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 (07/06/2018) -- Thursday (14/06/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	24-25	29-34	**Good Rain –** Sun- Thu, Nashik, Pimpalgaon Baswant, Ojhar**,** Dindori, Vani, Loni, Shirdi **Good Rain –** Mon and Thu **Modearte Rain**- Sun, Tue-Wed Kalwan, Devla, Satana, Palkhed, Niphad	Partly cloudy to Mostly cloudy	16-32	53-76	85-92
Pune	24-25	28-30	**Light Rain –** Thu- Fri **Good Rain –** Sat-Thu Pune, Phursungi, Narayangaon, Junnar, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati,	Cloudy	14-32	73-80	87-90
Solapur	24-25	29-31	**Moderate Rain-** Thu**,** Sun-Thu **Good Rain-** Fri-Sat Solapur, **Light Rain-** Fri, Sun-Thu **Good Rain-** Thu and Sat Nanaj, Kati **Light Rain-** Thu**-** Sun **Good Rain**- Mon **Modearte Rain**- Wed-Thu Barshi**,** Vairag, Pangri **Good Rain**- Thu, Tue-Wed **Light Rain**- Fri- Mon and Thu Osmanabad, Tuljapur, **Light to Moderate Rain** Latur, Ausa **Light Rain-** Mon-Tue, **Moderate Rain**-Wed-Thu Pandharpur, Pandharpur, Kasegaon **Moderate Rain-** Thu-Sun **Good Rain**- Mon,Wed- Thu Atpadi,	Cloudy	14-29	64-75	89-94

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Sangli	23-24	27-30	**Moderate Rain –** Thu-Fri, **Good rain**- Sat - Thu Sangli, Miraj, Shirguppi**,** Kagvad, Arag, Palsi, Vite, Kavathe Mahankal, Tasgaon, Palus, Valva **Modearate Rain**- Thu-Fri and Sun-Thu **Good rain**- Sat Shetfal **Modearate -** Fri **Good rain**- Tue- Wed Khanapur	Mostly coudy	12-33	71-79	89-95
Bijapur	22-23	27-30	**Light to Moderate Rain**- Thu-Fri and Sun-Thu **Good Rain-** Sat Bijapur,Tikota,Telsang, Chadchan	Cloudy	18-36	72-82	91-95
Hyderabad	22	28-31	**Light Rain-** Thu, Mon-Tue **Good Rain-** Wed Hyderabad **Light Rain**- Thu, Mon and Next Thu **Good Rain**- Tue-Wed Medchal **Good Rain-** Thu**,**Tue- Wed Zahirabad	Cloudy	18-31	76-82	94-100

*Thunderstorms in all the location

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: 52 days

b) Expected growth stage of the crop: - Initiation of cane maturity stage after foundation pruning

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

Expected pan evaporation: 5 to 6.5 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. In general, there will not be any need to provide irrigation in areas which have witnessed continuous rains since last 3-4 days.
2. During shoot growth stage, in case required, apply 8,500 to 11,050 L/acre per day of irrigation water for vineyards in all the grape growing regions. During Fruit bud differentiation stage, apply 3000 to 4000 L/ acre / day.

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. In case the vineyard has received rains then postpone petiole sampling for 2-3 days else there could be possibility of low values for potassium, sodium etc.
3. Keep a close watch on the development of leaf blackening symptoms from the margin. This could be due to sodium toxicity and potassium deficiency. In case the problems are observed, moistened 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. Apply 10-15 kg Magnesium Sulphate/ acre between 50-60 days after pruning.
5. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) followed by Sulphate of Potash (@ 4g/L) once in this growth stage.
6. 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. In calcareous soils, provide foliar application of Magnesium sulphate (@3g/L) followed by Sulphate of Potash (@ 4g/L) twice in this growth stage (60-75 DAP and then 80-90 DAP).

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

1. To avoid aerial roots, stagnation of water must be avoided. Excess water is to be drained out. Raised bunds could be a useful tool.
2. Use mulching to reduce weed proliferation.
3. Soft shoot pinching has to be done as and when required to avoid matured bud sprouting.

