

WEATHER DATA FOR THE PREVAILING WEEK

Date of foundation pruning: 15/04/2020

Wednesday (8/7/2020)–Wednesday (15/7/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23	27-29	<p>Nashik, Pimpalgaon Baswant, Ojhar, Palkhed, Dindori, Vani Wed & Thu- Drizzling. Fri, Sat & Tue- Moderate Rain. Sun, Mon& Next Wed- Good Rain.</p> <p>Shiradi, LoniThu to Sat & Mon- Drizzling. Sun &Tue- Moderate Rain .Next Wed- Good Rain.</p> <p>Niphad, Kalvan, Devla Thu to Sat- Drizzling. Sun- Moderate Rain. Mon- Light Rain. Tue & Next Wed- Good Rain.</p>	Mostly Cloudy	5-24	77-80	94-97
Pune	22-23	28-29	<p>Pune, Phursungi, Narayangaon, JunnarWed- Drizzling. Thu- Light Rain. Fri- Moderate Rain. Sat to Next Wed- Good Rain.</p> <p>Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati Wed to Sat- Drizzling. Sun & Next Wed- Moderate Rain. Mon & Tue- Light Rain.</p>	Mostly Cloudy	4-22	71-79	93-97
Solapur	23	30-32	<p>Solapur, Nanaj, KatiWed- Good Rain. Thu & Next Wed- Moderate Rain. Fri, Sat & Mon- Drizzling. Sun & Tue- Light Rain.</p> <p>Vairag, Pangri, Barsi Wed- Good Rain. Thu, Sun to Tue- Moderate Rain. Fri, Sat&Next Wed- Drizzling.</p> <p>Osmanabad, Tuljapur, Latur, Ausa Wed& Mon- Good Rain. Thu, Sun, Tue & Next Wed- Moderate Rain. Fri- Drizzling. Sat- Light Rain.</p> <p>Pandharpur Wed & Sun- Light Rain. Thu, Sat, Mon & Next Wed- Drizzling. Tue- Moderate Rain.</p> <p>Kasegaon, Atpadi Wed & Mon-Drizzling. Thu to Sat & Next Wed- Light Rain. Sun Tue- Moderate Rain.</p>	Mostly Cloudy	5-20	62-73	91-94

Sangli	22-23	28-30	<p>Sangli, Miraj, Shirguppi, Kagvad, Arag Wed- Drizzling. Thu & Mon- Light Rain. Fri to Sun & Next Wed- Moderate Rain. Tue- Good Rain.</p> <p>Kavtha Mahankal, Palus, Valva, Palsi, Vite, Tasgaon Wed- Drizzling. Thu to Sat & Mon- Light Rain. Sun, Tue & Next Wed- Moderate Rain.</p> <p>Shetfal Wed- Good Rain. Thu to Sat, Mon & Next Wed- Drizzling. Sun- Light Rain. Tue- Moderate Rain.</p> <p>Khanapur Wed, Thu & Sun- Drizzling. Mon- Moderate Rain. Tue & Next Wed- Good Rain.</p>	Mostly Cloudy	6-23	69-77	95-97
Bijapur	22-23	29-31	<p>Bijapur, Tikota, Telsang Wed & Sun- Light Rain. Thu- Good Rain. Fri, Sat & Mon- Drizzling. Tue & Next Wed- Moderate Rain.</p> <p>Chadchan Wed & Thu- Good Rain. Fri, Sat & Mon- Drizzling. Sun & Next Wed- Light Rain. Tue- Moderate Rain.</p>	Mostly Cloudy	11-23	63-72	93-95
Hyderabad	23-24	28-31	<p>Hyderabad, Medchal Wed, Fri, Sat & Next Wed- Drizzling. Thu & Mon- Moderate Rain. Sun- Light Rain. Tue- Good Rain.</p> <p>Zahirabad Wed, Fri, Sat- Drizzling. Thu, Mon & Next Wed - Light Rain. Sun- Moderate Rain. Tue- Good Rain.</p>	Mostly Cloudy	6-24	66-83	87-93

II. a) Days after pruning: - 84 days

b) Expected growth stage of the crop: cane maturity and afterwards

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

Water management:

Expected pan evaporation: 4 to 6 mm

Amount of irrigation advised: 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.

1. Fruit Bud Differentiation stage:

- a. Apply irrigation through surface drip @ 3000 to 4000 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.
2. **Cane maturity stage:** Apply irrigation through surface drip @3000 to 4000 L/acre per day.
 3. 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 root zone. 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 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.
- e.

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 areas received rainfall. The resultant condition was experienced as reduction in temperature while the relative humidity is 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.

Old vineyard:

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) Remove the side shoot on priority so that each bud on the shoot will receive sunlight at least for 4-5 hours.
- iii) Remove even small single leaf on the bud. This is important in relation to fruit bud differentiation in late pruned vines.
- iv) Potassic fertilizer for control of vegetative growth and also the side shoot pinching to be done on priority.
- v) Spray of potash @ 3 to 4.0 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)
- viii) In case of change of pink colour of shoot to milky white at the base, start spraying Bourdeaux mixture @ 0.5% at an interval of about 10 days.
- ix) Training of shoots to the wire will help to maintain aeration in the canopy. This will reduce the build up of microclimate in the canopy thereby supporting the disease control.

In early pruned vineyard: The cane maturity is initiated. However, with the increase in relative humidity and low temperature, the shoot growth will be faster. This will create the problem of cane maturity. The delayed cane maturity will reduce the stored food material in the proposed cane. These leaves 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, following practices are to be followed.

- i) Pinching of shoot tip and application of SOP through soil should be done. Hard pinching will lead to emergence of excess vegetative growth.
- ii) In majority of grape vineyard, hard pinching is done. This is resulting into emergence of side shoots. In addition, the new bunches are seen.
- iii) The growers are confusing with the emergence of these new bunches before forward pruning. This is mainly because repeated pinching on hard position of a shoot.

- iv) The bunch is fixed at a position of 6 to 8th bud position on straight cane while it is on the knot developed after making sub cane. The bunches coming out at this stage is on the new growth which is at about 15 to 16 leaf position. Hence, the growers need not to worry for this situation. However, instead of hard pinching, just pinch the shoot at tip only. This will avoid emergence of excess vegetative growth.
- v) Removal of young shoots (than our requirement) to be done immediately. Retention of this green portion will lead to infection by anthracnose.
- vi) Irrigation to be kept minimum or can be avoided depending upon the soil type.

A) Rootstock planting:

After the re-cut, more number of shoot has been sprouted. After the recent rainfall, all the shoots will grow; however, each shoot will be weak and lanky. Therefore, following practices to be followed.

- i) Retention of only 3-4 healthy, straight growing and vigorous shoots from the sprouted shoots.
- ii) Apply DAP @ 30kg/acre and urea @ 25 kg/acre basis to speed up the vegetative growth and root development.
- iii) The crowded shoots may lead to weak shoots. 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)
84	Moderate	Nil	High	Bacterial spot Rust

Foliar spray of Potassium salt of phosphoric acid@ 4g/L+ mancozeb@2g/L for downy mildew control needs to be done. Use of systemic fungicides need not be done at this juncture for downy mildew control. 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.

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

Days after pruning	Risk of pests				
	Mealy bug	Mite	Thrips	Caterpillar	Flea beetle

Cane maturity and afterwards	High	Moderate to High	Moderate	High	Low to moderate
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- 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.
- 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.