WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Wednesday (10/11/2021)–Wednesday (17/11/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	17-21	31-33	Nashik, Dindori, Ozar, Vani, Loni, Pimpalgaon Baswant Sun-Drizzling Shirdi,Kalwan, Palkhed Thu to Wed- No Rain .	Clear to Partly cloudy	13-17	21-43	37-57
Pune	16-20	30-31	Pune Sun, Mon- Moderate Rain. Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati,Supa Sun- Good Rain.	Partly to Mostly cloudy	11-14	22-59	46-90
Solapur	16-19	26-32	Vairag, Kati Mon- Light Rain. Osmanabad, Barshi-Mon –Light Rain Latur Fri-Drizzling, Sun-Moderate Rain,Mon-Good Rain. Ausa, Kasegaon-Sat to Wed -Good Rain. Solapur,Atpadi Fri –Light Rain, Sat to Tue- Good Rain. Pangri,Tuljapur,Pandharpur,Nannaj-Thu to Wed – No Rain.	Partly to Mostly cloudy	11-18	29-79	53-95
Sangli	19-22	29-33	Sangli,Shetfal,Palus,Vita, Arag,Walva, Kawthe,Palsi Khanapur,Miraj, Kagvad Sat-Moderate Rain, Sun to Tue- Good Rain. Tasgaon ,Shirguppi Fri-Light Rain,Sat to Wed-Good Rain.	Mostly cloudy	11-21	26-64	55-90
Vijayapura	17-19	27-33	Vijayapura,Chadchan,Tikota &Telsang Fri-Drizzling, Sat-Moderate Rain, Sun to Tue-Good Rain.	Partly to Mostly cloudy	13-22	26-70	53-93
Hyderabad	19-23	27-30	Hyderabad Fri to Sun- Light Rain, Mon,Tue- Good Rain. Medchal-Thu-Moderate Rain, Fri to Tue- Good Rain. Zahirabad Fri to Sun- Good Rain, Mon, Tue- Moderate Rain.	Partly to Mostly cloudy	12-15	26-69	44-94
Satara	17-21	29-31	Satara,Man,Khatav Rahata Sat, Mon- Light Rain,Sun-Moderate Rain,Tue- Good Rain. Phaltan Sun- Light Rain.	Partly to Mostly cloudy	09-13	29-72	56-96
Ahmednagar	16-19	30-31	Ahmednagar, Nagar-Sat-Light Rain, Mon-Moderate Rain, Mon- Good Rain. Kopargaon, Shrigonda, Sangamner,Karjat Thu to Wed- No Rain. Jamkhed,Akole,Rahata-Fri,Sat- Light Rain, Sun, Mon- Good Rain.	Clear to Partly cloudy	12-17	21-57	43-90

Jalna	18-20	30-31	Jalna,Ambad,Gansawangi,Mantha Thu to Wed –No Rain . Jafrabad –Fri, Sun- Good Rain, Sat-Light Rain, Mon- Moderate Rain.	Clear to Partly cloudy	11-14	22-45	43-77
Buldhana	15-18	31-32	Buldana,Chikhli, D.raja,Sindkhedraja Thu to Wed –No Rain .	Clear	09-11	24-40	43-76
Kolhapur	18-22	30-34	Gagan-bavada ,Kagal,Karveer Fri-Drizzling, Sat-Light Rain,Sun to Tue-Good Rain,Wed- Moderate Rain.	Partly to Mostly cloudy	07-17	32-71	60-95
Bengaluru Rural	18-20	21-25	Bengaluru-east, Bengaluru-north, Bengaluru-south ,Doddaballapur, Anekal - Thu to Wed-Good Rain.	Mostly cloudy	04-13	57-91	90-96
Belagavi	19-21	29-32	Belagavi,Gokak Fri-Light Rain,Sun to Tue-Good Rain,Wed- Moderate Rain. Athni,Chikodi,Khanapur Sat,Wed-Moderate Rain,Sun to Tue-Good Rain.	Partly to Mostly cloudy	07-24	39-74	60-96
Bidar	17-19	26-31	Bidar Humnabad ,Basavakalyan Fri-Drizzling,Sat to Mon- Good Rain ,Tue-Light Rain.	Partly to Mostly cloudy	10-14	32-73	55-96
Bagalkot	17-19	28-31	Bagalkot,Hungund,Mudhol, Jamkhandi-Badami ,Bilagi Fri,Sat-Light Rain,Sun to Tue-Good Rain.	Partly to Mostly cloudy	13-25	25-65	47-90

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.

