

WEATHER DATA FOR THE PREVAILING WEEK

(Assumption: Fruit Pruning date- 15/04/2019)

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (27/06/2019) – Thursday (04/07/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	23-24	26-28	Nashik, Ojhar, Pimpalgaon Baswant, Palkhed, Dindori, Vani, Niphad, Satana Thu-Thu Good Rain	Cloudy	13-23	70-79	89-93
Pune	23-24	27-29	Pune, Phursungi Thu-Fri Moderate Rain, Sat-Thu Good Rain Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Narayangaon, Junnar Thu-Thu Good Rain Baramati Thu- Sat Moderate Rain, Sun-Thu Good Rain	Cloudy	13-25	73-77	88-90
Solapur	22-24	27-31	Solapur, Nanaj, Kati, Pandharpur, Kasegaon - Thu-Sat & Mon- Thu Moderate Rain, Sun Good Rain Latur, Ausa, Vairag, Barshi, Pangri, Osmanabad, Tuljapur Thu-Thu Good Rain Atpadi Thu- Sat Moderate Rain, Sun-Thu Good Rain	Cloudy	12-24	65-80	86-92
Sangli	23	27-30	Sangli, Miraj, Walva, Tasgaon, Arag, Shirguppi, Kagwad, Kavathe Mahankaal, Vita Thu- Sat Moderate Rain, Sun-Thu Good Rain Palus, Kanapur, Palsi Thu-Thu Good Rain	Cloudy	15-28	77-79	88-90

			Shetfal Thu- Sat & Mon- Thu Moderate Rain, Sun Good Rain				
Bijapur	23	28-30	Bijapur, Tikota, Telsang Thu-Fri Moderate Rain, Sat- Thu Good Rain, Sun Good Rain	Cloudy	17-31	67-76	86-90
Hyderabad	24-25	28-32	Hyderabad, Zahirabad, Medchal Thu-Thu Good Rain	Cloudy	17-27	65-77	86-93

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: 75

b) Expected growth stage of the crop: - Sub cane development

Expected pan evaporation: 3-5 mm

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

Expected pan evaporation: 3 to 5 mm

Amount of irrigation advised:

1. Many grape growing regions are forecasted to receive moderate to good rainfall. 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 apply irrigation.
2. 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 in Solapur, Sangli and Bijapur where the ground water used for irrigation contains more salt.
3. In general, there will not be any need to provide irrigation in areas which have witnessed continuous rains since last 3-4 days.
4. In case of April pruned vineyards, the vines are at **Cane maturity and Fruit Development** stage. Provide irrigation through drip @ 2000 - 3000 litre/ha/day in case no rains are received.
5. In case of Late pruned vineyards (May), the vines are in **Fruit bud differentiation stage**. Provide irrigation through drip @ 2000 - 3000 litre/ha/day in case no rains are received.
6. In case faster growth is observed (intermodal distance > 5 cm approx.), then reduce the irrigation water application.

NUTRIENT MANAGEMENT:

Fruit bud differentiation stage

1. During fruit bud differentiation stage, based upon soil test values, apply 45 – 50 kg phosphoric acid or 250 kg SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils.
2. 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.

Cane maturity and Fruit bud development stage:

1. 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.

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)

During this week, the temperature in the grape growing areas will lower down to about 30°C. This will support the increase in relative humidity upto 90% in grape vineyard. Basaed on the different growth stages in the vineyards, following measures are suggested.

Rootstock planting:

- i) Apply DAP @ 25-30 kg/acre basis and Urea @ 5.0 to 6.0 kg/acre as basal dose of fertilizer.
- ii) Take a fresh re-cut of rootstock near the ground leaving 2-3 buds if the growth is not satisfactory.

- iii) Planting of rootstocks in failed position as a part of gap filling immediately.
- iv) Irrigate the rootstock plants under the situation of dry weather.
- v) Under heavy rainfall condition, rust incidence may be experienced by the grape growers. Spray copper fungicides.

New vineyard:

- i) The weather condition is favorable for increasing the growth. Hence, make another instalment of cordon. This will help to develop 3-4 new fruitful canes.
- ii) Allow the last growing shoot on a cordon and tie on the wire with sutali.
- iii) Apply nitrogen and phosphorous based fertilizers to encourage the growth.
- iv) Pinch the new growth at about 3-4 leaf.
- v) Spray 6 BA and Uracil for fruit bud differentiation.

Old vineyard:

- i) Sprouting of main bud is becoming a problem. Under the situation of controlled growth, shoots are pinched repeatedly thereby increasing cytokinin in the vine. Since the pressure builds up on the growing tissue (bud), it starts bursting.
- ii) Under such situation, the growth instead of controlling should be encouraged for about 3-4 leaf.
- iii) Spray of Urea @ 2.0 to 2.5 g/L water can help for vegetative growth. Single application/spray will be sufficient.
- iv) Shoot pinching can be done only after the main bud is matured.

VI. Disease management (Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
75	MODERATE	LOW	HIGH	Bacterial leaf spot

Good rains are predicted in major grape areas. Application for downy mildew control needs to be done viz. application of potassium salt of phosphoric acid @4g/l +Mancozeb @2g/L. Mancozeb will also give an additional protection against bacterial leaf spot. To protect from anthracnose, spray with thiophenate methyl may be given @ 1g/L of water. Use of silicon-based adjuvants may be done for better efficacy of fungicides. It is to be noted that spraying should be done only when there is a clear sky of about 1-2 hrs.

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

Days after pruning	Risk of pests					
	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=Yvx7dlbPEAU>
- 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.