ICAR-NATIONAL RESEARCH CENTRE FOR GRAPES,
Manjri, Pune.
WEATHER DATA FOR THE PREVAILING WEEK

Thursday (05/09/2024) – Wednesday (11/09/2024)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover		Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max					Min	Max
Nashik	22-23	28-30	Nashik, Dindori, Ozar, Palkhed, Kalwan Pimpalgaon Baswant– Thu–Sat–Drizzling Rain, Sun – Wed – Drizzling rain to Light Rain. Vani, Loni –Thu – wed – Drizzling Rain.	Clear to cloudy		17-24	76-84	95-97
Pune	20-21	24-27	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Patas, Yavat, Narayangaon, Baramati –Thu – Wed – Drizzling Rain, Mon – No Rain. Indapur–Thu –Wed – Drizzling Rain to Light Rain.	Clear to cloudy		19-22	64-75	88-91
Solapur	20-21	30-31	Tuljapur, Ausa, Vairag, Barshi, Solapur– Thu – Wed – Drizzling Rain. Latur, Nannaj – Thu – Wed – Drizzling Rain to Light Rain. Pandharpur – Thu –Wed – Moderate Rain to Heavy Rain.	Clear to cloudy		21-24	53-59	81-83
Sangli	20-21	29-30	Khanapur Vita. Shetphal, Walva, Palus, Kawthe, Palsi, Shirguppi, Miraj – Thu – Wed –Drizzling Rain.	Clear to cloudy		21-25	64-69	91-95
Vijayapura	20-21	29-30	Vijayapura, Chadchan, Tikota , Telsang– Thu – Wed –Drizzling Rain.	Clear to cloudy		29-30	53-61	84-86
Hyderabad	21-22	23-29	Hyderabad, Medchal-Thu–wed– Drizzling Rain. Zahirabad-Thu– Wed– Drizzling Rain to Light Rain.	Clear to cloudy		21-29	60-78	80-85
Satara	19-20	26-28	Satara, Khatav, Phaltan –Thu – Wed –Drizzling Rain .	Clear to cloudy		13-17	67-75	93-95
Ahmednagar	20-21	29-31	Sangamner, Akole, Shrigonda, Jamkhed, Rahata, Kopargaon, Ahmednagar–Thu –Wed – Drizzling Rain. Karjat– Thu–Wed –Light Rain to Moderate Rain.	Clear to cloudy		24-26	56-63	84-86

Jalna	21-22	29-31	Mantha, Ambad, Ghansavangi, Jalna– Thu – Wed – Drizzling Rain to Light Rain. Jafrabad– Thu – Wed –Light Rain to Moderate Rain.	Clear to cloudy		18-22	58-65	88-89
Buldhana	23-24	30-32	Sindkhedraja, D.raja, Buldana, Chikhli – Thu – Wed – Drizzling Rain.	Clear to cloudy		19-22	65-69	86-91
Kolhapur	21-23	28-30	Kagal, Karveer, Gagan-bavada– Thu – Wed – – Drizzling Rain to Light Rain.	Clear to cloudy		8-12	77-86	96-97
Bengaluru Rural	19-20	29-30	Anekal, Doddaballapur, Bengaluru-east, Bengaluru-north, Bengaluru - Thu – Wed – Drzzling Rain.	Clear to cloudy		20-21	52-58	85-89
Belagavi	22-23	26-29	Belagavi, Gokak – Thu – Wed – Drizzling Rain. Chikodi, Athni - Thu –Wed- Drizzling Rain, Sun-Tue - No Rain.	Clear to cloudy		15-21	70-82	94-98
Bidar	21-22	29-30	Basavakalyan, Humanabad- Thu – Wed-Drizzling Rain. Bidar– Thu – Wed– Drizzling Rain to Light Rain.	Clear to cloudy		19-25	70-74	87-90
Bagalkot	20-21	28-29	Bagalkot, Jamkhandi, Hungund, Mudhol –Thu – Wed – Drizzling Rain, Tue -No Rain.	Clear to cloudy		24-27	53-61	82-87

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.timeanddate.com/weather/india

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

II. Water management

a. Number of days after foundation pruning: 142

b. Expected Pan evaporation: 0 to 3 mm

Amount of irrigation advised :

1. All the grape growing regions are forecasted to receive from drizzling to moderate rains. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.

2. If the soils especially medium and heavy, are saturated with water, then, do not irrigate for atleast 5-7 days till the soil comes to wapsa condition.
3. **Cane maturity stage:** Apply irrigation through surface drip upto 1750 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.

Soil and Nutrient management :

1. In many of the grape growing areas, continuous spells of rains have been received and further also possibility of rains are there. The soils are already saturated. This has affected the rooting activity. Due to prolonged saturation, the roots may have started decaying. **Donot disturb the soil in the root zone. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done.** Growth will be slow and cane maturity will be affected but donot worry. Only after wapsa, fertilizer application should be done.
2. Due to continuous sprays the leaf will not look healthy, need based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact cane maturity.
3. After current rains, give foliar spray of SOP @ 3-5 g/L depending upon canopy size.
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.
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.

