

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 (10/05/2018) - Thursday (17/05/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	24-26	37-41	Drizzling – Sun, Wed Nashik, Pimpalgaon Baswant, Ojhar, Palkhed, Dindori, Vani, Niphad, No Rain Shirdi, Loni, Kalwan Devla, Satana	Clear	07-20	16-37	71-89
Pune	24-26	36-42	No Rain Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar	Clear	06-21	34-38	57-84
Solapur	28-30	39-42	Drizzling- Mon Osmanabad, Tuljapur, Latur, Ausa No Rain Solapur, Nanaj, Vairag, Kati, Pandharpur, Kasegaon, Atpadi, Pangri, Barshi	Clear	04-25	18-32	40-58
Sangli	24-26	36-40	Drizzling- Next Thu Sangli, Miraj, Shetfal, Shirguppi, Kagvad, Arag Drizzling- Mon, Tue and Thu Khanapur No Rain Palsi, Vite, Kavathe Mahankal, Tasgaon, Palus, Valva	Partly Cloudy	07-25	16-34	58-84
Bijapur	26-27	37-40	Drizzling- Next Thu Bijapur, Tikota, Telsang Chadchan	Clear	08-29	18-36	65-76
Hyderabad	25-26	37-39	Drizzling- Sat- Thu Hyderabad, Medchal, Zahirabad	Clear	05-18	25-39	63-77

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: 25 days**
b) Expected growth stage of the crop: Early shoot growth/5-leaf stage

III. Nutrition and irrigation management (Dr. A.K. Upadhyay)

Expected pan evaporation: 9 to 11 mm

Amount of irrigation advised

1. Shoot growth stage:
 - a) Irrigation water < 1dS/m : apply irrigation through surface drip @ 12,240 to 13,600 L/acre per day during shoot growth stage for Nasik, Pune and Hyderabad region and from 13,600 - 14,960 L/acre per day for Solapur, Sangli and Bijapur region.
 - b) Saline irrigation water (1.1 – 2.0 dS/m): apply irrigation through surface drip @ 15,300 to 17,000 L/acre per day during shoot growth stage for Nasik, Pune and Hyderabad region and from 17,000 - 18,700 L/acre per day for Solapur, Sangli and Bijapur region.
 - c) Mulching the vineyards during this period will reduce the salinity build up in the root zone due to upward movement of saline water from lower soil layer. This will also reduce the irrigation water requirement by another 10%.
2. In case there is probability of less irrigation water availability, then flood the bund (not whole vineyard) at pruning and mulch the bunds. Flooding the bund will reduce the accumulated salt load in the root zone and mulching will reduce the evaporation of water from soil surface. Thus, this will reduce the salt load in the soil and at the same time saturate the soil leading to proper sprouting. Further, in case less irrigation water is available still the newly emerging shoots will not be damaged due to salinity.
3. Cover the cordons of the pruned vines with shadenet, if available, for uniform sprouting as well as reducing the irrigation water needs by 20-25 %. Shadenet coverage will reduce the temperature impact on the cordons. However, remove shadenet after 3-5 leaf stage.
4. If shadenet is not available, spray the cordons with water during the peak heat period i.e. 2-3 pm to reduce the heat effect on the buds.

Foundation pruning season:

1. At shoot growth stage, apply 25 kg urea/ acre in 2 -3 splits after sprouting. In case of vigorous growth of shoots, stop nitrogen application and wait for the growth to stabilize before resuming nitrogen application. In calcareous soils, donot apply urea, instead use Ammonium sulphate @ 40 kg/acre in atleast 3 splits from sprouting onwards till next 10 days.
2. 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.
3. In case faster growth is observed (intermodal distance > 5 cm approx.), skip nitrogen application. Still the growth is not checked then reduce the irrigation water application.
4. Possibility of leaf curling could be there. Check the reasons whether excess growth or moisture stress or sucking pest injury or potassium deficiency. In case of excess growth, then follow the advise given in item no.3. For moisture stress, check whether the irrigation water is saline or quantity of water applied is less. If saline, then increase the quantity of irrigation water application to remove the salts. The sucking pest injury like hoppers has relationship with potassium build up in the vines and could lead to leaf curling. Control sucking pest and at the same time foliar application of potassium sulphate is advised to mitigate the potassium deficiency followed by application through fertigation @ 20-25 kg/acre.

5. 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.
6. Keep a close watch on the development of leaf blackening symptoms from the margin.

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

After pruning, water spray has to be done thrice (Morning, afternoon and evening) in a day to keep the vines cool, which may lead to early sprouting. Do not apply higher doses of Hydrogen cyanamide after pruning for sprouting.

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

Cultural practices to be followed:

1. New vineyard

In the vineyard where cordon development is in progress, following points should be followed.

- a) The shoot pinching should be done three inch below the cordon wire (Pandal trained vines) or three inch before the cordon wire (Y-trellis). This will avoid the breakage of new sprouts after pinching.
- b) The cordon development should be done following “*stop n go*” method. This will help to develop the cordon and also the fruitful canes during the first year.
- c) During the first instalment of cordon development, first pinching should be done at 6-7 leaf when the shoot growth reached at 9-10 leaf.
- d) The side shoots are to be pinched at 3 to 4 leaf. This will help to develop complete cordon.
- e) Spray of PGR to be undertaken when the side shoots are of 2-3 leaf after first pinching.
- f) During this stage, it is advisable to stop nitrogenous fertilizers and apply phosphatic fertilizers.

