WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Wednesday (06/10/2021)–Wednesday (13/10/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	20-25	29-34	Nashik, Dindori, Ozar, Palkhed,Vani, Loni, Pimpalgaon Wed to Sat – Good Rain, Baswant Mon to Thu –Good Rain, Shirdi, Kalwan Thu to Sun- Moderate to Good Rain	Mostly Cloudy	08-27	49 -74	88-92
Pune	22-30	22-32	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Baramati Wed to Thu- Moderate to Good Rain,Sun - Light Rain	Partly to Mostly Cloudy	6-10	42-79	80-86
Solapur	21-22	28-32	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Barshi, Kasegaon Mon to Fri Good Rain, Tuljapur -Wed to Fri - Light rain ,Pandharpur Wed-Light Rain, Atpadi- Wed to Wed –Moderate to Good Rain	Mostly Cloudy	6-12	56-77	86-91
Sangli	21-23	26-33	Sangli Wed toWed – Good Rain, Miraj, Palus, Kagvad, Shetfal, Palsi, Khanapur, Vita, Arag, Walva, Kawthe Wed to Fri-Moderate to Good Rain,Tasgaon, Shirguppi, Wed to Wed-Moderate to Good Rain.	Partly to Mostly Cloudy	5-12	51-69	78-96
Vijayapura	20-23	26-33	Vijayapura, Chadchan, Tikota, Telsang -Wed to Thu- Moderate to Good Rain. Sat &Sun Good Rain.	Mostly Cloudy	3-19	50-62	82-89
Hyderabad	22-24	29-32	Hyderabad, Medchal Wed- Light Rain, Thu to Sun- Moderate to Good Rain,Zahirabad - Wed to Fri Moderate to Good Rain.	Mostly Cloudy	5-11	48-54	69-90
Satara	21-23	26-31	Satara, Phaltan, Man, Khatav Rahata Wed to Sun- Good Rain.	Partly to Mostly Cloudy	4-11	49-68	82-94
Ahmednagar	22-24	29-33	Ahmednagar, Nagar, Kopargaon, Shrigonda, Karjat, Jamkhed, Akole,Rahata, Sangamner Wed to Fri- Good Rain Sat - Moderate Rain.	Mostly Cloudy	7-19	51-67	84-89
Jalna	21-24	30-33	Jalna,Jafrabad,Mantha,Ambad,Gansawangi Wed to Fri- Moderate to Good Rain .	Mostly Cloudy	6-14	44-60	83-88

Buldhana	20-25	30-33	Buldana, Chikhli, D.raja Wed to Fri – Good Rain,Sindkhedraja Wed to Sat- Light to Moderate Rain.	Mostly Cloudy	5-18	50-66	86-90
Kolhapur	21-24	31-33	Gagan-bavada Wed to Sat- Good Rain Kagal& Karveer Thu to Sat- Good Rain.	Mostly Cloudy	5-11	51-72	84-96
Bengaluru Rural	19-21	26-30	Bengaluru-east, Bengaluru-north, Bengaluru-south, Doddaballapur, Anekal Wed &Thurs- Good Rain. Fri to Sun –Light Rain to Moderate Rain.	Partly to Mostly Cloudy	8-21	50-77	86-94
Belagavi	20-23	27-31	Belagavi, Athni, Chikodi, Gokak, Khanapur Wed to Sun - Moderate to Good Rain .	Mostly Cloudy	6-14	60-82	88-98
Bidar	21-22	30-33	Bidar& Humnabad Wed to Sun - Moderate to Good Rain, Basavakalyan Wed to Sun – Good Rain	Mostly Cloudy	6-15	54-61	87-92
Bagalkot	21-23	30-32	Bagalkot, Bilagi, Jamkhandi, Mudhol, Hungund, Badami Thu to Sun- Light to Moderate Rain.	Partly to Mostly Cloudy	7-21	39-60	78-90

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.accuweather.com/

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

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

a) **Days after fruit pruning:** 21

b) **Pan evaporation: 2-4mm**

Amount of irrigation advised:

1. All the grape growing regions are forecasted to receive rains. The irrigation water application should be based upon the growth of the vines. Objective is to concentrate on cane maturity, hence, vigour should be controlled.

2. If continuous good rains are forecasted, remove the mulch and allow the bund/ rootzone 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 @ 3400-6800 L/ acre/ day for all grape growing regions. In case vigour is more than desired, then reduce irrigation water application by half to 1700 - 3400 L/ acre and still if growth is more, stop the irrigation till such time the growth is brought under control and then start irrigation.