7. In case due to rains and for preventive control, if bordeax or copper sprays are given, then there is possibility of leaf reddening in coloured varieties like Krishna Seedless etc. No specific pattern will be there. This may be due to copper toxicity. Regulate copper sprays.
8. After cane maturity, raise Sunnhemp or Dhaincha for green manuring purpose.
9. The light intensity is reduced due to cloudy conditions, management of canopy to improve light penetration is important for cane maturity.

Pre-pruning operations – Fruit pruning season

1. In case pruning is planned during October, raise Sunnhemp or Dhaincha for green manuring purpose.
2. 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.
3. In case of calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
4. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
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.

III. Canopy Management

Based on the weather data and growth stages, following suggestions are offered for vineyard management.

A) Old vineyard:

1. Due to recent rains in many of the grape vineyard, humidity is increased in the grapevine canopy and in the atmosphere. Due to this the shoot vigour is increasing.

2. The new growth coinciding with continuous rains also affecting the vines with fungal diseases like downy mildew, anthracnose, and bacterial blight.
3. The vineyard after 90 days is in the stage of cane maturity. If the new growth continues, the cane maturity will be delayed.
4. Shoot pinching and removal of side shoot should be done on priority to create open canopy thereby reducing the chances of humidity build-up.
5. The open canopy will help to reduce the disease spread and allow effective coverage of fungicides.
6. Training of shoots on foliage wire will help for sufficient aeration in the canopy thereby reducing the chances of diseases. This will also help for uniform spray coverage of insecticides/ fungicides used for the control of pest and diseases.
7. Application of potash (0.0.50 @ 1.0 to 1.25 kg per acre or 0.52.34 @ 1.00 kg/acre or 0.9.46 @ 1.0 kg/acre through drip) and spray @ 3.5 to 5.0 g/L water will help to advance cane maturity.
8. Yellowing of leaf is observed in many of the grape vineyard. This situation is seen after the excess rains. This is basically due to leaching of fertilizers from the soil that has also created the deficiency of ferrous, magnesium and potash. Hence, application of sulphur will help to overcome the problem.
9. Before forward pruning, the leaf fall should be done well in advance. For leaf removal spray of ethephon @ 2.5 to 3.0 ml/L water + 0:52:34 @ 5 g/L water is suggested.
10. Before attending the above spray, the vineyard should be sprayed with biological agents like Trichoderma, Pseudomonas, Bacillus, etc.
11. Before ethephon spray, the grapevine should be in stress. Hence, irrigation to be stopped at least 5-6 days before the ethephon spray.
12. Bud testing 1-2 days before the forward pruning is suggested. This will help to know actual bud position for pruning.
13. Selection of 5-6 canes in different cane sizes should be done. The canes should be kept in wet gunny cloth to maintain freshness. This will support for identification of fruitful buds on a cane.

B) New vineyard:

1) Due to recent rains in vineyard, there will be vigorous growth of new shoots. Under the situation of delayed cordon development, spraying of cytokinin based PGR (6BA @ 10 ppm) will help to increase cytokinin and reduce gibberellin level in the vine.
2) Control of shoot vigour is most important to achieve fruit bud differentiation. Hence, potash to be sprayed at minimum concentration of 2.0 to 2.5 g/L water.
3) Considering the bud differentiation, 2 to 3 sprays of 0.52.34 @ 2.0 to 2.5 g/L water can be given.
4) Extension of cordon will help to develop fruitful canes. At this stage, application of soluble fertilizer like 12:61:0 @ 1.25 to 1.5 kg/acre should be applied. In addition, DAP @ 25kg/acre as a basal dose should also be applied.
5) Since the shoot growth is coinciding with rainfall and high humidity, application of cytokinin based PGR will help to accelerate fruit bud differentiation. Once the new shoots are of 5-6 leaf stage, pinching should be done at 4-5 leaf. This should be followed by spraying of 0:52:34 @ 2.0 to 2.5 g/L water.

C) Rootstock plots:

