

## WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday (05/8/2020)–Wednesday (12/08/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
<b>Nashik</b>	22-23	26-29	<p><b>Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Vani</b> Wed, Fri &amp; Sun- Light Rain. Thu &amp; Sat- Moderate Rain. Mon to Next Wed- Good Rain.</p> <p><b>Shirdi, Loni</b> Wed- Good Rain. Thu- Light Rain. Fri to Next Wed- Drizzling.</p> <p><b>Niphad</b> Wed- Moderate Rain. Thu to Sun, Tue &amp; Next Wed- Drizzling. Mon- Light Rain.</p> <p><b>Kalwan, Devla</b> Wed- Good Rain. Thu to Sun, Tue &amp; Next Wed- Drizzling. Mon- Light Rain.</p>	Mostly Cloudy	9-29	79-90	97-100
<b>Pune</b>	22-23	26-28	<p><b>Pune, Phursungi, Narayangaon, Junnar</b> Wed &amp; Mon to Next Wed- Good Rain. Thu- Light Rain. Fri to Sun- Moderate Rain.</p> <p><b>Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati</b> Wed- Good Rain. Thu, Fri, Sun, Mon &amp; Next Wed- Drizzling. Sat &amp; Tue- Light Rain.</p>	Mostly Cloudy	7-27	79-88	97-98
<b>Solapur</b>	23	27-31	<p><b>Solapur, Nannaj, Vairag, Kati, Pandharpur, Pangri, Barshi</b> Wed- Good Rain. Thu to Mon &amp; Next Wed- Drizzling. Tue- Light Rain.</p> <p><b>Osmanabad, Tuljapur, Latur, Ausa</b> Wed- Good Rain. Thu to Sat &amp; Next Wed- Drizzling. Sun &amp; Mon- Light Rain. Tue- Moderate Rain.</p> <p><b>Kasegaon, Atpadi</b> Wed, Fri, Mon &amp; Tue- Moderate Rain. Thu, Sat, Sun &amp; Next Wed- Light Rain.</p>	Mostly Cloudy	8-29	66-83	91-94

<b>Sangli</b>	22-23	26-28	<p><b>Sangli, Miraj, Shirguppi, Kagvad, Arag</b> Wed &amp; Thu- Light Rain. Fri- Drizzling. Sat, Tue &amp; Next Wed- Moderate Rain. Sun &amp; Mon- Good Rain.</p> <p><b>Kawthe Mahakal, Palus, Walva, Palsi, Vita, Tasgaon</b> Wed to Sun &amp; Next Wed- Light Rain. Mon &amp; Tue- Moderate Rain.</p> <p><b>Shetfal</b> Wed- Moderate Rain. Thu to Sun &amp; Next Wed- Drizzling. Tue- Light Rain.</p> <p><b>Khanapur</b> Wed &amp; Tue- Good Rain. Thu to Sat- Drizzling. Sun &amp; Next Wed- Light Rain. Mon- Moderate Rain.</p>	Mostly Cloudy	9-31	77-85	96-98
<b>Bijapur</b>	22-23	26-29	<p><b>Bijapur, Tikota, Telsang</b> Wed- Moderate Rain. Thu to Sat &amp; Mon to Next Wed- Drizzling. Sun- Light Rain.</p> <p><b>Chadchan</b> Wed- Good Rain. Thu to Sun, Tue &amp; Next Wed- Drizzling. Mon- Light Rain.</p>	Mostly Cloudy	15-34	72-81	92-94
<b>Hyderabad</b>	22-24	26-30	<p><b>Hyderabad, Medchal, Zahirabad</b> Wed- Good Rain. Thu to Sat &amp; Next Wed- Drizzling. Sun- Moderate Rain. Mon &amp; Tue- Light Rain.</p>	Mostly Cloudy	12-25	70-89	92-98

## II. a) Days after pruning: - 113 days

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

Expected pan evaporation: Nil to 3 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. **Cane maturity stage:** Apply irrigation through surface drip @1500 to 2500 L/acre per day.
3. If continuous good rains are forecasted, remove the mulch and allow the bund/ rootzone to be fully wet with water for leaching of salts. This is especially important for the following conditions:

- i) In Solapur, Sangli and Bijapur where the ground water used for irrigation contains more salt.
- ii) Early pruning is planned either in July or August.

