WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Wednesday (13/10/2021)–Wednesday (20/10/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	22-18	34-29	Nashik, Dindori, Ozar, Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan Thu to Wed –No Rain Palkhed-Light Rain to Moderate Rain.	Clear to Partly cloudy	07-17	58-29	63-43
Pune	21-19	32-29	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati Tue,Wed – Drizzling Supa-No Rain	Clear to Partly cloudy	07-17	44-22	67-46
Solapur	18-20	28-32	Solapur, Vairag, Nannaj, Kati, Atpadi, Osmanabad, Latur, Ausa, Barshi, Kasegaon-No rain. Pangri, Tuljapur, &Pandharpur-Sun to Tue-Moderate-Good rain	Partly to Mostly cloudy	10-14	34-41	62-69
Sangli	20-21	29-34	Sangli,Miraj, Kagvad, Shetfal, alus,Vita, Arag, Walva, Kawthe,Tasgaon Tue-Moderate rain Shirguppi Thu- Drizzling & Mon-Moderate Rain. Palsi Sun toTue-Moderate to Good rain Khanapur Mon-Light Rain.	Mostly cloudy	05-19	35-46	57-80
Vijayapura	19-22	27-34	Vijayapura Mon toWed Light rain Chadchan, Tikota &Telsang Mon-Light rain.	Partly cloudy	09-15	33-35	59-67
Hyderabad	20-22	29-32	Hyderabad, Medchal Mon-Drizzling, Medchal Sat-Good Rain Zahirabad Sun-Light Rain &Mon-Moderate Rain.	Partly to Mostly cloudy	08-12	38-42	51-63
Satara	19-20	27-32	Satara, Phaltan, Man, Khatav Rahata –No Rain.	Clear	06-10	33-47	50-71
Ahmednagar	18-20	30-33	Ahmednagar, Nagar, Kopargaon, Shrigonda, Jamkhed,Akole,Rahata, Sangamner -No Rain Karjat Wed-Light Rain.	Clear to Partly cloudy	11-14	26-44	48-67
Jalna	18-21	31-32	Jalna,Jafrabad,Ambad,Gansawangi –No Rain Mantha Mon-Moderate Rain.	Clear to Partly cloudy	10-16	26-38	44-58
Buldhana	19-22	31-33	Buldana, Chikhli, D.raja,Sindkhedraja –No rain.	Clear	08-10	30-42	52-63
Kolhapur	21-22	32-33	Gagan-bavada ,Kagal Thu to Fri-Drizzling to Light rain. Karveer – No rain.	Clear to Partly	06-08	39-49	70-87

				cloudy			
Bengaluru Rural	20-21	27-29	Bengaluru-east, Bengaluru-north, Bengaluru-south Thu to Sat –Good Rain Bengaluru-south Mon toWed –Light Rain, Doddaballapur, Anekal Thu to Wed-Light Rain to Moderate Rain.	Partly to Mostly Cloudy	06-11	56-61	86-93
Belagavi	20-22	28-31	Belagaviv,Gokak Tue to wed –Drizzling to LightRain Khanapur&Athni –No rain Chikodi Thu-Drizzling &Mon-Moderate Rain.	Clear to Partly cloudy	07-09	48-54	79-92
Bidar	18-19	31-32	Bidar Sun to Mon –Light rain to Moderate Rain Humnabad Basavakalyan-No rain .	Clear to Partly cloudy	09-12	42-45	64-72
Bagalkot	20-22	31-32	Bagalkot, Bilagi, Jamkhandi,Hungund Mon –Drizzling Badami &Mudhol Thu,Mon&Tue-Light Rain,Fri-Good Rain.	Partly to Mostly Cloudy	09-13	33-38	65-71

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.accuweather.com/

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

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

a) **Days after fruit pruning:** 28

b) **Pan evaporation: 0-5mm**

Amount of irrigation advised:

1. Some grape growing areas are likely to receive rains from drizzling to good rains. The irrigation water application should be based upon the growth of the vines. In case rain exceeds 5 mm on a given day soil is under wapsa (field capacity) condition, do not irrigate the vineyard.

2. If continuous good rains are forecasted, remove the mulch and allow the bund/ root zone to be fully wet with water for leaching of salts. The mulch so removed can be mixed with the soil to improve the soil porosity. This is especially important for the following condition:
    i) In Solapur, Sangli, Vijayapura or any area where the ground water used for irrigation contains more salt.
3. During shoot growth stage (Fruit pruning season), apply irrigation through drip @ 3400-8500 L/ acre/ day for all grape growing regions. In case vigour is more than desired, then reduce irrigation water application by half to 1700 - 4300 L/ acre and still if growth is more, stop the irrigation till such time the growth is brought under control and then start irrigation.
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. From flowering to fruit setting, apply irrigation through drip upto 3000 L/ acre/ day. Vigour needs to be controlled.

