litre water may be given after 7:30 pm in night.
- Due to reduction in temperature and cloudy conditions, mealybug infestation may be noticed. Use of broad spectrum insecticides should be avoided for mealybug control. Buprofezin 25 SC @ 1.25 ml/l water may be given to manage mealybugs. Preventive plant wash, on stem and cordons, of biocontrol agents such as *Verticillium*, *Metarhizium*, *Beauveria* may be given.
- 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 or abamectin 1.9 EC @ 0.75 ml/l water is effective.