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

The recent rainfall in the major grape growing areas has reduced temperature and increased relative humidity in the atmosphere. As per the prediction of rainfall in these areas during the coming week, the following problems in the different stages will be as below.

1) **Old vineyard**: Under the situation of vines passing through fruit bud differentiation stage will be more vigorous thereby increasing the gibberellins content. This will reduce

the fruit bud differentiation in the bud. The differentiating bud may get converted into fillage.

Management:

i) The shoot vigour needs to be controlled by shoot pinching. Avoid hard pinching of shoot. This will help to control the vigour.

ii) Immediate removal of lateral shoots on the main cane will help to receive the sunlight on the differentiating bud. This will help for enhancing the fruit bud differentiation in that bud.

iii) Removal of 2-3 basal leaf on the cane will help for proper aeration in the canopy thereby reducing the chances of disease development and ease of spray coverage.

iv) Application of potash through spray and soil application will help to control the shoot vigour and advance cane maturity.

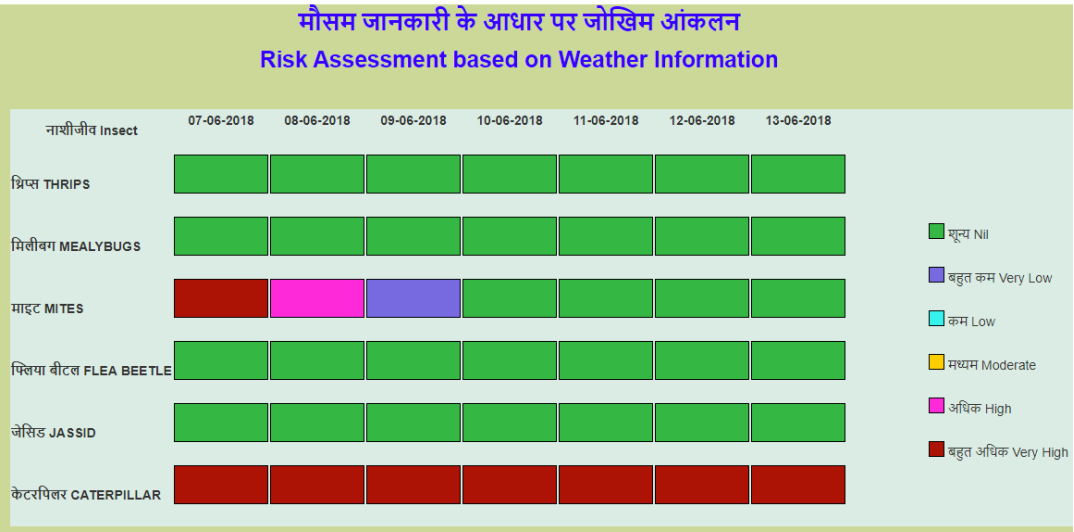
2) **New vineyards**: In these gardens, the cordon along with cane development is in progress. However, with the rainfall the increased shoot vigour will delay the fruit bud differentiation in the developing buds. Two applications of 6-BA and Uracil in less concentration may help for fruit bud differentiation.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
52	Low	Low	Low	Bacterial leaf spot

There is a possibility of rain in all the regions. Due to the ongoing cloudy conditions, the incidence of powdery mildew will increase and to control it sulphur @ 2g/L should be applied. Use of triazoles at this stage may not be effective in controlling the disease. 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 if 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. The application of mancozeb will also control bacterial leaf spot incidence, if any.

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.
- 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.
- Adults of stem borer, *Stromatium barbatum* (Figure 1) has started emerging during first week of June and started laying eggs in infested vineyards or more than 4 years vineyards near infested vineyards. 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. The adults remain hidden under the loose bark and also lay eggs under it. Therefore, loose bark should be removed. 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. Entomogenous fungus such as *Metarhizium, Beauveria* and *Lecanicillium* as plant wash can also help in managing adult populations.

Figure 1. Adult *Stromatium barbatum*

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.