

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 (03/05/2018) - Thursday (10/05/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	23-25	39-40	Nashik, Shirdi, Loni, Baswant, Pimpalgaon, Ojhar, Palkhed, Dindori, Vani, Niphad, Kalwan Devla, Satana, Drizzling – Tue, Wed	Clear	06-21	19-25	66-82
Pune	23-25	38-41	Pune, Phursungi, Drizzling – Tue, Wed Loni Kalbhor, Uruli Kanchan Patas, Supa, Baramati, Yavat Narayangaon, Junnar No Rain	Clear	06-23	12-22	45-82
Solapur	29-31	41-43	Solapur, Nanaj, Vairag, Kati, - Osmanabad, Tuljapur, Latur, Ausa, Pandharpur, Kasegaon, Atpadi, Pangri, Barshi No Rain	Partly Cloudy	06-26	16-21	38-46
Sangli	24-25	40-41	Sangli Miraj, Shetfal Khanapur, Palsi, Vite Drizzling- Tue, Wed Shirguppi, Kagvad, Arag, Kavatha Mahankal, Tasgaon Palus, Valva, No Rain	Partly Cloudy	06-25	17-34	68-82
Bijapur	27-29	40-41	Bijapur Tikota, Telsang Chadchan No rain	Partly Cloudy	06-19	17-24	38-61
Hyderabad	25-27	37-40	Hyderabad, Medchal, Zahirabad Drizzling- Sun, Tue *Thunderstorm	Partly Cloudy	05-18	25-29	43-62

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: 20 days**
b) Expected growth stage of the crop: Bud sprouting stage

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

Expected pan evaporation: 9 to 11 mm

Amount of irrigation advised

- Shoot growth stage:
 - 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)

Nil

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

During the coming week, the temperature will be increasing at faster rate. This will lead to increase in demand of irrigation water at the time of vegetative growth. Hence, following practices will be required to follow.

- a) Use of mulch on the bunds: This will help to reduce the evaporation losses.
- b) Irrigation during evening or morning: This will help in efficient utilization of available irrigation water and also controlling the water losses during high temperature.
- c) Spray of antitranspirants: The spray of antitranspirant after 6-7 leaf stage will help in reducing the demand of irrigation water.
- d) Placement of drip line to the ground: By lowering the drip line to ground surface, the water through drip will fall in the root zone only. This will also support in controlling the losses through wind.
- e) Use of wind break: Installation of shade net in the vineyard on the opposite direction of wind will help to control the wind thereby reducing the water losses.

Under the situation of excess vegetative growth, the shoot pinching for sub cane development needs to be done. Pinching for sub cane should be followed when the growth is at 9th leaf stage. Removal of side shoots will help the individual buds to receive uniform sunlight during the period of fruit bud differentiation.

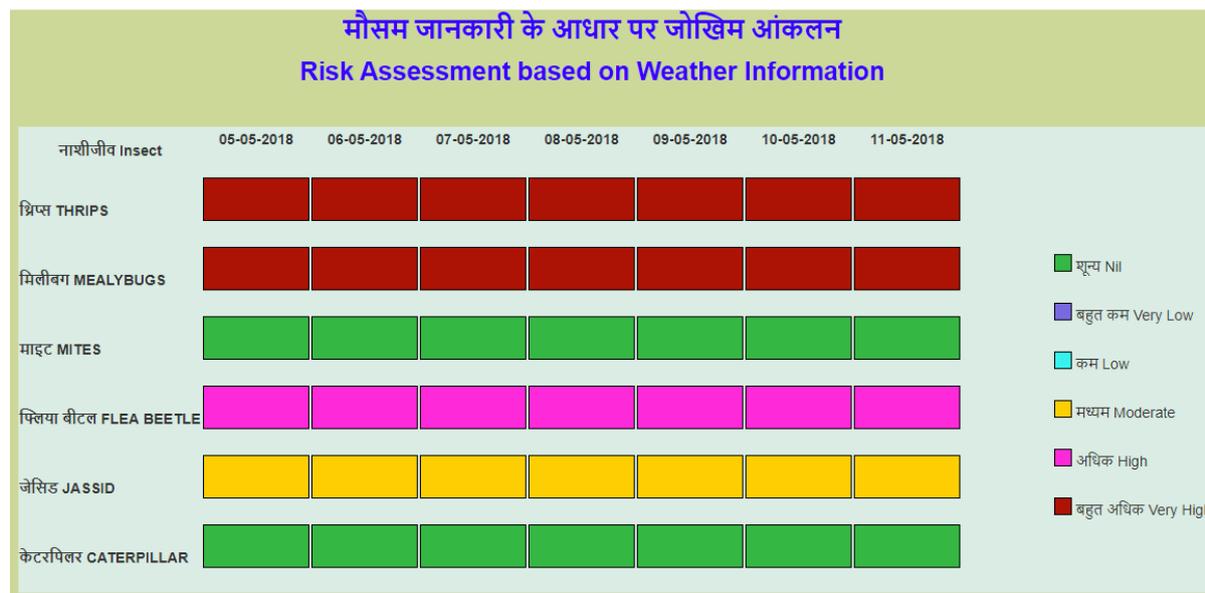
Single sub cane vs. double sub cane: Majority of the grape vineyards are facing the problems of irregular and erratic bud sprouts. In most of the cases, the blind cordon is observed. This results into reduction in number cane on each vine. Under such situation, the development of double sub cane can be followed. However, under the normal condition of vegetative growth, single sub cane will be sufficient.

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

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

An application of sulphur @2-3g/L is recommended

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



Very high thrips, mealybug and flea beetle risk at bud sprouting stage after back pruning. Preventive application of imidacloprid 17.8 SL @ 0.3 ml per litre water at sprouting is effective to manage flea beetle, thrips, and shoot malformation due to mealybugs.

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.