WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Thursday (01/12/2021)–Wednesday (07/12/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	13-17	24-30	**Nashik, Dindori, Ozar, Vani, Loni, Pimpalgaon Baswant Shirdi,Kalwan, Palkhed** Thu-Good Rain,Sat,Sun-Drizzling.	Partly to Mostly cloudy	06-21	46-71	68-88
Pune	15-18	25-29	**Pune**,**Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati**,**Supa** Thu-Good Rain**,**Fri-Moderate Rain,Sat,Sun-Light Rain,Mon-Drizzling.	Partly to Mostly cloudy	06-16	49-74	72-93
Solapur	17-19	28-30	**Vairag, Kati,Osmanabad,Barshi** Thu-Good Rain,Fri-Light Rain. **Latur** Thu,Fri-Light Rain. **Ausa,KasegaonPangri,Tuljapur,Pandharpur,Nannaj** Thu- Good Rain. **Solapur**- Fri-Good Rain,Sat-Moderate Rain.	Partly to Mostly cloudy	09-14	38-59	61-86
Sangli	20-21	30-31	**Sangli** Thu- Good Rain,Fri to Sun-Light Rain. **Shetfal,Palus,Vita, Arag,Walva, Kawthe**,**Palsi Khanapur,Miraj, Kagvad-**Thu-Moderate Rain. **Tasgaon ,Shirguppi** Thu-Good Rain, Fri,Sat-Light Rain, Sun-Drizzling.	Partly to Mostly cloudy	06-13	43-62	77-95
Vijayapura	18-19	29-30	**Vijayapura,Chadchan,Tikota &Telsang** –Thu,Fri-Good Rain,Sat-Moderate Rain.	Partly to Mostly cloudy	09-21	41-65	62-93
Hyderabad	19-20	30-31	**Hyderabad ,Medchal,Zahirabad** Thu-Drizzling**.**	Clear to Partly Cloudy	09-13	31-46	54-87
Satara	18-20	26-30	**Satara,Man,Khatav Rahata**Thu, Fri - Good Rain,Sat,Mon-Light Rain,Sun-Moderate Rain. **Phaltan** Thu-Good Rain**,**Fri-Moderate Rain.	Partly to Mostly cloudy	05-10	51-79	78-95
Ahmednagar	13-17	27-29	**Ahmednagar, Nagar**,**Kopargaon, Shrigonda, Sangamner,Karjat** Thu, Fri-Good Rain, Sat-Light Rain. **Jamkhed,Akole,Rahata-**Thu,Fri-Good Rain.	Clear to Partly Cloudy	06-13	41-69	66-91

Jalna	15-18	27-29	**Jalna,Ambad,Gansawangi**,**Mantha** Thu,Fri-Light Rain. **Jafrabad** Thu to Wed- No Rain.	Clear to Partly Cloudy	08-14	34-50	55-68
Buldhana	14-17	25-30	**Buldana,Chikhli, D.raja**, **Sindkhedraja** Fri-Light Rain.	Clear to Partly Cloudy	07-12	36-49	50-68
Kolhapur	20-21	31-32	**Gagan-bavada** ,**Kagal, Karveer** Thu-GoodRain,Fri,Sun-Moderate Rain,Sat-Light Rain,Mon-Drizzling.	Partly to Mostly cloudy	06-11	50-63	84-96
Bengaluru Rural	18-20	25-28	**Bengaluru-east, Bengaluru-north, Bengaluru-south** ,**Doddaballapur, Anekal –** Thu,Mon-Light Rain, Fri,Sat,Sun-Good Rain.	Partly to Mostly cloudy	05-13	53-64	80-94
Belagavi	19-21	28-30	**Belagavi,Gokak** Thu,Sun-Good Rain,Fri,Mon-Light Rain,Sat-Moderate Rain. **Athni**,**Chikodi,Khanapur** Thu ,Sat-Moderate Rain,Sun-Drizzling.	Partly to Mostly cloudy	05-12	52-71	87-96
Bidar	17-19	29-30	**Bidar Humnabad** ,**Basavakalyan** Fri-Good Rain.	Clear to Partly Cloudy	07-12	39-56	66-89
Bagalkot	19-20	27-29	**Bagalkot,Hungund,Mudhol, Jamkhandi-Badami** Thu,Fri-Good Rain,Sat-Modertae Rain.	Partly to Mostly cloudy	08-19	38-64	62-91

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: 78**
- **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. In many of the grape growing areas in Nasik, Sangli and other areas, continuous spells of rains will be received, the soils are already saturated. This has affected the rooting activity. Due to prolonged saturation, the roots may have 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, need based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact bunch development.
3. If possibility of rains in coming 2-4 days, spray SOP@ 2-4g/L depending upon stage and canopy size. Apply 15 kg SOP/acre through drip in two split application.

4. 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)

Nil

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

1. During the condition of continuous rainfall, shoot vigor will be experienced. This may be controlled on priority.
2. Shoot pinching, removal of side shoot is required to control the vigor.
3. Removal of one leaf above the bunch and one leaf below the bunch will help to make an open canopy. This will also support to remove water from the shoot.
4. Under the condition of rainfall and sufficient moisture in the shoots, making wound on basal portion of old cane (near cordon) will also help to remove excess water from the shoot thereby helping to stop berry drop from bunch (at prebloom and flowering stage)
5. Application of potash @ 3-4 g/L water (depending upon the stage dose may change) through spray and also the drip will support to stop the growth to some extent.
6. Removal of water from the bunch using a blower in the vineyard can help to dry the bunch before spraying any fungicide.

V. Disease management (Dr. Sujoy Saha)

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

As there is cloudy weather prevailing in most of the 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. In Sangli area, due to untimely rains, bunch rot is being observed. Water droplets should not accumulate in the bunches and spray of horticulture grade mineral oil @2ml/L should be done to drain off the excess water. 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: flowering, berry setting to berry development after fruit pruning

- In case of caterpillar and thrips 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).

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