

मौसम पूर्वानुमान आधारित साप्ताहिक सलाह

Weather Forecast Based Weekly Advisory

(Assumption: Fruit Pruning date - 15/04/2018)

I. Weather Data for the Prevailing Week

Thursday (05/07/2018) -- Thursday (12/07/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	22-23	26-27	Moderate Rain- Sat, Mon & Wed Good Rain- Sun, Tue & Thu Nashik, Pimpalgaon Baswant, Ojhar, Dindori, Vani, Loni, Shirdi Light Rain- Sun-Mon, Wed Moderate Rain- Tue & Thu Kalwan, Devla, Niphad, Palkhed Light Rain- Fri-Mon Moderate Rain- Tue Satana	Mostly cloudy	12-24	84-88	93-96
Pune	22-23	26-27	Light Rain- Thu & Sat Good Rain- Sun-Thu Pune, Phursungi, Narayangaon, Junnar Light Rain- Sun-Mon and Wed-Thu Moderate Rain- Tue Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati,	Mostly cloudy	14-25	77-81	89-93
Solapur	23	29-30	Light Rain- Fri-Sun Moderate Rain- Thu & Wed Solapur, Kati, Nanaj, Barshi, Vairag, Pangri, Osmanabad, Tuljapur Moderate Rain- Thu, Sun & Thu Light Rain- Fri & Tue Latur, Ausa Moderate Rain- Thu-Fri & Wed Light Rain- Sat-Sun Pandharpur, Kasegaon Moderate Rain- Sun & Tue Light Rain- Mon, Wed-Thu Atpadi	Cloudy	15-27	64-68	85-90
Sangli	22	26-28	Moderate Rain- Sun-Thu Sangli, Miraj, Shirguppi, Kagvad, Arag, Light Rain- Thu, Mon, Wed-Thu Moderate Rain- Sun-Tue Tasgaon, Palus, Valva, Palsi, Vite, Kavathe Mahankal Moderate Rain- Thu Light Rain- Fri-Thu Khanapur Light Rain- Sat-Sun Moderate Rain -Thu and Wed Shetfal	Mostly cloudy	14-27	74-80	89-94

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Bijapur	22	28-29	Light Rain- Fri-Sun Moderate Rain – Thu Bijapur, Tikota, Telsang, Light Rain - Thu, Sat-Sun Moderate Rain – Thu Chadchan	Cloudy	19-31	66-69	87-89
Hyderabad	23	30-31	Light Rain- Fri-Tue Moderate Rain – Wed-Thu Hyderabad Moderate Rain- Thu-Fri & Thu Light Rain- Sun-Wed Medchal, Zahirabad	Partly cloudy	14-24	55-68	84-90

Note: Above weather information is summary of weather forecasting given in following websites
<http://www.imd.gov.in/>, <http://wxmaps.org/pix/prec6.html>, <http://www.fallingrain.com/world/IN/>,
<http://www.wunderground.com/>, <http://www.bbcweather.com-weather/1269750>, etc..

II. a) Days after pruning: 80 days

b) **Expected growth stage of the crop:** Cane maturity and afterwards stage after foundation pruning

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

Expected pan evaporation: 3.5 to 5 mm

Amount of irrigation advised

1. All the grape growing regions are forecasted to receive from light 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 apply irrigation.
2. In general, there will not be any need to provide irrigation in areas which have witnessed continuous rains since last 3-4 days.
3. In case of April pruned vineyards, the vines are at Cane maturity and Fruit Development stage. Provide irrigation through drip @ 3500 - 4000 litre/ha/day in case no rains are received.
4. In case of Late pruned vineyards (May), the vines are either in Fruit bud differentiation stage. Provide irrigation through drip @ 3500 - 4000 litre/ha/day in case no rains are received. Any deficit during this stage could reduce the vine yield by 8- 10% during Fruit pruning season.

