WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (23/2020)–Wednesday (30/12/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	13-18	27-30	Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Devla, Niphad, Vani, Loni, Shirdi, Kalwan -No Rain.	Partly Cloudy	0-12	16-29	36-48
Pune	13-18	28-30	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Narayangaon, Supa, Junnar, Yavat, Patas, Baramati -No Rain.	Partly Cloudy	0-10	15-34	32-47
Solapur	14-18	29-31	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Pandharpur, Tuljapur, Barshi, Kasegaon, Atpadi, Latur, Ausa -No Rain.	Partly Cloudy	3-17	10-28	32-61
Sangli	13-18	29-31	Sangli, Miraj, Kagvad, Palus, Tasgaon, Shetfal, Khanapur, Palsi, Shirguppi, Vita, Kawthe Mahakal, Arag, Walva -No Rain.	Partly Cloudy	1-18	15-34	39-61
Bijapur	12-19	28-30	Bijapur, Tikota, Telsang, Chadchan - No Rain.	Partly Cloudy	4-20	20-28	48-61
Hyderabad	12-14	24-29	Hyderabad, Medchal, Zahirabad -No Rain.	Partly Cloudy	1-12	17-33	38-74

II. Water management (Dr. A.K. Upadhyay)

a) **Days after fruit pruning:** 86 days
b) **Pan evaporation**: Pan evaporation: 3.5-4 mm

Amount of irrigation advised:

1. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. During Flowering to setting stage, apply irrigation through drip @ 2,500 to 3,400L/ acre/ day.
3. During Berry development stage, apply irrigation through drip @ @ 5,950- 6,800L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 2,500 – 3,400 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
4. Practice mulching to keep the bunds moistened. This will reduce the salinity build up in the root zone due to evaporation of the moisture from the surface of the bund.
5. Flooding should be avoided

IV. Soil and Nutrient management

Shoot growth stage:

1. Inflorescence necrosis could be a issue in dense canopy. Remove side shoots and reduce canopy to allow penetration of the sunlight for proper aeration. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis).
3. If SOP not applied, then apply 15 kg SOP and follow it up with SOP spray for building up the potassium levels in the vines. This will be especially beneficial during low temperature and rainy conditions.

Flowering to setting stage:

1. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. Apply 3-4 kg Phosphoric acid in two to three splits this week. Remember that the pH of the irrigation water should be near 6.0.
3. Petiole nutrient testing: At 70% capfall stage, petiole samples should be taken for nutrient analysis. The leaf opposite the bunch should be removed for sampling.

Berry Development stage:

1. If the berry size is from 2-4mm, spray calcium @ 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
2. If the berry size is from 5-8mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
3. Apply magnesium sulphate through drip @ 10kg/acre from 8-10mm berry size.
4. Foliar spray of sulphate of potash @ 3g/acre at 8-10mm berry size.
5. After 8-10 mm berry size, start application of nitrogen in the form of ammonium sulphate @ 25kg /acre in 4 splits in calcareous soil and as urea @ 15 kg/acre in other soils in 3 splits. Follow this up with Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks.
6. If soil is calcareous, then apply zinc sulphate and ferrous sulphate @ 5 kg/acre at 65-70 days after pruning.

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

Avoid calcium application this week since its a cloudy weather

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

1) Reduction in temperature and berry development:

At present the minimum temperature in the major grape growing area is below 10 ^{0}C. This may result into reduction in physiological activities. To avoid, following practices are suggested.

a) Use of mulching on the bund. This will help to increase the temperature in root zone.
b) Loosening of soil in the root zone. This will also support to increase temperature in root zone.
c) Increase in irrigation will also help to increase the temperature of the vineyard.
d) Under the condition of low temperature, fire in different spots will also help in increasing the temperature.
e) Under this condition, the vineyard just before veraision stage may suffer with the formation of pink berries. Hence, bunch covering should be given priority. However, before covering the bunches, measures to control mealy bug and powdery mildew may be taken.

2) Source: sink in relation to bunch development:

For bunch development, leaf plays an important role. For a bunch with 450 to 500g weight, the shoot with 8 to 10 mm diameter requires 16 to 17 leaf. The bunch appears at 5th leaf position, hence there should be 10-12 leaf above the bunch. For proper development of a bunch all the available leaf should be physiologically active. Hence open canopy should be preferred.

In late pruned vineyards (Kasegaon taluka of Solapur district), following practices are advised.

a) Application of cytokinin based PGR at the time of bud sprouting (ponga stage). This may be continued till 2 – 3 leaf stage. This will help to control fillage.
b) Irrigation during the stage of bud sprouting to bunch emergence should be minimum.
c) Excess shoots should be removed on priority. This will support for proper aeration in the canopy and help in improving the photosynthetic activity of the vine.
d) While spray of GA3 during parrot green colour stage of a bunch, care to be taken that the pH of spray solution is maintained. This will help to improve efficiency of PGR.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
86	Low	Moderate	Low	Nil

An application of triazoles like Hexaconazole or Difenoconazole or tetraconazole @ 1ml/L may be done to control powdery mildew. Application of high value chemicals like Fluopyram + Tebuconazole @0.5ml/L or Fluxapyroxad+ Difenoconazole @ 0.8ml/Ha or cyflufenamid @ 0.5ml/L may be done but within 50 days after fruit pruning. Vines in berry setting stage should resort to sulphur 80WDG @ 2g/L for managing powdery mildew. Application of *Ampelomyces quisqualis* @ 6-8g/L should be done now as the conditions are suitable for its multiplication and establishment. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable it to multiply. In late pruned crop, preventive application of Mancozeb @2g/L for downy mildew may be continued.If downy mildew persists, application of potassium salt of phosphoric acid @4g/L +mancozeb @2g/L may be done.

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

Growth Stage: Berry setting to development stage after October pruning

- Mealybug and mite population may increase in most of the grape areas. Thrips may also cause damage in vineyards which are in flowering and berry setting stages.
- Buprofezin 25 SC @ 1.25 ml per litre water or spirotetramat 15.31 OD @ 280 ml per acre are effective against mealybugs. Soil drenching with clothianidin 50 WDG may also be given for mealybug management. Entomogenous fungus such as *Metarhizium, Beauveria* and *Lecanicillium* can be used for plant wash at 15 days interval to reduce mealybug populations.
- 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 or bifenazate 22.6 SC @ 0.5 ml per litre water is effective.
- For the management of thrips, spinosad 45 SC @ 100 ml per acre or cyantraniliprole 10 OD @ 280 ml per acre or spinetoram 11.7 SC @ 120 ml per acre are effective.