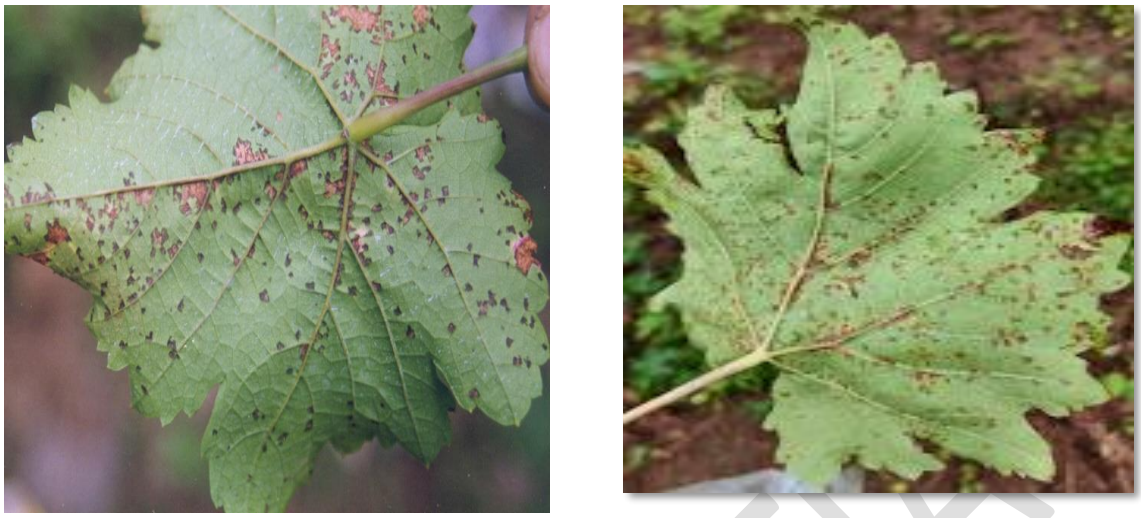
1) The period of grafting new varieties on rootstock is approaching. Selection of specific scion is more important considering the life span of any variety.
2) Considering the export potential, the colour variety like Crimson Seedless and Red Globe can be selected for grafting. The performance of Red Globe on Salt Creek rootstock was better in the research trial conducted at NRC Grapes, Pune while in the ongoing trial, Crimson Seedless is showing promising performance on 1103-P rootstock.
3) For raisin making, the variety Manjari Kishmish has good performance on Dogridge rootstock in terms of raisin recovery and raisin quality.
4) Preparation of rootstock 10 days before grafting is required. Retention of 3-4 straight growing, vigorous, and healthy rootstock shoots should be done before the grafting. In case of excess shoots available, shoot thinning to be done. In addition, the removal of side shoots in at least two instalments can be done to achieve straight and thick shoot (approx. 8.0 mm) at 1.0 feet height above the ground.
5) For grafting, select the matured scion where the pith is completely developed. This will have sufficient reserve food material. Selection of green/ immature shoot for grafting may lead to early bud sprouts and subsequent drying of sprouted leaf.

6) The selected scion should be free from pest and diseases and from the healthy and high yielding vines which has proven record.
7) Before grafting, the selected scion should be dipped into Bavistin @ 3-4 g/L water. This will help to remove the inoculum of earlier diseases available on the cane.
8) During the grafting, the temperature between 30-35^{0}C and relative humidity above 80% will help for easy callus formation and graft success.

IV. Disease management

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

Two sprays of Kasugamycin 5% +Copper Oxychloride 45% WP @750g/ha, may be given in all grape growing areas to manage bacterial spot and anthracnose as the rains have stopped presently in most of the areas. Application of Thiophenate methyl/carbendazim @1g/L will provide a good control against anthracnose. Downy mildew can be prevented by application of mancozeb which can also control bacterial spot. In some areas where heavy infection of downy mildew is seen, it is advised to remove the infected leaves mechanically followed by a spray of copper fungicides or mancozeb. A foliar application of Trichoderma@ 4-5ml/L may be given as the moisture conditions will be suitable for multiplication of the biocontrol agents. Drip application of Trichoderma should continue at fortnightly intervals but it can be put in hold till the rain stops in Sangli and adjoining regions.



Bacterial spot

Anthracnose

V. Insect and Mite management

1. Girdler beetle infestation may be noticed in vineyards upto 2 years old. It causes damage by girdling plant stems, which weakens or even kills the plant if the stem is completely severed. The most effective management is hand-collecting and destroying the beetles, which become active around 9 p.m. and tend to remain on or near damaged plants. Insecticides are not economically viable due to the low infestation rate (1-2% of plants). If the stem is fully cut, a new shoot should be raised from below the damage to promote recovery. If the stem is not fully

severed, apply cow dung at injury site and it should heal within two weeks and attain normal growth in most cases.

2. Stem borer, *Celosterna scabrator* adults may be seen in vineyards and/or near light at night at homes near vineyards. They are easily visible during daytime feeding on the bark of the young stem of grapes. They can be easily captured by hand and killed whenever noticed in the vineyards during this period. Spraying any insecticide is not economically effective to manage adults.
3. Due to optimum weather conditions, mealybug infestation may be noticed. Use of broad-spectrum insecticides should be avoided for mealybug control. Preventive plant wash, on stem and cordons, of biocontrol agents such as *Verticillium, Metarhizium, Beauveria* may be given. In case of shoot malformation due to mealybug or infestation on canes, remove excess shoot growth and give foliar spray of imidacloprid 17.8 SL @ 0.4 ml per litre water.
4. In case of thrips or caterpillar infestation, remove excess canopy. Application of fipronil 80 WG @ 0.0625 g per litre or emamectin benzoate 5 SG @ 0.22 g per litre water is effective. Light traps may be installed outside the vineyards to manage moths for reducing caterpillar infestation.
5. 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.
6. 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 spot stem and cordon wash with *Metarhizium* @ 3-5 ml per litre water and 1.5-2 litres water per plant on the infested plants only.
7. In new vineyards, 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 spinetoram 11.7 SC @ 0.3 ml per litre or fipronil 80 WG @ 0.0625 g per litre water.