IV. Soil and Nutrient requirement (Dr. A.K. Upadhyay)

Fruit bud differentiation stage

1. During fruit bud differentiation stage, based upon soil test values, apply 45 – 50 kg phosphoric acid or 250 kg SSP in case the soils are deficient in phosphorus. Phosphoric acid application is desirable in calcareous soils.
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 counting the leaves even if they have been removed.
3. In case of soils where irrigation water used has sodium exceeding 100ppm, moisten the bund and mix gypsum in the moistened soil @ 100 kg /acre. In case of calcareous soils apply sulphur @ 75kg/acre. This should be followed by application of SOP @ 25-30 kg/acre or 0-0-50 in splits through drip.
4. In case of calcareous soils where acute iron deficiency is observed, repeatedly spray 2-3g/L Ferrous sulphate two to three times at 4-5 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.

Cane maturity and Fruit bud development stage:

1. 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.
2. The rains have started. 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.
3. In case of calcareous soils where acute iron deficiency is observed, repeatedly spray 2-3g/L Ferrous sulphate two to three times at 4-5 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.

NOTE:

In some vineyards, problem of yellowing of the leaves in the margin along with vein reddening is observed. This is due to potassium deficiency. The deficiency of potassium can be due to insufficient potassium application or calcareous soils affecting the potassium uptake. It could also be due to sodicity problem in the vineyard. This deficiency can lead to more powdery mildew infestation and sucking pest (leaf hopper) incidence.

Under such situation, Potassium deficiency can be corrected by a combination of foliar spray (minimum three to four) of 0.5% sulphate of potassium (5g/litre SOP) and soil application of potassium fertilizers. In sunny days the spraying should be done in morning or evening when humidity is high and temperature is low. Spraying during day time when temperature is high and humidity is low reduces potassium uptake into the leaves. Apply 25 to 50 kg SOP /acre as single dose or via fertigation (in 3 to 4 splits) within one week, depending upon extent/severity of potassium deficiency.

However, for any measures to succeed, calcareous or sodicity conditions should be managed, then only appreciable effect of potassium application can be observed.

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

1. Prevent the excess growth of cane/new shoot by pinching it frequently.
2. Avoid the water logging condition in vineyard and proper drainage system must be in operation.

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

Old vineyard:

During this period, in old vineyard, incidence of powdery mildew under old canopy will be pertinent. Due to continuous rains and increased relative humidity in the atmosphere, emergence of side shoots will be more in the grape garden. This will develop microclimate in the existing canopy thereby increasing the chances of incidence of powdery mildew.

In such grape vineyards, removal of side shoots and also 2-3 basal leaf will help to reduce the microclimate. Late sprouted green shoots will not be matured at the time of fruit pruning. There will be no fruitfulness in such type of shoots. Hence, removal of these shoots at one bud will help to maintain the open canopy.

Framework development:

In this vineyard, the framework is under the stage of development. At this stage, mainly cordon development has been completed while the process of development of fruitful canes is ongoing. Taking the advantage of present weather, the second instalment of cordon can be developed. Application of nitrogenous and phosphorus containing fertilizer will help for shoot vigor and fruit bud differentiation in the developing canes. For effective fruit bud differentiation, schedule of 6-BA and Uracil needs to be followed.

Rootstock management:

