

WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday (27/5/2020)– Wednesday (3/6/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	RH%	
	Min	Max				Min	Max
Nashik	24-25	35-38	Nashik, Pimpalgaon Baswant, Ojhar, Palkhed, Dindori, Vani Thu to Next Wed- Drizzling. Shiradi, Loni, Niphad, Kalvan, Devla Sun- Light Rain. Mon- Drizzling. Tue & Next Wed - Moderate Rain.	Partly to Mostly Cloudy	6-26	25-65	84-88
Pune	23-25	29-37	Pune, Phursungi, Narayangaon, Junnar Fri to Sun & Next Wed- Drizzling. Mon & Tue- Light Rain. Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Sat & Next Wed- Light Rain. Sun- Moderate Rain. Mon- Drizzling. Tue- Moderate Rain.	Partly to Mostly Cloudy	4-24	33-71	85-89
Solapur	26-29	32-43	Solapur, Nanaj, Kati, Pandharpur, Sun & Next Wed- Good Rain. Mon & Tue- Moderate Rain. Vairag, Pangri, Barsi Sat & Tue- Drizzling. Sun- Moderate Rain. Next Wed- Good Rain. Osmanabad, Tuljapur, Latur, Ausa, Sat & Mon- Drizzling. Sun, Tue & Next Wed- Light Rain. Kasegaon, Atpadi Sun & Tue- Good Rain. Mon- Moderate Rain. Next Wed- Light Rain.	Partly to Mostly Cloudy	8-26	17-61	52-80
Sangli	24-26	29-39	Sangli, Miraj, Shirguppi, Kagvad, Arag Sat- Drizzling. Sun- Moderate Rain. Mon & Next Wed- Light Rain. Tue- Good Rain. Kavtha Mahankal, Palus, Valva, Tasgaon, Shetfal, Sun & Tue- Good Rain. Mon- Drizzling. Next Wed- Light Rain.	Partly to Mostly Cloudy	6-24	28-70	83-88

			Khanapur Sat to Next Wed- Drizzling.				
Bijapur	24-27	30-41	Bijapur, Tikota, Telsang Sat & Next Wed- Drizzling. Sun- Good Rain. Mon- Light Rain. Tue- Moderate Rain. Chadchan Sat- Drizzling. Sun & Next Wed - Good Rain. Mon- Light Rain. Tue- Moderate Rain.	Partly to Mostly Cloudy	8-26	19-65	68-86
Hyderabad	25-29	34-41	Hyderabad, Medchal Sun- Moderate Rain. Mon to Next Wed- Drizzling. Zahirabad Sat & Mon- Drizzling. Sun, Tue & Next Wed- Light Rain.	Partly to Mostly Cloudy	4-16	15-29	39-68

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: - 42 days

b) Expected growth stage of the crop: 9-leaf stage/sub cane development

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

Water management

Expected pan evaporation: 8 to 11 mm

Amount of irrigation advised:

- All the grape growing regions are forecasted to receive from drizzling to moderate 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.
- Shoot growth stage:**
 - Irrigation water < 1dS/m : apply irrigation through surface drip @ 10,880 to 12,240 L/acre per day for Nasik and Pune region and from 13,600 to 14,960 L/acre per day for Sangli, Solapur, Bijapur and Hyderabad regions.
 - Saline irrigation water (1.1 – 2.5 dS/m): apply irrigation through surface drip @ 13,600 to 15,300 L/acre per day for Nasik and Pune region and from 17,000 to 18,700 L/acre per day for Sangli, Solapur, Bijapur and Hyderabad regions.
 - 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:**
 - a. Apply irrigation through surface drip @ 6000 to 7000 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.
 4. **Cane maturity stage:** Apply irrigation through surface drip @ 6000 to 7000 L/acre per day.

Nutrient Management

1. At shoot growth stage:

- a. 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 stag Apply Sulphate of Potash @ 25 kg/ acre in 3-4 splits in the first 15 days after cane maturity. e. Boron application should be strictly based upon soil test.
- b. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application.
- c. In calcareous soils, spray magnesium sulphate and potassium sulphate @2 gm each/ L once only during active growing stage.

2. 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. Donot apply beyond this until and unless the soil and petiole tests show low phosphorus availability.
- b. Donot 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. Apply Magnesium sulphate @ 15kg/ acre in atleast 2 splits from 45 to 55 DAP.
- e. In calcareous soils, spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only during 45 to 55 DAP.

3. Cane maturity stage:

- a. Potassium application is required from Cane maturity stage onwards. Approx. 64 kg of sulphate of potash (soluble grade) should be applied in this stage. Split the application into atleast five doses to reduce the leaching losses of the potassium. Apply 15 kg SOP in two – three splits during this week. 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 (@3g/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.

NOTE:

In some vineyards, problem of yellowing of the leaves in 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.

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)

Old vineyard:

In these vineyard, following measures are suggested:

- A) **Sprouting of main bud:** The main bud is sprouting in majority of the vineyard. The vineyard which experienced rain has more problem. The rainfall increased the relative humidity in the vineyard thereby increasing the shoot vigor. If hard pinching is done after sub cane development, bud sprout 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 needs 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)

- B) **Breaking of shoot:** In majority of the grape vineyard at the stage of establishment this condition is seen. The problem is seen only in vineyard after re-cut. With the increase in temperature and reduction in relative humidity the production of sap in the shoot is limited. This affects the transportation of food material in the growing shoot. Following measures are herewith suggested.
- 1) Increase the irrigation water to the vineyard.
 - 2) Apply nitrogen (eg. Urea @ 2.0 g/L water) to encourage the vegetative growth.
 - 3) Do not spray potash, growth retardants or tonics available in the market.
 - 4) Use the mulching on the bund to create the relative humidity.
- C) **Leaf curling symptoms:** In old vineyard, the leaf curling symptoms are seen. The curling is mainly due to either potash deficiency or thrips incidence. The symptoms are specific to growth stage and leaf age. Based on the symptoms following are the suggestions.
- 1) On new shoots leaf curling is generally due to thrips incidence. In this case recommended insecticides should be sprayed.
 - 2) On old leaf, leaf curling symptoms are generally due to potash deficiency. After 2-3 days from the rainfall, the symptoms are generally seen. In this condition, spraying of potash @ 3-4 g/L water should be done. In addition, soil application with 4-5 kg/acre should also be done.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
42	Low	Nil	Very low	nil

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 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. In Walwa region powdery mildew is observed in some vines. To mitigate the same application of sulphur @2g/L may be done. In the areas where vineyard suffered with heavy incidence of downy mildew during last season, the chances of activation of spores will be more. Hence, in these vineyard, spray of potassium salt of phosphorous acid @ 4g/L water + Mancozeb @ 2.0 g/L water with silicon based adjuvant @ 1ml/L will help to keep the inoculum under check.

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

- 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>*
- Spraying of imidacloprid 17.8 SL @ 0.4 ml per litre water will help in controlling thrips and mealybug on new growth.
- 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 water is effective.