WEATHER DATA FOR THE PREVAILING WEEK

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

I. WEATHER DATA FOR THE PREVAILING WEEK

Wednesday (19/06/2019) – Wednesday (26/06/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	23-24	28-33	**Nashik, Satana -** Wed & Next Wed Drizzling **Ojhar, Pimpalgaon Baswant, Dindori, Vani, Palkhed** Sun- Light Rain, Wed to Sat and Mon to Wed Drizzling **Niphad, Kalvan, Devla,** Next Thu- Drizzling **Shirdi, Loni** Thu & Next Wed Drizzling	Partly to Mostly cloudy	6-17	50-64	85-89
Pune	23	27-33	**Pune, Phursungi** Thu & Sun - light rain,Fri & Sat- Moderate rain, Mon to Wed - drizzling **Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati** Sat to Wed- Drizzling **Narayangaon, Junnar** Friday to Sun **-** Light Rain, Mon to Wed - Drizzling	Partly cloudy	05-16	51-61	82-89
Solapur	22-25	32-36	**Solapur, Nanaj** Friday to Wed- Drizzling **Vairag, Kati** Friday to Mon- Drizzling **Latur, Ausa, Barshi, Pangri, Osmanabad, Tuljapur** Sat & Mon- Drizzling **Pandharpur** Sat, Sun, Mon – Drizzling **Kasegaon Atpadi-** Saturday **–** Light rain, Wed to Fri and Sun to Wed- Drizzling	Partly cloudy	06-16	37-74	73-89
Sangli	23	28-33	**Sangli** Sat & Sun- Light rain, Wed to Fri- & Mon to Wed – Drizzling	Partly to mostly cloudy	06-19	49-72	79-90

			Kavatha Mahakal, Valva, Palus, Tasgaon Sat - Light rain**,** Wed to Fri- & Mon to Wed – Drizzling **Miraj, Arag, Shirguppi, Kagwad, Shetfal** Sat - Light rain, Sun- Moderate rain, Mon & Mon to Wed- Drizzling **Vite, Palsi** Sat - Light rain, Sun to Wed- Drizzling **Khanapur** Thu & Sun- Drizzling				
Bijapur	22-24	29-36	**Bijapur, Tikota, Telsang, Chadchan-** Fri**-** Light Rain, Sat to Wed- Drizzling	Partly cloudy	10-20	40-72	77-90
Hyderabad	26-27	36-38	**Hyderabad, Medchal –**Sun- Light rain, Mon to Wed Drizzling **Zahirabad-** Mon- Light rain	Partly to Mostly cloudy	10-21	39-47	79-88

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:68

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

Expected pan evaporation: 6-7.5 mm

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

Amount of irrigation advised:

1. Many grape growing regions are forecasted to receive drizzling or light rainfalls. 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. In general, there will not be any need to provide irrigation in areas which have witnessed continuous rains since last 3-4 days.
3. In case of April pruned vineyards, the vines are at **Cane maturity and Fruit Development** stage. Provide irrigation through drip @ 4500 - 5000 litre/ha/day in case no rains are received.
4. In case of Late pruned vineyards (May), the vines are in **Fruit bud differentiation stage**. Provide irrigation through drip @ 4500 - 5000 litre/ha/day in case no rains are

received. Any deficit during this stage could reduce the vine yield by 8- 10% during Fruit pruning season.

5. 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.
2. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) followed by Sulphate of Potash (@ 4g/L) twice in this growth stage (60-75 DAP and then 80-90 DAP).

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 32 to 33ºC. This will support the increase in relative humidity in grape vineyard. Basaed on the different growth stages in the vineyards, following measures are suggested.

Rootstock planting:

In the rootstock planted gardens, the shortage of irrigation water resulted into less shoot vigor, reduced root development and also stunted growth with advancement in shoot maturity. At the time of grafting the shoot should be of 8-10mm thick, semi-matured with proper sap flow. However, the present shoot condition does not fulfil the requirement of grafting. Hence, re-cut of rootstock plants are suggested to obtain the graftable shoot. All the shoots of rootstock are to be removed by retaining 1-2 buds above the ground. This will help for sprouting of new shoots and achieving the graftable size shoot at the time of grafting.

For further growth and development of rootstock shoots, nutrient management will be more important. Application of DAP @ 25-30 kg per acre and Urea @ 15-20 kg as basal application immediately after the re-cut of rootstock plants will be sufficient.

Old vineyard:

Reduction in temperature and increased humidity is considered to be favorable for vegetative growth and also multiplication of diseases inoculum and pest incidence. The increased vigor will lead to sprouting of side shoots and also increase in shoot tip growth thereby increasing the succulence of the leaf. Under such condition, thrips incidence is likely to increase. The dense canopy will lead to leaf infection due to powdery mildew. To control the incidence of diseases and also easy cultural operations in the canopy, following measures are suggested.

i) Remove the side shoots as and when arises.

ii) Shoot pinching in case of high vigor. Retain 16-17 leaf on each shoot and remove the excess shoots.

iii) Apply potassic fertilizers (0:0:50 @ 3-4 g per litre water) through spray. This will help to advance cane maturity and control powdery mildew incidence.

VI. Disease management (Dr. Sujoy Saha)

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

Light to moderate drizzling in major grape areas will be prevalent. Prophylactic application of mancozeb 75WP @ 2g/L should be done in all areas to protect against downy mildew. Mancozeb will also give an additional protection against bacterial leaf spot. To protect from anthracnose, a prophylactic spray with thiophenate methyl may be given @1g/L of water. Use of 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 (*Stromatium barbatum*)
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.