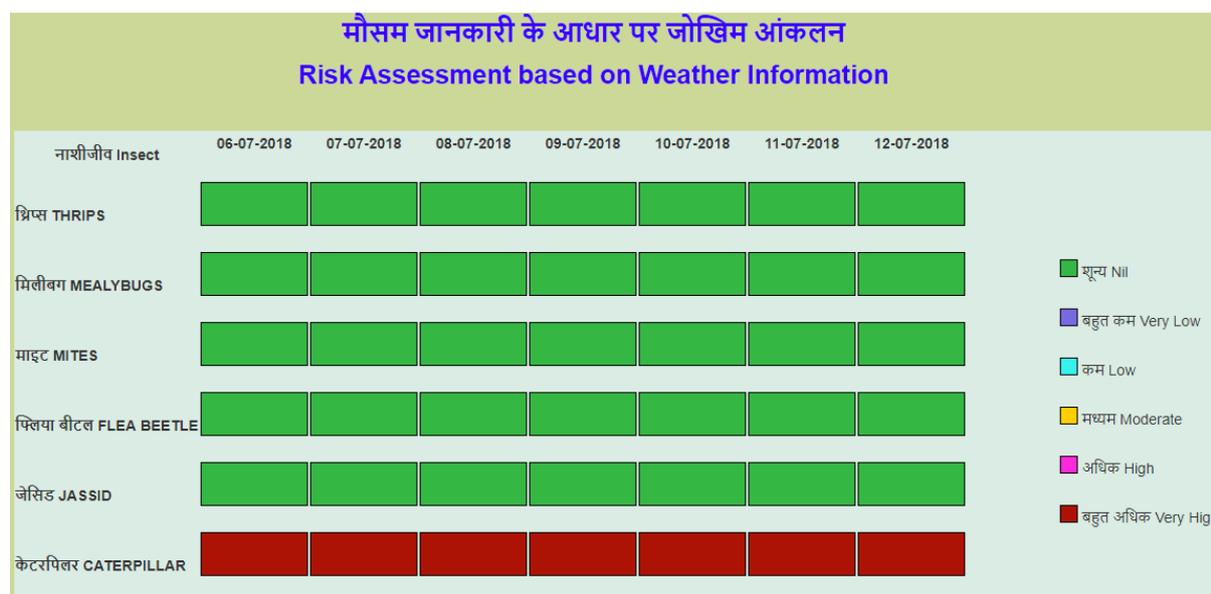
In this garden, after the re-cut, the new shoots are growing at faster rate. From the available shoots, only three healthy, straight growing and disease free shoots are to be trained to bamboo. Removal of side shoots in instalment (2-3 shoots at an interval of 15 days) will help to obtain the shoot diameter of about 7-8mm at 18 inch above the ground. On older leaf of rootstock, rust will be severe problem. Hence, the spraying with chlorothalonil @ 1.5g/lit can be useful.

VII. Disease management (Dr. S.D. Sawant and Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
80	Moderate	Low	Moderate	Bacterial leaf spot; Rust

There is a possibility of moderate rain in all the regions. To control powdery mildew sulphur @ 2g/L should be applied. However, in crops which are at the stage of 45-65 days after pruning, in order to reduce vegetative growth to enhance fruit bud differentiation an application of any of the triazoles like hexaconazole or difenoconazole or tetraconazole or flusilazole may be given. There can be an increase in incidence of anthracnose in new shoots for which application of thiophenate methyl or carbendazim @ 1g/L is recommended. As the humidity is on the increase, and there is a dip in temperature along with it, incidence of downy mildew is a possibility. To control the disease, sprays of potassium salt of phosphoric acid @ 2g/L + Mancozeb @ 2g/L may be given where the shoot growth is ongoing. In regions where early pruning was taken and shoot growth has stopped application of copper based fungicides like copper hydroxide @ 2.5-3g/L may be given. The application of mancozeb will also control bacterial leaf spot incidence, if any. Rust has been incident in some areas and copper based fungicides applied for.

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



- Spraying of emamectin benzoate 5 SG @ 0.22 gram per litre water or fipronil 80 WG @ 0.06 gram per litre water is effective to manage caterpillars.
- Remove excess shoot to manage thrips populations.
- Vineyards may have higher mealybug infestation as well. However, increase in relative humidity will favour build-up of natural enemies and natural biological control of mealybugs. Therefore, avoid spraying broad spectrum insecticides. Use of insecticides for mealybug control should be avoided. Entomogenous fungus such as *Metarhizium*, *Beauveria* and *Lecanicillium* can be used for plant wash at 15 days interval to reduce mealybug populations. If, insecticide application seems inevitable, the only buprofezin 25 SC @ 1.25 ml/L water may be used for management of mealybugs as this insecticide does not harm beneficial organisms in the vineyard.
- Mite infestation may be observed on old leaves at some places. Spraying of sulphur 80 WDG @ 2.0 gram per litre water is effective to manage mites.

Crop advisory relevant to different places is prepared by experts, considering forecasted weather, crop growth stages in majority of vineyards and ground information on incidence of different conditions in different grape growing areas received from regular interaction with progressive grape growers. No claims are made on its correctness.

Usefulness of this information may be communicated to us at director.nrcg@icar.gov.in.