WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 15/09/2021

Wednesday (29/09/2021)–Wednesday (06/10/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	22-24	26-34	**Nashik, Dindori, Ozar, Palkhed, , Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan** Wed & Thu- Good Rain. Fri to Mon- Light to Moderate Rain.	Mostly Cloudy	08-27	67-90	94-98
Pune	20-23	26-31	**Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Baramati** Fri, Sat & Mon- Light Rain. Sun- Good Rain.	Partly to Mostly Cloudy	07-15	52-64	83-92
Solapur	20-24	30-33	**Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Tuljapur, Pandharpur, Barshi, Atpadi, Kasegaon** Thu & Mon- Light Rain. Sat & Sun- Good Rain.	Mostly Cloudy	08-16	49-61	77-90
Sangli	21-25	28-33	**Sangli, Miraj, Palus, Kagvad, Shetfal, Palsi, Khanapur, Vita, Tasgaon, Shirguppi, Arag, Walva, Kawthe** Thu to Mon- Moderate to Good Rain.	Partly to Mostly Cloudy	08-17	54-68	81-97
Vijayapura	20-25	29-32	**Vijayapura, Chadchan**, **Tikota, Telsang** Thu, Fri & Sun to Tue- Light Rain. Sat- Good Rain.	Mostly Cloudy	08-23	56-65	88-89
Hyderabad	22-23	30-31	**Hyderabad, Medchal, Zahirabad** Thu, Sun & Mon- Light Rain. Fri & Sat- Good Rain.	Mostly Cloudy	06-12	57-68	85-95
Satara	20-23	26-30	**Satara, Phaltan, Man, Khatav Rahata** Thu to Sat, Mon & Tue- Light Rain. Sun- Good Rain.	Partly to Mostly Cloudy	07-12	57-75	87-95
Ahmednagar	21-23	28-31	**Ahmednagar, Nagar, Kopargaon, Shrigonda, Karjat, Jamkhed, Akole, Rahata, Sangamner** Thu & Fri- Light Rain. Sat & Sun- Good Rain.	Mostly Cloudy	08-20	56-64	86-91
Jalna	21-24	28-31	**Jalna, , Jafrabad, Mantha, Ambad, Gansawangi** Sat & Sun- Good Rain. Mon- Moderate Rain.	Mostly Cloudy	07-13	56-66	87-91
Buldhana	22-24	30-32	**Buldana, Chikhli, D.raja, Sindkhedraja** Thu to Tue- Good Rain.	Mostly Cloudy	07-14	60-71	90-96
Kolhapur	23-25	27-34	**Gagan-bavada, Kagal, Karveer** Thu to Sat- Moderate Rain. Sun & Mon- Good Rain.	Mostly Cloudy	05-09	64-90	93-99

Bengaluru Rural	20-21	28-30	**Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur, Anekal** Thu to Sat- Good Rain. Sun & Mon- Moderate Rain.	Partly to Mostly Cloudy	08-14	52-58	87-91
Belagavi	22-24	24-31	**Belagavi, Athni, Chikodi, Gokak, Khanapur** Thu & Fri- Light Rain. Sat to Tue- Good Rain.	Mostly Cloudy	07-13	59-90	90-99
Bidar	20-23	30-31	**Bidar, Basavakalyan, Humnabad** Thu & Fri- Light Rain. Sat to Tue- Good Rain.	Mostly Cloudy	06-14	58-67	84-93
Bagalkot	20-24	27-31	**Bagalkot, Bilagi, Jamkhandi, Mudhol, Hungund, Badami** Thu to Sun- Light to Moderate Rain.	Partly to Mostly Cloudy	07-20	48-63	73-91

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.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:** 14

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.

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.
7. 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. Thiophenate methyl @1g/L may be given to protect from anthracnose disease. 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.

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

Growth Stage: Cane maturity and afterwards stage after foundation 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, application of fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre or cyantraniliprole 10 OD @ 0.7 ml per litre water is effective. Installation of light traps outside vineyards is the best strategy to manage caterpillar population.
3. Use of broad-spectrum insecticides should be avoided for mealybug control. Buprofezin 25 SC @ 1.25 ml per litre or spirotetramat 15.31 OD @ 0.7 ml per litre water may be given to manage mealybugs. Preventive plant wash, on stem and cordons, of biocontrol agents such as *Verticillium, Metarhizium, Beauveria* may be given.
4. In case of thrips infestation, remove excess shoot growth.
5. 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.
6. 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.

Mite infestation may start appearing, therefore, monitor the vineyards carefully. If mite infestation is observed, sulphur 80 WDG @ 1.5-2.0 gram per litre or abamectin 1.9 EC @ 0.75 ml/l water is effective