## **Nutrient Management**

### **Cane maturity stage:**

- a. Potassium application is required from Cane maturity stage onwards. Apply 15 kg SOP in two 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.

### **Pre-pruning operations – Fruit pruning season:**

1. In case pruning is planned during August - September, raise Sunnhemp or Dhaincha for green manuring purpose.
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 calcareous soils, use sulphur for similar purpose. The application should be alongwith FYM/compost etc. They should be mixed in the soil and not left on the top.
3. In case in calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
4. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
5. In areas where rains have not been received and the irrigation water availability is less, it is suggested to flood the rootzone (only) with water to leach out the salts and wet the entire soil depth before pruning and then cover with mulch. Thereafter irrigate as per availability of water.

### **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)**

##### **Established garden:**

##### **A) Excess vigor:**

In majority of the grape vineyard, excess and continuous rainfall resulted into reduction in temperature and increase in relative humidity. Excess rains also accumulated water in the root zone. This condition changed the active root into non active black roots. The production of white roots have been reduced thereby the reduction in the supply of major and micronutrients. Sudden change in the concentration of gibberellins in vine is experienced in the form of excess vegetative vigor. The excess vigor will drain the available storage of food material form the matured canes. To avoid the loss and maintain the growth, following measures to be taken.

- i) Regular shoot pinching will help to control the growth.
- ii) Removal of side shoots will support to reduce the microclimate so that the fungicide coverage will be easy.
- iii) Application of potash @ 4 to 5 g/L
- iv) Spray of Bordeaux @ 1%

##### **B) Nutrient deficiency:**

With the excess rains, majority of the grape suffered with nutrient deficiency. In the vineyard where earthing up was followed, the leaching of nutrients including harmful elements was experienced. Root blackening was also be responsible for hampering the uptake of nutrients resulting into leaf cupping, leaf yellowing, etc.

To avoid these, under the condition of rainfall, spray the nutrients as per the recommended dose. Loosening of soil around the root zone will create aeration thereby formation of white root required for uptake of nutrients.

**Rootstock planting:**

- i) Retention of only 3-4 healthy, straight growing and vigorous shoots from the sprouted shoots.
- ii) Apply Urea @ 1.0 kg/acre per day basis (alternate day) to speed up the vegetative growth. The dose to be repeated depending upon weather condition and shoot vigor.
- iii) The crowded shoots may lead to weak growth. This type of shoots will not support for grafting during August-Sept. In addition, the crowding will be prone for insect infection. Hence, shoot training should be done.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
113	Moderate	Nil	High	Bacterial spot Rust

Botryodiplodia infection is prevalent in many of the vineyards, especially in those where canopy management is not proper. The disease may be severe in weak canes and immediate application of carbendazim 50WP or thiophanate methyl 70WP @ 1g/L may be given to control the disease. Foliar spray of Potassium salt of phosphoric acid@ 4g/L+ mancozeb@2g/L for downy mildew control needs to be done. As cloudy conditions are prevailing in most of the regions a preventive spray of sulphur @2g/l may be given for powdery mildew management. Application of Kasugamycin 5% + Copper oxychloride 45% @ 0.75 g/l may be applied for the control of both bacterial

spot and anthracnose. If it is only anthracnose, application of thiophanate 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. Copper should not be applied in vines where biocontrol agents are applied.

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

Days after pruning	Risk of pests				
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle
Cane maturity and afterwards	Moderate	Moderate	Moderate	High	Low to moderate

- In case of caterpillar infestation, application of spinetoram 11.7 SC @ 0.3 ml per litre or fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre water is effective.
- 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 infestation, remove excess shoot growth.
- Red colour stem borer (*Dervishiya cadambae*) has started egg laying and infestation under bark in grape areas. Install light traps near the vineyards to manage moths of this stem borer. Remove loose bark from stem and cordons and give preventive wash on stem and cordons with biocontrol agent *Metarhizium* @ 3-5 ml per litre water minimum once in the month during July to September months. If infestation is observed, remove the loose bark and give stem and cordon wash with lambda cyhalothrin 5 CS @ 2.5 ml per litre water and 1.5-2 litres water per plant.
- In new vineyards after grafting, flea beetle infestation may be observed. In case of heavy infestation, give soil drenching with imidacloprid 17.8 SL @ 1.5 ml per plant and foliar application with spinetoram 11.7 SC @ 0.3 ml per litre or fipronil 80 WG @ 0.0625 g per litre water.
- 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.