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

- **Days after fruit pruning: 56**
- **Expected pan evaporation: 4-6 mm**

Amount of irrigation advised:

1. Some grape growing areas are likely to receive rains from drizzling to good rains. In case rain exceeds 5 mm on a given day 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 and still if growth is more, stop the irrigation till such time the growth is brought under control and then start irrigation.
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. From flowering to fruit setting, apply irrigation through drip upto 3000 L/ acre/ day. Vigour needs to be controlled.
5. During Berry development stage, apply irrigation through drip @ 6800- 10200 L/ acre/ day for all grape growing regions.

Nutrient management

1. 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.

Shoot Growth stage

1. Based upon the soil test value, during shoot growth stage apply urea @ 15kg / acre this week in two splits. If the soil is calcareous, instead of urea apply ammonium sulphate @ 25 kg/ acre in three splits this week. Depending upon the crop vigour, regulate nitrogen application.
2. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.
3. Until and unless leaves are fully developed donot go for any foliar application of nutrients. It will be lead to wastage of spray.

4. The quantity of nutrients to be applied through foliar, depends upon canopy size.
5. 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.
6. Apply 15 kg Magnesium sulphate per acre in two splits.
7. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage.
8. Minimum temperature predicted is low especially in Nasik and Pune. The growth will be slow. If not sprayed go for foliar spray of Sulphate of potash @ 2-3g/L depending upon leaf age during prebloom stage and apply through drip 15-20 kg SOP/ acre. This helps in stress management.

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. 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)

Nil

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

During the last 2 days Sangli area is experiencing the rainfall. The vineyard after fruit pruning may face some major problems. Following suggestion are offered.

1) Under high rainfall conditions, shoot vigor will be more. This may lead to dense canopy. Hence, control of shoot vigor by control of nitrogen and application of potassium will help.

2) In majority of the grape vineyard fillage or bunch abortion may be seen. Hence, increase in cytokinin in the vine by application of cytokinin based PGR may help to control the situation.

3) Application of potash in the vine through spray and soil will help in vigor control.

4) In some of the vineyard bud sprouting is a problem. To avoid this, complete leaf fall and bud swelling on each cane before the fruit pruning will help to control the situation.

5) Swabbing of selective thick canes with the same concentration and also twisting may help for uniform and early bud sprouts.

6) During the condition of rainfall, inflorescence rot may become a serious problem. Application of potash through spray, removal of side shoots, pinching of shoot tip, etc may help to reduce the vigor and also microclimate in the canopy. This will control the rotting.

7) Cloudy weather and rainfall will favor the increase in relative humidity in the canopy. Under such situations, downy mildew and anthracnose may become active. Spray of Trichoderma, Bacillus and Pseudomonas at regular intervals and also application through drenching will help to control

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
56	Low	Nil	Low to moderate	Bacterial spot-High Rust- moderate

In areas where 7-10 leaf stages are predominant application of Dimethomorph@1g/L+mancozeb 75WP@2g/L or Iprovalicarb+propineb @ 2.25g/L or Mandipropamid@ 0.8g/L may be done. Two applications of Amisulbrom 17.7% SC @375ml/ha at 10-days interval will give a good control of downy mildew. Light to moderate drizzles are expected in all grape growing areas. Foliar spray of Trichoderma may also be given @2-3ml/L but it should not be given immediately after application of copper fungicides. Areas where export crop for the EU is grown, Mancozeb 75WP, at this stage may be given, but after 40-45 days it should be restricted and metiram @ 3g/litre may be used. 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.

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

Growth Stage: pre flowering to berry setting 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 + *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 with broad spectrum insecticides, for example, lambda cyhalothrin 5 CS @ 2.5 ml/l.