WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Thursday (09/12/2021)–Wednesday (15/12/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	16-19	27-29	**Nashik, Dindori, Ozar, Vani, Loni, Pimpalgaon Baswant Shirdi,Kalwan, Palkhed** Thu to Wed –No Rain.	Clear	09-12	38-43	60-70
Pune	17-18	27-28	**Pune**,**Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati**,**Supa** Sun, Mon- Drizzling.	Clear to Partly Cloudy	09-11	41-50	63-76
Solapur	17-19	29-30	**Vairag, Kati,Osmanabad,Barshi** - Thu to Wed –No Rain. **Latur** Thu,-Light Rain,Fri,Sat-Drizzling.**Ausa,KasegaonPangri,Tuljapur,Pandharpur,Nannaj** Thu to Wed –No Rain. **Solapur**-Sat-Light Rain,Sun-Moderate Rain, Mon-Drizzling.	Clear to Partly Cloudy	12-13	34-54	75-86
Sangli	18-19	29-30	**Sangli** –Fri-Drizzling. **Shetfal, Palus,Vita, Arag,Walva, Kawthe**, **Palsi Khanapur,Miraj, Kagvad Tasgaon ,Shirguppi** Thu to Wed –No Rain.	Clear to Partly Cloudy	12-16	41-54	65-86
Vijayapura	17-18	30-31	**Vijayapura,Chadchan,Tikota &Telsang** –Fri-Drizzling.	Clear to Partly Cloudy	12-18	41-52	72-88
Hyderabad	17-18	30-31	**Hyderabad ,Medchal,Zahirabad** Thu,Sun, Mon-Light Rain,Fri-Moderate Rain.	Partly to Mostly cloudy	11-12	39-51	82-93
Satara	17-19	27-29	**Satara,Man,Khatav Rahata** Sat,Sun,Mon-Light Rain. **Phaltan** Thu to Wed-No Rain.	Clear to partly Cloudy	09-12	45-59	69-84
Ahmednagar	16-18	27-29	**Ahmednagar, Nagar**,**Kopargaon, Shrigonda, Sangamner,Karjat** Mon-Light Rain. **Jamkhed, Akole, Rahata-** Thu to Wed-No Rain.	Clear to Partly Cloudy	11-14	39-49	56-68

Jalna	16-17	27-29	**Jalna,Ambad,Gansawangi**,**Mantha** Thu to Wed-No Rain. **Jafrabad** Thu –Drizzling, Fri-Light Rain.	Clear to Partly Cloudy	09-10	32-38	52-62
Buldhana	17-18	29-30	**Buldana,Chikhli, D.raja**,**Sindkhedraja** Thu to Wed-No Rain.	Clear	09-11	33-36	52-61
Kolhapur	18-19	30-31	**Gagan-bavada** ,**Kagal, Karveer -** Thu to Wed-No Rain.	Clear	09-12	43-53	68-87
Bengaluru Rural	18-20	26-28	**Bengaluru-east, Bengaluru-north, Bengaluru-south** ,**Doddaballapur, Anekal** – Thu,Sun- Drizzling, Fri-Good Rain,Sat,Mon,Wed-Light Rain.	Partly to Mostly cloudy	14-17	48-60	91-94
Belagavi	18-19	28-29	**Belagavi,Gokak** Fri- Light Rain. **Athni**,**Chikodi,Khanapur** Thu to Wed-No Rain.	Clear to Partly Cloudy	10-16	45-64	76-94
Bidar	17-19	29-30	**Bidar Humnabad** ,**Basavakalyan** Thu-Drizzling, Sat-Moderate Rain, Sun-Good Rain ,Mon-Light Rain.	Partly to Mostly cloudy	10-12	37-52	74-88
Bagalkot	18-20	29-30	**Bagalkot,Hungund,Mudhol, Jamkhandi-Badami** Fri-Drizzling.	Clear to Partly Cloudy	12-18	38-51	81-90

Note: Above weather information is summary of weather forecasting given in following websites

https://www.wunderground.com/?cm_ven=cgi

https://imdagrimet.gov.in/weatherdata/BlockWindow.php

https://www.timeanddate.com/weather/india

ICAR-National Research Centre for Grapes does not claim accuracy of it.

