WEATHER DATA FOR THE PREVAILING WEEK

Date of Foundation Pruning: 15/04/2021

Wednesday (16/06/2021)–Wednesday (23/06/2021)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	23-24	32-33	Nashik, Dindori, Ozar, Palkhed, , Vani, Loni, Pimpalgaon Baswant, Shirdi, Kalwan Thu to Tue- Light Rain.	Partly Cloudy	05-18	54-61	85-87
Pune	20-22	28-29	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Supa, Narayangaon Thu- Moderate Rain. Fri to Tue- Light Rain. Baramati Thu & Fri- Good Rain. Sat & Sun- Light Rain.	Partly Cloudy	07-15	53-60	79-82
Solapur	20-21	30-33	Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Latur, Ausa, Tuljapur, Pandharpur, Barshi, Atpadi, Kasegaon Thu to Sat- Good Rain. Sun & Mon- Light to Moderate Rain.	Partly to Mostly Cloudy	08-16	49-60	72-77
Sangli	20-21	23-30	Sangli,Kagvad, Shetfal, Palsi, Palus, Khanapur, Vita, Tasgaon, Shirguppi, Arag, Miraj, Walva, Kawthe Mahakal Thu- Good Rain. Fri to Tue- Light to Moderate Rain.	Mostly Cloudy	09-16	60-83	83-86
Vijayapura	20-21	27-33	Vijayapura, Chadchan, Tikota, Telsang Fri to Tue- Light to Moderate Rain.	Partly Cloudy	09-18	53-74	81-84
Hyderabad	20-21	27-31	Hyderabad, Medchal, Zahirabad Fri, Sat & Mon- Light Rain. Sun- Good Rain.	Mostly cloudy	07-19	50-65	75-81
Satara	20-21	22-28	Satara, Man, Khatav, Phaltan Thu- Good Rain. Fri to Tue- Light to Moderate Rain.	Partly Cloudy	09-13	62-78	85-88
Ahmednagar	21-23	30-32	Ahmednagar, Nagar, Kopargaon, Sangamner, Shrigonda, Karjat, Jamkhed Thu, Fri & Sun- Good Rain. Sat & Mon- Light Rain. Akole, Rahata Fri- Light Rain.	Partly Cloudy	05-13	49-61	77-80
Jalna	21-22	30-33	Jalna, Ambad, Jafrabad, Mantha, Gansawangi Thu & Fri- Good Rain. Sat- Light Rain.	Clear to Partly Cloudy	04-15	39-54	67-75

Buldhana	22-23	29-36	Buldana, Chikhli, D.raja, Sindkhedraja Fri & Sat- Light to Moderate Rain. Mon- Light Rain.	Partly Cloudy	07-16	42-65	69-78
Kolhapur	21-22	28-30	Gagan-bavada Fri to Sun- Good Rain. Mon- Moderate Rain. Tue- Light Rain. Kagal, Karveer Fri to Sun- Light to Moderate Rain. Mon- Drizzling.	Mostly Cloudy	09-14	72-84	92-95
Bengaluru Rural	19-20	27-30	Bangaluru-east, Bangaluru-north, Bangaluru-south, Doddaballapur, Anekal Fri to Sun- Light Rain. Mon- Good Rain. Tue- Moderate Rain.	Partly Cloudy	06-12	46-54	80-88
Belagavi	21-22	26-29	Belagavi, Athni, Chikodi, Gokak, Khanapur Fri, Sat, Mon & Tue- Light Rain. Sun- Moderate to Good Rain.	Mostly cloudy	09-20	67-85	92-94
Bidar	19-20	29-33	Bidar, Basavakalyan, Humnabad Fri to Sun- Good Rain. Mon- Moderate Rain.	Partly Cloudy	10-21	44-64	71-80
Bagalkot	20-22	29-32	Bagalkot, Bilagi, Jamkhandi, Mudhol, Hungund, Badami Fri to Sun- Light Rain. Mon- Light to Moderate Rain.	Partly Cloudy	09-22	49-58	74-79

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: 63**
b) **Pan evaporation: 2 to 4 mm**

Amount of irrigation advised:

1. All the grape growing regions are forecasted to receive from drizzling to moderate rains. The irrigation water application should be based upon the growth of the vines. In case rain exceeds 5 mm on a given day, irrigation water application can be skipped for that day. Generally, under wapsa (field capacity) condition of the soil, donot give irrigation.

