

WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

I) Wednesday(17/6/2020)– Wednesday (24/6/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23-24	27-31	Nashik, Pimpalgaon Baswant, Ojhar, Palkhed, Dindori, Vani Wed & Sat- Good Rain. Thu & Next Wed- Drizzling. Fri & Sun to Tue- Light Rain. Shiradi, Loni Wed & Tue- Light Rain. Thu to Mon & Next Wed- Drizzling. Niphad, Kalvan, Devla Wed- Light Rain. Thu to Next Wed- Drizzling.	Mostly Cloudy	10-23	73-81	93-95
Pune	23	28-29	Pune, Phursungi, Narayangaon, Junnar Wed, Sat & Mon- Good Rain. Thu- Drizzling. Fri, Sun & Tue- Moderate Rain. Next Wed- Light Rain. Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati Wed- Moderate Rain. Thu to Next Wed- Drizzling.	Mostly Cloudy	6-22	71-80	92-94
Solapur	23-24	28-31	Solapur, Nanaj, Kati, Pandharpur Wed- Light Rain. Thu to Next Wed- Drizzling. Vairag, Pangri, Barsi Wed- Moderate Rain. Thu to Next Wed- Drizzling. Osmanabad, Tuljapur, Latur Wed- Moderate Rain. Thu to Next Wed- Light Rain. Ausa, Atpadi Wed to Next Wed- Light Rain. Kasegaon , Wed- Good Rain. Thu to Next Wed- Light Rain.	Mostly Cloudy	10-22	64-76	89-93

Sangli	22-23	28-30	Sangli, Shetfal, Khanapur, Miraj, Arag Wed & Sat- Good Rain. Thu & Fri- Drizzling. Sun, Mon & Next Wed- Light Rain. Tue- Moderate Rain. Kavtha Mahankal, Palus, Valva, Shirguppi, Kagvad, Palsi, Vite, Tasgaon Wed, Sat & Tue- Light Rain. Thu- Moderate Rain. Fri, Sun, Mon & Next Wed- Drizzling.	Mostly Cloudy	10-25	69-79	92-94
Bijapur	22-23	28-31	Bijapur, Tikota, Telsang, Chadchan Wed to Sat, Mon & Next Wed- Drizzling. Sun- Light Rain. Tue- Moderate Rain.	Mostly Cloudy	16-28	66-75	89-94
Hyderabad	24-25	28-32	Hyderabad, Medchal, Zahirabad Wed & Next Wed - Drizzling. Thu, Sun & Mon- Light Rain. Sat- Moderate Rain. Tue- Good Rain.	Mostly Cloudy	10-24	61-69	90-100

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: - 63 days

b) Expected growth stage of the crop: Fruit bud differentiation stage

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

Water management

Expected pan evaporation: 2 to 4 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, do not give irrigation.

2. **Fruit Bud Differentiation stage:**

- a. Apply irrigation through surface drip @ 2500 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 @ 2500 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. 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. Do not apply beyond this until and unless the soil and petiole tests show low phosphorus availability.
- b. Do not apply any water soluble fertilizer having nitrogen.
- c. 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.
- d. After current rains, give foliar spray of SOP @ 3-4g/L depending upon canopy.
- e. Apply Magnesium sulphate @ 15kg/ acre in at least 2 splits from 45 to 55 DAP.
- f. 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 at least 3 doses of 5kg each.
- d. After current rains, give foliar spray of SOP @ 5g/L.

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 this week, majority of the grape growing regions received rainfall. The present 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 increase and vineyard temperature will be reduced. This will support for excess shoot vigor. Hence, following measures are suggested.
- i) Shoot pinching to be done immediately to take the advantage of vigor.
 - ii) Potassic fertilizer for control of vegetative growth and also the side shoot pinching to be done on priority.
 - iii) Spray of potash @ 2 to 3.0 g/L water can be done once the rain stops.
 - iv) Application of growth regulators (6 BA and uracil) for fruit bud differentiation can be taken up.
 - v) Spray 0:40:37 @ 2.5 g/L water (4-5 sprays at an interval of 2-4 days).
 - vi) In addition of 0:0:50 @ 3 to 4 g/L water (2 to 3 times) under heavy black cotton condition)
- B) **Sprouting of main bud:** The main bud is sprouting in majority of the vineyard. The rainfall increases the relative humidity in the vineyard thereby increasing the shoot vigor. If the hard pinching is done after sub cane development, the bud sprouts is experienced. To control the problem, following practices are suggested.

- 1) Do not control the vegetative growth for a period of about 6-7 days.
 - 2) Do not pinch the shoot tip. Also the potash application need to be stopped
 - 3) Do not remove the side shoots
 - 4) To encourage the vegetative growth for some time, spray urea @ 2.0 to 2.5 g per lit water and also 1.5 to 2.0 kg/acre through soil (once)
 - 5) Avoid cytokine based PGR and growth retardant sprays for some time.
 - 6) Increase 10-15% irrigation for uptake of nitrogen (if required)
- C) **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.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
63	Low	Nil	Moderate	nil

Application of Kasugamycin 5% + Copper oxychloride 45% @ 2.5 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. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable the BCA to multiply. One prophylactic spray of Mancozeb@2g/litre may be given for managing downy mildew as moderate to heavy rains are forecasted in this week.

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

Days after	Risk of pests
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pruning	Mealybug	Mite	Thrips	Caterpillar	Flea beetle	Stem borer (<i>Stromatium barbatum</i>)
Sub cane development	High	Moderate to High	Moderate	High	Low	Very high

- Adults of stem borer *Stromatium barbatum* 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 stem borer adults. 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 adult stem borers are noticed, application of fipronil 80 WG @ 0.06 g/litre, lambda cyhalothrin 5 CS @ 0.5 ml/litre or imidacloprid 17.8 SL @ 0.3 ml/litre water may be given directed at main stem and cordons during night. Follow the following link for detailed information on youtube video <https://www.youtube.com/watch?v=Yvx7dIbPEAU>
- 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.