Nutrient management

1. After current rains, give foliar spray of SOP @ 3-5 g/L depending upon canopy.
2. In case of calcareous soils where acute iron deficiency is observed, repeatedly spray 2-3g/L Ferrous sulphate two to three times at 3 days interval followed by 15-20 kg/ acre Ferrous sulphate application through drip. The fertigation dose should be split into atleast 3 doses of 5kg each. Apply 5kg/ acre soluble sulphur through drip every week. Also spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only. Keep a close watch on the development of leaf blackening symptoms if irrigation water contains sodium more than 100ppm.

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. In case pruning is planned during October, raise Sunnhemp or Dhaincha for green manuring purpose.
3. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
4. 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.

5. In case of calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
6. In areas where rains have not been received and the irrigation water availability is less, it is suggested to flood the rootzone(only) with water to leach out the salts and wet the entire soil depth before pruning and then cover with mulch. Thereafter irrigate as per availability of water.

Shoot Growth stage

1. After current rains, give foliar spray of SOP @ 2 g/L depending upon canopy.
2. In case organic fertilizers are applied, check the C:N ratio. Lower the ratio more the nitrogen release, hence possibility of enhanced growth. Control nitrogen application based upon growth of vine.
3. 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.
4. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.
5. Until and unless leaves are fully developed donot go for any foliar application of nutrients. It will be lead to wastage of spray.
6. The quantity of nutrients to be applied through foliar, depends upon canopy size.
7. 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.
8. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.

If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage.

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

Nil

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

In majority of the grape vineyard, the fruit pruning is in progress. The bud sprouting starts after 7-8 days. During this period if the vineyard is experiencing rainfall, the vine physiology disturbs with increase in gibberellins level. This condition results into increase in vine vigor. In addition, the vineyard faces different condition during bunch emergence. The grape growers are advised the following.

1. Do not allow to stagnate water in the root zone. Remove the water from field by making a small trench between rows.
2. Spray cytokinin based PGR so that the level of cytokines in the vine will get increased and gibberellins level will be reduced. Spray 6 BA @ 10 PPM when the bud starts sprouting. For effective results, the spray should be done when sprouting started
3. Application of potash as soil application and also spray will help to control the vigor

Management practices for uniform sprout

1. If the leaf fall is completely achieved, the growers should start fruit pruning immediately to avoid sprouts.
2. Application of hydrogen cyanamide is equally important as it helps in achieving early bud sprout. The dose of hydrogen cyanamide depend upon diameter, temperature in the vineyard and leaf fall achieved. In general, 40 ml/L water will be sufficient for cane with 8 to 10 mm diameter.
3. In case of thick canes, one more application of hydrogen cyanamide will be required with the same concentration.
4. The thick canes should be twisted so that the physiological processes will initiate and uniform bud sprouting will be achieved in both the type of canes.
5. Avoid application of hydrogen cynamide immediately after the pruning but, can be applied on next day.
6. Under the condition of vineyard affected with diseases, spray Bordeaux mixture @ 1% on canes, cordon, and trunk and on ground. This will support to control the major diseases before the bud sprouts.

Spraying of biological agents like Trichoderma before pruning will also help to control the disease.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
14	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)

Growth Stage: Cane maturity and afterwards stage after foundation pruning/Pre pruning

1. High flea beetle incidence may be noticed in the vineyards now. If not controlled it will cause serious damage after fruit pruning. Remove weeds from inside and around the vineyards. Harrowing may be done in inter row space once the rainy spell is over. 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 at night after 7 pm may be given.
2. In case of caterpillar infestation, installation of light traps outside vineyards is the best strategy to manage caterpillar population.
3. Red colour stem borer (*Dervishiya cadambae*) has started egg laying and infestation under bark in grape areas. Install light traps near the vineyards to manage moths of this stem borer. Remove loose bark from stem and cordons and give preventive wash on stem and cordons with biocontrol agent *Metarhizium* @ 3-5 ml per litre water minimum once in the month during July to September months. If infestation is observed, remove the loose bark and give stem and cordon wash with lambda cyhalothrin 5 CS @ 2.5 ml per litre water and 1.5-2 litres water per plant.
4. In new vineyards after grafting, flea beetle infestation may be observed. In case of heavy infestation, give soil drenching with imidacloprid 17.8 SL @ 1.5 ml per plant and foliar application with spinosad 45 SC @ 0.25 ml per litre or spinetoram 11.7 SC @ 0.3 ml per litre or fipronil 80 WG @ 0.0625 g per litre water.