II. Water management (Dr. A.K. Upadhyay and Dr. Yukti Verma)

- **Days after fruit pruning: 85**
- **Expected pan evaporation: 3-5 mm**

Amount of irrigation advised :

a. Always check the weather App before irrigation water application. In case the rains are forecasted in next 2-3 days, donot irrigate until and unless salinity and sodicity issues are there and the vines show moisture stress symptoms.
b. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
c. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 5100- 8400 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application to 2500 - 4500 L/ acre.
d. 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.
e. During Flowering to setting stage, apply irrigation through drip @ 2000 to 3000L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
f. During Berry development stage, apply irrigation through drip @ 5100- 8400 L/ acre/ day.

Nutrient management

1. Due to rains in previous week leading to prolonged saturation of soil the roots were started decaying. **Donot disturb the soil in the root zone. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done.** Only after wapsa, fertilizer application should be done.
2. Due to continuous sprays the leaf will not look healthy, neDed based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact bunch development.
3. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).

Shoot Growth stage

1. The quantity of nutrients to be applied through foliar, depends upon canopy size.
2. 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. If during foundation puning, the petiole test stated that boron was deficient then apply boron @ 1.5 kg to 5 kg depending upon the soil test value. Apply one kg boron at a time.
3. Apply 15 kg Magnesium sulphate per acre in two splits.
4. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom 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).
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. OR apply SSP @ 125kg/acre as basal application. SSP should be mixed with FYM/Compost before application to minimize phosphorus fixation.
3. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
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. Apply 10kg Magnesium sulphate/acre after berry setting.
3. 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.
4. 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.

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. One foliar spray of Sulphate of potash and Magnesium sulphate @ 3-4g/L is desirable if the soil is calcareous.

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

1. Due to cloudy weather, PGR should be used with fungicides.
2. Higher doses should be not be used and mixture of many chemicals should not be done and only one CPPU i.e. only one chemical has to be used.
3. pH of spray mixture should be 5-6 and some adjuvant has to be used as well.

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

Due to cloudy weather, the grape vineyard are experiencing the drop and inflorescence rot problem. Following possible management practices are suggested that may help to control.

1. Due to high R.H. and rainfall, shoot vigor will start increasing. Hence, pinching of shoot to be given priority.
2. In case of high vigor, nitrate level in the vine may also be increased. Hence, application of potash through spray and soil will help to control the vigor.
3. Open canopy will be the top priority in cloudy condition. Hence, removal of side shoots and basal 2-3 leaf will make open canopy. Under such canopy, aeration will be sufficient thereby reducing the chances of downy mildew incidence.
4. In majority of the grape vineyards, flower drop is experienced. This is mainly due to dense canopy creating the atmosphere of suffocation. Shoot pinching should help to control the drop. In severe cases, either girdling or making a small wound on cordon or trunk may also be helpful for controlling this problem.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
85	High	Moderate	Low to moderate	Bacterial spot-Low Bunch rot-High

As secondary infection of downy is prevalent in many areas application of Dimethomorph@1g/L+mancozeb 75WP@2g/L or Iprovalicarb+propineb @ 2.25g/L or Mandipropamid@ 0.8g/L may be done for downy mildew control. Two applications of Amisulbrom 17.7% SC @375ml/ha at 10-days interval will give a good control of downy mildew. In areas where dew is seen dusting of mancozeb/metiram @ 5kg/acre will give good control. Foliar spray of Trichoderma may also be given @2-3ml/L but it should not be given immediately after application of chemical fungicides. Trichoderma through drip should be continued. One spray of *Ampelomyces quisqualis* @5g/l may also be given when high humidity is prevailing for the control of powdery mildew. Preventive spray of sulphur @ 2-3g/l will also give a protection against powdery mildew at this stage. If the incidence of powdery mildew is high, application of Difenoconazole @0.5ml/L or tetraconazole @ 0.75 ml /L or hexaconazole @ 1ml/L along with potassium hydrogen carbonate or mono potassium phosphate should be done. Target application of Bacillus sp or Trichoderma with hand sprayer may be done to get good results. Tank-mix of any chemicals should be strictly avoided.

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

Growth Stage: berry development after fruit pruning

- Caterpillar infestation may be noticed in most of the grape areas. In case of caterpillar infestation, application of emamectin benzoate 5 SG @ 0.22 g per litre or cyantraniliprole 10 OD @ 0.7 ml per litre water is effective.
- For flea beetle management, Imidacloprid 17.8 SL @ 0.4 ml/L or spinosad 45 SC @ 0.25 ml per liter water at night is effective.
- Vineyards may have moderate mealybug infestation as well. 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 + *Metarhizium anisopliae* 3 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 *Metarhizium anisopliae* @ 2.5 ml/l (water volume 1.5 litres per plant).