2. **Fruit Bud Differentiation stage:**
    a. Apply irrigation through surface drip @ 1500 to 3000 L/acre per day.
    b. For fruit bud differentiation stage, stress needs to be given. In clayey soil as the water holding capacity is higher, please note that stress needs to be imposed early else fruitfulness will be affected.
    c. Flooding the vineyard is not advised as it leads to wastage of water. Concentrate irrigation water application in the root zone only.
3. **Cane maturity stage:** Apply irrigation through surface drip @ 1500 to 3000 L/acre per day.
4. In case of monsoon rains, remove mulch cover on the bund and allow the rain water to seep into the soil. This will leach the accumulated salts in the rootzone. The mulch so removed can be mixed with the soil to improve the soil porosity.

Nutrient management

Fruit bud differentiation stage

1. After current rains, give foliar spray of SOP @ 3-4 g/L depending upon canopy.
2. At 45 DAP, perform petiole test to know the nutrient content of the vines. The petioles should be collected from 5th leaf from the base of the shoot even counting the leaves that have been removed.
3. To effectively manage calcareous soil, apply 5kg/ acre soluble sulphur through drip every week. Follow it up with foliar spray of ferrous sulphate @2g/L twice at 3 days interval and apply 15-20kg/acre ferrous sulphate thgrough drip. Also spray magnesium sulphate and potassium sulphate @ 3 gm each/ L once only.
4. Keep a close watch on the development of leaf blackening symptoms if irrigation water contains sodium more than 100ppm.
5. 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.
6. In coloured varieties like Jumbo, Nanasaheb Purple 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.

Cane maturity stage

1. After current rains, give foliar spray of SOP @ 4-5 g/L depending upon canopy.
2. Potassium application is required from Cane maturity stage onwards. Approx. 64 kg of sulphate of potash (soluble grade) should be applied in this stage. Split the application into atleast five doses to reduce the leaching losses of the potassium. Apply 15 kg SOP in two – three splits during this week. In calcareous soils, provide foliar application of Sulphate of Potash (@ 4g/L) once in this growth stage.
3. Apply magnesium sulphate @ 15 kg/acre in two splits. The application should be done during 60-75 days after pruning. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) in this growth stage.
4. 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.

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

Nil

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

During the last week, majority of the grape growing regions are either receiving heavy rains or experiencing cloudy weather. Under such situation, the canopy management practices to be followed under different growth stages are as below.

1) New vineyard:

With the saturation of moisture in between the rows, the new roots are becoming active. This condition is called formation of white roots. These roots also synthesize the PGR and supply to the growing shoot tips. Thus, the internodal length will increase leading to more vigor. In addition, the side shoots will also be emerging at faster rate. This condition will lead to formation of dense canopy. In the vines where new shoots are formed and the sub cane was developed, fruit bud differentiation is in progress. The sunlight on the bud is important for fruit

bud differentiation. Under this canopy relative humidity will be more than 70% which is considered to be more favourable for the development of diseases like downy mildew. If the rain continues for 2-3 days, anthracnose disease may become prevalent on growing shoots. Once the organism enters into the shoot, it will reach to bunch after forward pruning very easily. Hence, following practices are suggested to control the problems

a) Remove the side shoots on priority. This will help in making open canopy thereby reducing the chances of disease spread.
b) Do not retain the small leaf available near the bud. This leaf will not allow the sunlight on the bud required for fruit bud differentiation.
c) Shoot pinching also to be done on priority. This will help to control the vigor thereby allowing the shoot to be vertically position on the cordon.
d) Apply potash fertilizers to advance cane maturity.
e) Under the condition of 30 days old shoot, spray 6BA and Uracil with minimum dose
f) Spray of P and K based soluble fertilizers will also help in achieving the fruit bud differentiation.