Nutrient management

Pre-pruning operations – Fruit pruning season

1. In many of the grape growing areas, continuous spells of rains are likely to be received, and the soils may become saturated. This will affect the rooting activity. Due to prolonged saturation, the roots may start decaying. **Donot disturb the soil in the root zone even if pruning is being taken up. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done.**
2. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
3. The vineyards where sodicity problems are there, apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use sulphur for similar purpose. The application should be alongwith FYM/compost etc. They should be mixed in the soil and not left on the top.
4. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil atleast 15-20 days before pruning. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. The efficacy of sulphur is improved if FYM/ Compost are applied along with sulphur and mixed in the soil. If SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.

REMEMBER: Sulphur should not be left on the surface of the bund. This will not help in removing calcium carbonate from the soil.

Shoot Growth stage

1. After current rains, give foliar spray of SOP @ 2 g/L depending upon canopy.
2. 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.
3. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.
4. Until and unless leaves are fully developed donot go for any foliar application of nutrients. It will be lead to wastage of spray.
5. The quantity of nutrients to be applied through foliar, depends upon canopy size.
6. 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.
7. 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. Do not 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. **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.**

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

Application of H2CN2 must be done based on cane thickness before 48 hrs

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

During the coming week following activities need to be followed

1. Before 2 to 3 days of fruit pruning, spray bordeaux mixture @1 percent. This will help to control major diseases in the coming season.
2. Under the situation of no rains, irrigate the vineyard 2 days before pruning. This will help to maintain sap movement in the canes.
3. Application of hydrogen cyanamide will be based on cane diameter, temperature in the vineyard and also the extent of leaf fall.
4. Excess shoots needs to be removed immediately after bunches are visible. In general, this operation can be undertaken after 14th days of fruit pruning.
5. If the bunches are getting converted to either small sized bunch or converted into fillage, increase cytokinin level of vine by spraying cytokinin based PGR.
6. Bunches are to be retained based on cane diameter, spacing allocated to each vine and purpose of grape growing (local, raisin, export).
7. First spray of GA3 to be taken at parrot green color stage of a bunch. 10ppm will be sufficient.
8. Under the situation of delay due to rainfall, 15 ppm GA3 can be taken to increase length of rachis and distance between two rachis.
9. Second spray to be taken after 5 days with 15ppm GA3
10. pH of water and spray solution need to be checked. Citric acid or urea phosphate can be added to maintain pH

V. Disease management (Dr. Sujoy Saha)

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

In areas of early pruning, stem and cordon wash with mancozeb 75WP @2.5-3g/l followed by sulphur@ 2.5-3g/l should be done at an interval of 3-5 days. Foliar spray of Trichoderma may also be given @2- 3ml/L but it should not be given immediately after application of copper fungicides. If sprouting has started in early pruned areas spray of copper hydroxide @ 1, 5-2g/l may be given for prophylactic spray against downy mildew. *Trichoderma* through drip should be continued. In areas where 5-7 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. One spray of *Ampelomyces quisqualis* @ 5g/l may also be given when high humidity is prevailing for the control of powdery mildew.

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

Foundation pruning growth stage: Cane maturity and afterwards

- Caterpillar (*Spodoptera litura*) infestation may increase in most of the grape areas as humidity is increasing. For the management of caterpillars, emamectin benzoate 5 SG @ 0.22 g/litre or fipronil 80 WG @ 0.06 g/litre water may be given.
- Mealybug population and movement of ants may be noticed under the bark. Due to possibility of rains and build-up of relative humidity, 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 lambda cyhalothrin 4.9 CS @ 2.5 ml/l.

Fruit pruning growth stage: Dormant bud to sprouting

- Caterpillar (*Spodoptera litura*) 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, emamectin benzoate 5 SG @ 0.22 g/litre or fipronil 80 WG @ 0.06 g/litre water may be given during night.
- Remove loose bark and give preventive plant wash with buprofezin 25 SC @ 1.25 ml/litre + *Metarhizium anisopliae* @ 3 ml/litre water for controlling mealybugs and ants.

- Give soil drenching with *Metarhizium* just after fruit pruning to manage flea beetle grubs, thrips pupa and ants in soil.
- Remove weeds from inside and around the vineyards. Harrowing may be done in inter row space once the rainy spell is over. Then give soil drenching with clothianidin 50 WDG @ 200 gram per acre in the root zone to kill flea beetle grubs in the soil. Thereafter, foliar application of lambda cyhalothrin 4.9 CS @ 200 ml per acre or imidacloprid 17.8 SL @ 160 ml per acre or fipronil 80 WG @ 25 g per acre or spinosad 45 SC @ 100 ml per acre may be given. The foliar spray may preferably to give at night after 7 pm.