WEATHER DATA FOR THE PREVAILING WEEK
Date of Foundation Pruning: 15/04/2021
Wednesday (15/09/2021)–Wednesday (22/09/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	22-23	29-32	**Nashik, Dindori, Ozar, Palkhed, , Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan** Thu to Mon- Light Rain.	Partly to Mostly Cloudy	17-27	74-83	93-97
Pune	20	27-29	**Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon, Baramati** Fri- Drizzling.	Partly Cloudy	17-22	60-65	88-91
Solapur	20-22	31-33	**Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Tuljapur, Pandharpur, Barshi, Atpadi, Kasegaon** Thu & Mon- Light Rain.	Partly to Mostly Cloudy	14-21	42-55	78-86
Sangli	20-21	30	**Sangli, Miraj, Palus, Kagvad, Shetfal, Palsi, Khanapur, Vita, Tasgaon, Shirguppi, Arag, Walva, Kawthe** Thu to Sun- Light Rain.	Partly to Mostly Cloudy	15-20	59-63	96-98
Vijayapura	20-22	30-32	**Vijayapura, Chadchan, Tikota, Telsang** Thu, Fri, Sun & Mon- Light Rain. Sat- Moderate Rain.	Mostly Cloudy	20-27	44-56	82-89
Hyderabad	22-23	31-32	**Hyderabad, Medchal, Zahirabad** Sat to Mon- Light Rain. Tue- Good Rain.	Mostly Cloudy	09-18	55-58	74-86
Satara	19-20	28-30	**Satara, Phaltan, Man, Khatav Rahata** Mon & Tue- Drizzling.	Partly to Mostly Cloudy	11-16	60-67	94-97
Ahmednagar	20-22	30-31	**Ahmednagar, Nagar, Kopargaon, Shrigonda, Karjat, Jamkhed, Akole, Rahata, Sangamner** Sun & Mon- Light Rain. Tue- Good Rain.	Mostly Cloudy	16-28	49-56	84-88
Jalna	21-22	30-31	**Jalna, , Jafrabad, Mantha, Ambad, Gansawangi** Fri- Moderate Rain. Sun to Next Wed- Good Rain.	Mostly Cloudy	14-16	57-60	88-90
Buldhana	22-23	30-31	**Buldana, Chikhli, D.raja, Sindkhedraja** Fri to Next Wed- Good Rain.	Mostly Cloudy	15-18	69-73	90-94
Kolhapur	21-22	31-32	**Gagan-bavada, Kagal, Karveer** Fri to Tue- Light to Moderate Rain.	Mostly Cloudy	05-09	68-76	98

Bengaluru Rural	20-22	29-31	**Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur, Anekal** Fri to Sun- Light Rain. Mon to Next Wed- Good Rain.	Mostly cloudy	07-17	50-64	88-97
Belagavi	21-22	30-31	**Belagavi, Athni, Chikodi, Gokak, Khanapur** Fri, Sun & Tue- Light Rain. Mon- Moderate Rain.	Partly to Mostly Cloudy	12-16	63-70	97-99
Bidar	20-21	31-32	**Bidar, Basavakalyan, Humnabad** Sat to Mon- Light Rain. Tue- Good Rain.	Partly to Mostly Cloudy	10-18	52-60	82-89
Bagalkot	20-22	29-31	**Bagalkot, Bilagi, Jamkhandi, Mudhol, Hungund, Badami** Fri, Sat & Tue- Light Rain.	Partly to Mostly Cloudy	18-20	39-56	84-91

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 foundation pruning:** 153

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. **Cane maturity stage:** As the irrigation water requirement is low and rains expected, donot irrigate the vineyards. If no rains for more than 3days and vines are showing stress, then, apply irrigation through surface drip @ 1500 to 2000 L/acre per day.

3. 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.
4. 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.
3. Possibility of leaf curling, check the leaf margins, if slight to more yellow, possibility of potassium deficiency. Foliar spray of SOP @ 3-4g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.
4. If the leaf yellowing starts from in between the leaf veins then, possibility of magnesium deficiency is there. Foliar spray of Magnesium sulphate @ 3-4g/L followed by fertigation of 15-20 kg magnesium sulphate/acre in 2 to 3 splits.
5. In coloured varieties like Jumbo, Nanasaheb Purple Seedless etc., leaf curling along with reddening/ bronzing of the leaf margin can be observed if potassium deficiency is there. Foliar spray of SOP @ 3g/L followed by fertigation of 20-25 kg SOP/acre in 2 to 3 splits.
6. In calcareous soils, provide foliar application of Sulphate of Potash and Magnesium sulpahte each (@ 4g/L once in this growth stage.

Pre-pruning operations – Fruit pruning season

1. In case pruning is planned during October, raise Sunnhemp or Dhaincha for green manuring purpose.

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. In case of calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
5. 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. 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.
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.

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)

Grafting to be done:

Selection of rootstock:

1. The shoot selected for grafting should be either semi matured or soft wood.
2. The rootstock shoot should be straight growing, healthy and free from disease
3. The rootstock shoot should be in complete sap flow condition.
4. The diameter of rootstock should be 8-10mm at 1 feet above the ground surface.
5. Under the condition of less rainfall, the rootstock plants need to be irrigated 3-4 days before actual grafting. This will help to form sap in the rootstock plant.

Selection of scion:

1. The scion selected form the vine should be free from diseases.
2. The scion selected for grafting should be regular bearer, high yielding and true to type
3. The scion selected should be completely matured contains food material.
4. The scion selected should be round in shape.
5. The scion should be dipped in Carbendazim solution for about 2-3 hours before grafting.

Condition for grafting success:

1. While performing the grafting and after, the temperature in the vineyard should be 30-35^{0}C and the relative humidity should be above 80%.
2. The person performing the grafting should possess the skill.
3. The tape used for grafting should have proper elasticity.

V. Disease management (Dr. Sujoy Saha)

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

Thiophenate methyl @1g/L may be given to protect from anthracnose disease. In areas of Nashik, Sangli, Osmanabad and Solapur, where bacterial spot is incident application of Mancozeb @2.5g/litre may be given. This will give an additional control of downy mildew. Application of Streptocycline in grapes is not advisable. Drip application of Trichoderma may be continued in areas receiving rainfall. Foliar spray of Trichoderma may also be given @2- 3ml/L but it should not be given immediately after application of copper fungicides. If bacterial spot and anthracnose are incident together a ready-mix of kasugamycin + copper oxychloride @0.75g/l may be applied twice at an interval of 10 days. If fruit pruning is done in Satana and Indapur region, 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.

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

Days after pruning	Risk of pests				
	Mealybug	Mite	Thrips	Caterpillar	Flea beetle
Cane maturity and afterwards	Moderate	Moderate	Moderate	High	Low to moderate

1. Stem borer, *Celosterna scabrator* adults may seen in vineyards and/or near light at night at homes near vineyards. In case, fipronil 80 WG @ 0.0625 g per litre water is used for caterpillars, it will also control these adults of stem borer.
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.
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.
7. 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.