WEATHER DATA FOR THE PREVAILING WEEK

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

I. WEATHER DATA FOR THE PREVAILING WEEK

Thursday (05/09/2019) – Thursday (12/09/2019)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min	R H%	
	Min	Max				Min	Min
Nashik	22-23	26-27	**Nashik, Ojhar, Pimpalgaon Baswant, Palkhed, Dindori, Vani, Satana** Thu-Thu Good Rain **Kalwan, Devla, Niphad,Shirdi, Loni,** Thu-Fri Moderate Rain and Sat Onward Good Rain	Partly to Mostly cloudy	06-14	81-87	94-95
Pune	22-23	26-28	**Pune, Phursungi, Narayangaon, Junnar, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa** Thu-Thu Good Rain **Baramati** Thu-Fri Moderate Rain and Sat Onward Good Rain	Partly to Mostly cloudy	04-14	77-85	93-96
Solapur	22-23	29-31	**Solapur, Nanaj, Kati, Vairag, Barshi, Pangri, Pandharpur, Kasegaon** Thu-Thu Moderate Rain **Osmanabad, Tuljapur** Thu Moderate Rain & Fri onwards Good Rain **Latur, Ausa, Atpadi** Thu-Fri Moderate Rain & Sat onwards Good Rain	Partly cloudy	05-17	65-76	88-92
Sangli	21-22	26-29	**Sangli, Miraj, Shirguppi, Kagwad, Arag, Khanapur** Thu-Fri Light Rain & Sat onwards Good Rain **Tasgaon, Vita, Palus, Valva , Kavthe Mahankal** Thu-Fri Moderate Rain & Sat onwards Good Rain **Shetfal** Thu Light Rain & Fri onwards Moderate Rain **Palsi** Thu-Thu Good Rain	Partly to Mostly Cloudy	04-14	73-83	92-96

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: 145

b) Expected growth stage of the crop: - Cane maturity stage

Expected pan evaporation: 3-5 mm

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

Amount of irrigation advised:

1. Some of the grape growing areas are likely to receive from light 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 irrigate the vineyard.
2. Most of the vineyards have already crossed cane maturity stage. The irrigation water application should be such as to avoid new shoot growth as this may lead to development of disease and pests. Emphasis should be to maintain existing leaf in healthy condition and avoid leaf fall till it is desired.
3. Wherever the vineyards are at Cane maturity stage provide irrigation through drip @ 3000 - 3500 litre/acre/day in case no rains are received and the soils are not at field capacity (wapsa).
4. In areas of Pune dist. viz. Indapur and Bori, Solapur, Sangli and Bijapur the ground water used for irrigation contains more salt and less and poor quality irrigation water was used during Foundation pruning season, remove the mulch and allow the bund/ rootzone to be fully wet with water received from rains for leaching of salts for subsequent fruit pruning.
5. In areas of Pune dist. viz. Indapur and Bori, Solapur, Sangli and Bijapur where less rainfall was received, poor quality water was used and the quantity of available water is less, it is advised 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.

Nutrient management:

1. After Cane maturity stage, fertilizer application is over. Look for the sodicity problems. Soil, petiole and water reports will give information on extent of buildup of sodicity in soil. Apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use sulphur for similar purpose. Gypsum/sulphur should be properly mixed in soil. The soil should be moist. After approx. 20 days adequate irrigation should be provided to leach sodium from the soil.
2. Due to continuous rains earlier and also improper potassium management, the canes may not be mature. It is advised to spray SOP @ 5g/L twice followed by 15-20 kg SOP/acre through drip in two splits.
3. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. The efficacy of sulphur is improved if FYM/ Compost are applied along with sulphur and mixed in the soil.

4. Remove mulch applied during Foundation pruning and loosen the soil for improving movement of water through the root zone to reduce salts accumulated in the root zone. Organic mulch can be mixed in the soil to improve the porosity of the soil.

Pre-pruning operations – Fruit pruning season:

1. In case pruning is planned during September-October, 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.

IV. Requirement of growth regulators (Dr. S.D. Ramteke)

NIL

V. Canopy management (Dr. R.G. Somkuwar)

Considering the growth stage and weather, the growers are advised for the following.

Delayed cane maturity:

In Sangli district, the problem of delayed cane maturity is observed in elongated grape variety Super Sonaka. The reason for delayed cane maturity was as below:

The vineyard was submerged in water for a period ranging from 2 to 12 days. This has resulted into leaf drying and complete leaf fall in some of the cases. The requirement of leaves for preparation of food material was missing on the vine. The new shoots on the cane were also responsible for delayed cane maturity. The available leaves were severely infected with downy mildew incidence. Based on this the growers are advised for the following:

a) On the canes without green leaves, the new growth to be allowed to about 7-8 leaves.
b) The shoot pinching to be done on green shoot at about 5-6 leaf.
c) Spray 0:0:50 @ 2.0 to 2.5 g/L water (3-4 sprays)
d) The dose to be increased as per leaf age.
e) Application of potash through soil only after the soil is in wapsa condition. Humic acid to be applied in small quantity.
f) To increase the efficiency of potash in soil, potash solubilizing bacteria can be used.
g) The new growth to be kept disease free so as to help for cane maturity.

Flood affected vineyard:

i) In case of complete leaf fall, fruit pruning should be taken up.

ii) Pasting of buds with hydrogen cyanamide @ 40 ml/L water to be taken. This will help to uniform buds sprout. Application of same concentration on thick will help for early and uniform bud sprout.

I. Disease management (Dr. Sujoy Saha)

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

As light to moderate rainfall is predicted in most grape growing areas, anthracnose may be incident on the new leaves and Thiophenate methyl or Carbendazim @1g/litre should be applied for its control. If the anthracnose infection is heavy application of Fluopyram+Tebuconazole @0.5ml/litre may be done at 5-7 days interval. For downy mildew control application of potassium salt of phosphoric acid @4g/l +Mancozeb @2g/L may be done. Mancozeb will also give an additional protection against bacterial leaf spot disease. There should be no confusion regarding bacterial spot symptoms on leaf (fig 1a) and anthracnose (fig 1b) as control measures are different. Soil drench of Trichoderma may be done during this period. In regions where cloudy conditions are prevailing, but with high humidity, foliar application of Bacillus sp 2g/L or Trichoderma sp @ 4-5g/L may be done. Care should be taken not to apply biocontrol agents where copper formulations are applied.

Fig1(a)

Fig1(b)

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 to high	Moderate to high	Low	High	Low

- In case of 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.
- Remove excess shoot to manage thrips populations.
- Vineyards may have moderate mealybug infestation as well. However, higher relative humidity will favour build-up of natural enemies and natural biological control of mealybugs. Therefore, avoid spraying broad spectrum insecticides. Use of insecticides for mealybug control should be avoided. Entomogenous fungus such as *Metarhizium*, *Beauveria* and *Lecanicillium* can be used for plant wash at 15 days interval to reduce mealybug populations. If, insecticide application seems inevitable, the only buprofezin 25 SC @ 1.25 ml/L water may be used for management of mealybugs as this insecticide does not harm beneficial organisms in the vineyard.