WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (18/11/2020)–Wednesday(24/11/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	18-21	31-32	Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Devla, Niphad Sun- Drizzling. Vani, Loni, Shirdi – No Rain. Kalwan Sat- Drizzling. Sun- Light Rain.	Partly Cloudy	0-14	37-49	60-73
Pune	13-19	30-32	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Narayangaon, Supa, Baramati Fri- Drizzling. Junnar Thu- Light Rain.	Partly Cloudy	0-14	40-53	67-74
Solapur	17-21	30-32	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Tuljapur, Pandharpur, Barshi, Kasegaon, Atpadi Fri -Drizzling. Latur, Ausa Tue -Drizzling.	Partly Cloudy	4-15	32-49	57-91
Sangli	15-20	30-31	Sangli, Miraj, Kagvad, Palus, Tasgaon, Shetfal, Khanapur, Palsi, Shirguppi, Vita, Kawthe Mahakal, Arag Wed & Fri- Drizzling. Walva Fri- Drizzling.	Partly Cloudy	2-17	32-47	65-86
Bijapur	18-21	29-32	Bijapur, Tikota, Telsang, Chadchan -No Rain	Partly Cloudy	4-19	45-47	80-88
Hyderabad	17-21	25-30	Hyderabad Mon –Drizzling. Medchal Thu –Drizzling. Zahirabad - No Rain.	Partly Cloudy	0-12	37-49	76-97

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

a) **Days after fruit pruning:** 51 days

b) **Pan evaporation**: Pan evaporation: 4-6 mm

1. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 6800- 10200 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application to 3000 - 5000 L/ acre.
3. 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.
4. During Flowering to setting stage, apply irrigation through drip @ 2500 to 3500L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
5. During Berry development stage, apply irrigation through drip @ 6800- 10200 L/ acre/ day.

Soil and Nutrient management

Shoot growth stage:

1. If the crop is between 5 leaf to prebloom stage, apply Zinc sulphate and Ferrous sulphate @ 15 kg/ acre based upon soil test value. Boron application should be carried out only if soil test value indicates low levels and the irrigation water does not contain boron.
2. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
3. If sodicity problem is there (available Na > 1000ppm), apply 10 kg Sulphate of potash per acre in 2 splits this week. The total SOP application should not exceed 40 kg/acre.
4. The quantity of nutrients to be applied through foliar, depends upon canopy size.
5. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage. One spray is sufficient during this stage.

Flowering to setting stage:

1. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis). Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
3. 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.
4. **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. After Berry setting, continue initially with Phosphoric acid application @ 2 kg followed by 5 kg 12-61-0/acre.
2. 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.
3. 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.
4. 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.

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

This is the time to go for GA_3 application. Every 4 days interval GA_3 @10 , 15, & 20 ppm has to be applied to form a loose bunch. GA must be applied along with effective fungicides.

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

The pruning in majority of the vineyards are at the stage of completion. Following practices are suggested

a) In recently pruned vineyard (before bud sprout), spray Boudeaux mixture for the control of downy mildew.
b) Remove excess shoots in time. This will support for aeration in the canopy thereby reducing relative humidity.
c) In the vigorous vines, apply potash in small quantity.
d) The leaf requirement for development of a bunch can be completed before flowering completes. Hence, observe the shoot vigor and apply nitrogen in the form of sprya as well as soil application through drip.
e) Spray GA_3 @10 ppm at parrot green colour stage of the bunch. This stage comes in about 18 to 20 days after fruit pruning. The stage may vary depending upon the weather and soil type of the specific garden.
f) To increase GA_3 efficiency, use good quality water. The pH of spray solution to be maintained as 5.5 to 6.0. This will support in elongation of rachis length and distance between two rachis.
g) Timely application of GA_3 with proper dose will help in cell multiplication and cell elongation thereby achieving loose bunch required for export.
h) The vineyard after berry set may suffer from powdery mildew incidence due to cloudy weather. Hence, spray the recommended fungicide available in Annexure 5
i) Berry thinning immediately after the berry set is completed will support for increase in berry size.
j) Depending upon the purpose (export vs local) and variety, the berries per bunch are to retained. In Thompson Seedless, Tas-A-Ganesh and Clone 2 variety 100-120 berries are sufficient. However, in Nana Saheb Purple being a bold berries variety, retention of 70 to 80 berries are sufficient.
k) In case of recently grafted vines, the development of trunk and cordon to be completed before the night temperature drop down.
l) Application of nitrogenous fertilizer through soil and also spray can help to achieve good vegetative growth.

V. Disease management (Dr. Sujoy Saha)

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

As cloud cover is expected in most of the grape growing areas and humidity is low, powdery mildew is expected to occur. An application of triazoles like Hexaconazole or Difenoconazole @ 1ml/L may be done to control powdery mildew. Application of high value chemicals like Fluopyram + Tebuconazole @0.5ml/L may be done but within 50 days after fruit pruning. For all fungicide applications use of any silicon based adjuvants @ 1ml/L will enhance the efficacy of spray. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable the BCA to multiply. In late pruned crop, preventive application of Mancozeb @2g/L for downy mildew may be continued.If dew is prevalent in any area, dusting of mancozeb @ 3-5 kg/acre may be done.

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

Growth Stage: Early shoot growth to flowering after fruit pruning

- Caterpillar (*Spodoptera litura*) or flea beetle infestation may increase in most of the grape areas as humidity is high. Caterpillars may chew on buds and new sprouts. For the management of caterpillars and flea beetle fipronil 80 WG @ 0.06 g/litre (not to be used during and after pre-flowering and flowering stages) water may be given during night.
- If the crop is nearing pre flowering, flowering and berry setting stages, application of spinosad 45 SC @ 100 ml per acre or spinetoram 11.7 SC @120 ml per acre preferably at night is effective against flea beetle and thrips.
- Jassid incidence may be seen at some places, spraying of lambda cyhalothrin 4.9 CS @ 0.5 ml per litre or imidacloprid 17.8 SL @ 0.4 ml per litre water at night is effective.
- At 15 days interval, plant wash with entomopathogenic fungi viz. *Metarhizium, Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.
- Do not spray any broad spectrum insecticides such as chlorpyrifos, dichlorvos, methomyl, profenophos, etc. for mealybug control. Higher humidity will favour development of natural enemies which will slowly kill mealybugs. In case chemical spray is required, prefer buprofezin 25 SC @ 1.25 ml per litre of water for plant wash.
- Incidences of new species of stem borer (red colour larva) may be noticed under bark in Sangali, Solapur, Nashik, Pune, Bijapur grape areas. Remove the loose bark and give good plant wash mainly targeting cordons and main trunk with broad spectrum insecticides, for example, lambda cyhalothrin 5 CS @ 2.5 ml/l.