2. Old vineyard

After the bud sprouting is initiated, shoot thinning should be done on priority. For each square feet area allocated to the vine, retention of half shoot is generally recommended. On each vine, there will be approximately 70 to 80 sprouted shoots. Hence, shoot thinning should be followed at 6 to 7 leaf stage. This will avoid crowding thereby leading to dense canopy. Remove the vigorous and late coming weak shoots.

In the vineyard where shoot growth is vigorous, sub cane development should be given priority. This will help to keep the vine under controlled vigour. For sub cane development, shoot pinching should be done at at 7th leaf when the shoot growth is at 9 leaf.

After the foundation pruning, the bud sprouting will be delayed due to high temperature and low humidity. Increase in relative humidity in the atmosphere during this week may help to increase bud sprouts. However, under the condition of high temperature and low humidity, spray of water twice in a day (once during 11.0 am to 12.0 pm and second during afternoon at 3.0 to 4.0 pm) from 6th days after fruit pruning to 15th day may be taken up. This will help for early and uniform bud sprout and also avoid dead arms on the cordon.

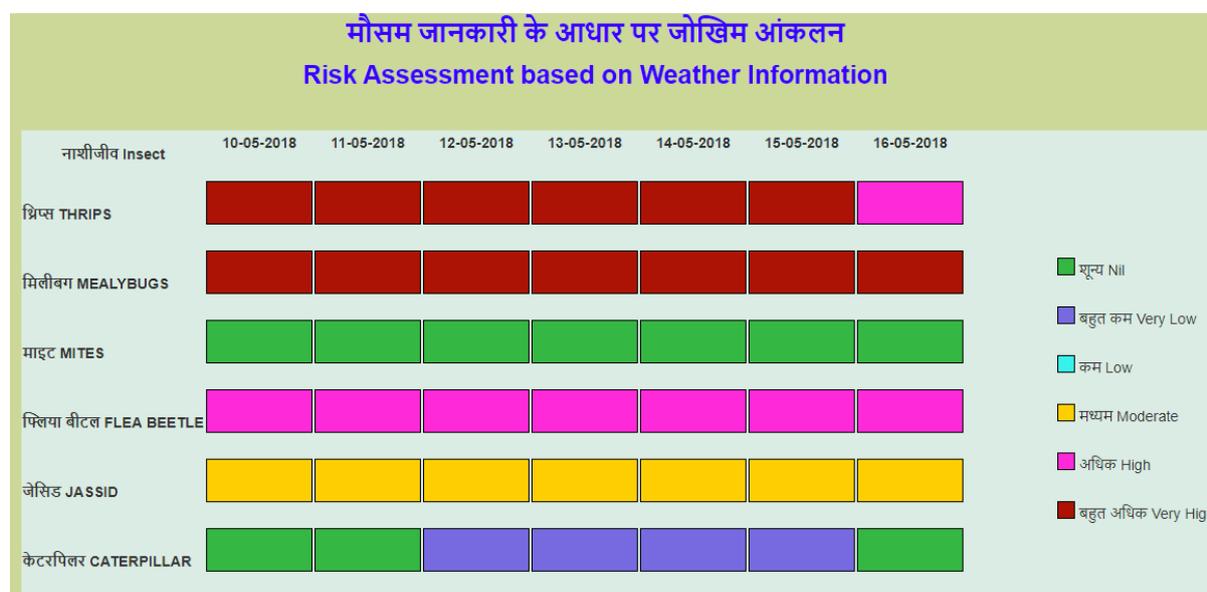
VI. Disease management (Dr. S.D. Sawant and Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
25	-	-	-	-

There is a possibility of rain in Sangli and Solapur region which will be helpful for sprouting. At this stage, there might be an incidence of powdery mildew and application of sulphur @2-3g/L is recommended. If humidity increases, Biocontrol agents like Bacillus sp/Trichoderma sp. may be applied. In Pandharpur region which is a late pruned area, the fruits should be close to maturity and cloudy conditions will prevail in this area. If it rains, Sulphur + Bacillus/Trichoderma should be applied. Chitosan @ 2ml/L may also be applied in case of rainfall.

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

Growth Stage: Early shoot growth stage after foundation pruning



- Thrips incidence may be high due to favourable growth stage and weather conditions during next week. 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 thrips.
- Vineyards may have higher mealybug infestation as well. Buprofezin 25 SC @ 1.25 ml/L water is effective for management of mealybugs.
- Flea beetle incidence may be high and imidacloprid 17.8 SL @ 0.3 ml per litre of water or fipronil 80 WG @ 0.06 gram per litre water are effective.
- Newly grafted vineyards may experience heavy thrips and moderate jassid infestation on new growth after re-cut or shoot tipping. Fipronil 80 WDG @ 0.06 g/L water or emamectin benzoate 5 SG @ 0.22 g/l water are effective against both thrips and jassids.

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.