2) Old Vineyard:

In majority of the vineyards, the cane maturity stage is coinciding with the rains or cloudy weather. This condition will delay cane maturity as well as create the condition for spread of diseases. Since the vigor is increasing during this period, availability of sunlight will be less thereby increasing the gibberellin level in the vine. This condition does not favour for fruit bud differentiation and cane maturity. Hence, following practices are suggested

a) Shoot pinching to be followed. Only the small portion of shoot tip need to be removed. Hard pinching will lead to sprouting of additional side shoots and emergence of bunches.
b) Removal of side shoots will support to achieve open canopy thereby reducing the chances of disease incidence and thus disease can be controlled effectively. The spray coverage will be proper. This will help to reduce the chances for further disease spread.
c) Under the condition rains, instead of supplying the nutrients through drip, spray of potassic fertilizers will help to avoid any deficiency. This will also help for advancing cane maturity.

V. Disease management (Dr. Sujoy Saha)

Days after	**Risk of diseases**

foundation pruning	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
63	Low	Nil	Moderate	Bacterial spot-Moderate

In areas receiving light to moderate drizzles application of Thiophenate methyl @1g/L may be given to protect from anthracnose disease. In early pruned areas application of Bordeaux mixture (1%)/copper hydroxide @ 1.5-2g/l may be done. Drip application of Trichoderma may be continued in areas receiving rainfall. In some areas of Nashik and Solapur, where bacterial spot is incident application of Mancozeb @2g/litre may be given. Foliar spray of Trichoderma may also be given @2-3ml/L but it should not be given immediately after application of copper fungicides. It is advised not to spray any systemic fungicides in this season. If rainfall is continuous, dusting of Mancozeb 75WP @3-5kg/ acre may be done to control downy mildew. 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. Use of silicon-based sticker will increase the efficacy of spray chemicals. It is to be noted that, water volume per acre (approx. 400 litres) or per hectare (approx. 1000 litres) should be maintained

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

1. Adults of stem borer *Stromatium barbatum* started emerging during first fortnight of June. Installation of light traps will be helpful in monitoring the initiation of emergence of stem borer adults. Run the light traps for 3 hours daily, during evening between 7.00 pm – 10.00 pm and destroy the collected beetles in water mixed with insecticide. Application of neem oil or neem seed kernel extract or hanging neem leaves inside vineyards may act as repellant for adults of *Stromatium barbatum*. If adult stem borers are noticed, application of fipronil 80 WG @ 0.06 g/litre, lambda cyhalothrin 5 CS @ 0.5 ml/litre or imidacloprid 17.8 SL @ 0.3 ml/litre water may be given directed at main stem and cordons during night. Follow the following link for detailed information on youtube video https://www.youtube.com/watch?v=Yvx7dIbPEAU
2. Chafer beetles are adults of white grubs. They start emerging after good rains during May-June months. They are active during nighttime and remain hidden during the day. After mating about 50 eggs are laid by a single female in the soil and where they feed on the roots. However, the damage to roots by their grubs in grapes is not a major problem. The major damage is caused

by the adults by feeding on leaves. Mostly grape plants at the border of the vineyard are affected. Foliar application of lambda cyhalothrin 4.9 CS @ 0.5 ml per liter water at night is effective to kill the beetles.

3. Spraying of imidacloprid 17.8 SL @ 0.4 ml per litre water will help in controlling mealybug on new growth.
4. In case of thrips or caterpillar infestation, application of fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre water is effective.
5. Remove excess growth to manage thrips post second pinching.
6. 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 water is effective.