

# मौसम पूर्वानुमान आधारित साप्ताहिक सलाह

## Weather Forecast Based Weekly Advisory

(Assumption: Fruit Pruning date - 15/09/2018)

### I. Weather Data for the Prevailing Week

Thursday (22/11/2018) -- Thursday (29/11/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	15-19	31-33	No Rain	Clear	02-15	21-25	52-62
Pune	15-18	29-31	No Rain	Clear	03-14	20-25	53-60
Solapur	18-21	32-34	No Rain	Clear	04-16	22-29	53-64
Sangli	17-21	31-33	No Rain	Clear to Partly cloudy	03-12	22-27	52-59
Bijapur	17-21	31-33	No Rain	Clear to Partly cloudy	07-22	21-38	57-79
Hyderabad	16-18	30-32	No Rain	Clear	03-12	27-40	56-66

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: 69 days

b) Expected growth stage of the crop: - Berry setting stage after October pruning

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

Expected pan evaporation: 4 to 6 mm

1. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 7,000-8,400 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 3500 - 4500 L/ acre.
2. Practice mulching to keep the bunds moistened. This will reduce the salinity build up in the root zone due to evaporation of the moisture from the surface of the bund.
3. During Flowering to setting stage, apply irrigation through drip @ 2500 to 3500L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
4. During Berry development stage, apply irrigation through drip @ 7,000- 8,400 L/ acre/ day.

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

##### **Shoot growth stage:**

1. If the crop is between 5 leaf to prebloom stage, apply Zinc sulphate and Ferrous sulphate @ 15 kg/ acre based upon soil test value. Boron application should be carried out only if soil test value indicates low levels and the irrigation water does not contain boron. If during foundation punning, the petiole test stated that boron was deficient then apply boron @ 1.5 kg to 5 kg depending upon the soil test value. Apply one kg boron at a time.
2. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
3. If sodicity problem is there (available Na > 1000ppm), apply 10 kg Sulphate of potash per acre in 2 splits this week. The total SOP application should not exceed 40 kg/acre.
4. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage. One spray is sufficient during this stage.

##### **Flowering to setting stage:**

1. Do not apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis). Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
3. Apply 3-4 kg Phosphoric acid in two to three splits this week. Remember that the pH of the irrigation water should be near 6.0.
4. Go for Petiole sampling at Full bloom stage

##### **Berry Development stage:**

1. After Berry setting, continue initially with Phosphoric acid application @ 2 kg followed by 5 kg 12-61-0/acre.
2. If the berry size is from 2-4mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
3. If the berry size is from 5-8mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
4. In the calcareous soil, spray magnesium sulphate @ 3g/L on the vines followed by fertigation of magnesium sulphate @ 10kg/acre from setting till 6-8 mm berry stage.
5. After 8-10 mm berry size, start application of nitrogen in the form of ammonium sulphate @ 25kg /acre in 4 splits in calcareous soil and as urea @ 15 kg/acre in other soils in 3 splits. Follow this up with Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks.

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

At this stage, most of the vineyards passed setting stage. So application of 40 ppm GA<sub>3</sub> with 1-2 ppm CPPU should be applied for berry size. For capsule type berry formation can be achieved with lower application of CPPU (0.5 ppm) and with higher application of GA<sub>3</sub> (50 ppm).

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

### Management of old gardens:

In these gardens, due to recent rain the relative humidity in the atmosphere will increase. This may result into high shoot vigor including the emergence of side shoot. This condition in the pre-bloom stage vineyard may lead to flower drop.

In the vineyards at flowering stage, the leaf requirement for nourishing the bunch is requirement. On a cane with 8-10mm diameter, for nourishing the bunch weighing 450-500g we need at least 10-12 leaf of 150-160<sup>2</sup>cm area. The requirement can be completed till berry setting. Hence, the leaf requirement can be completed before the flowering stage starts. To achieve this, nitrogenous fertilizer may be applied to the vines.

### Management of grafted vines:

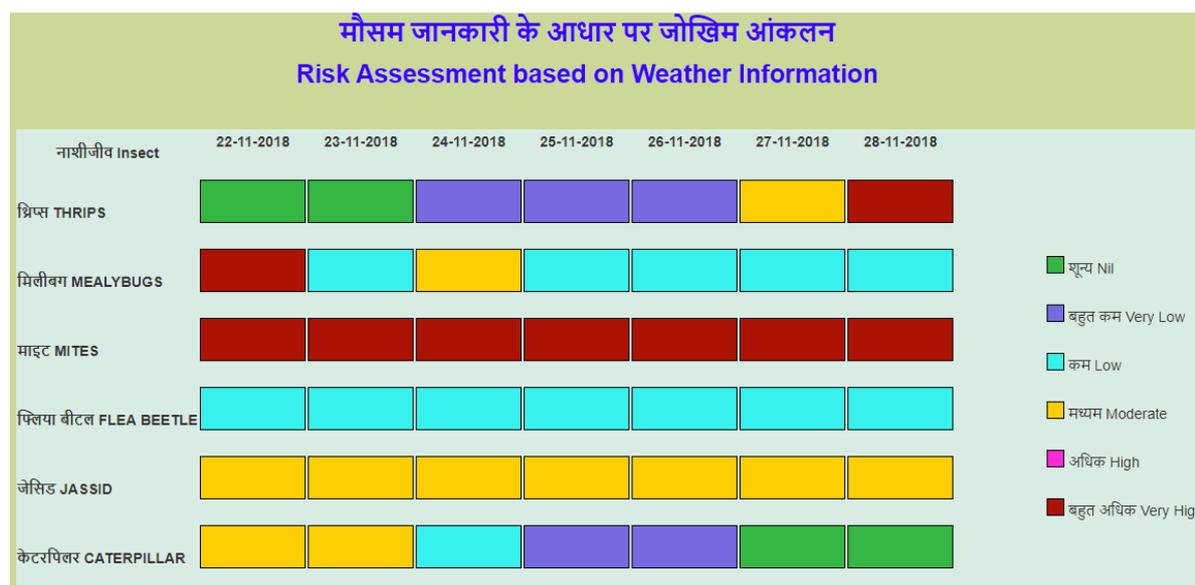
The rainfall during this week might increase the relative humidity in the garden. In the rootstock plants where the grafting on two shoots was done, the crowding of shoots coupled with increased relative humidity will increase the chances of downy mildew incidence. Hence, separation of unwanted successful grafted shoots from the bamboo to be done on priority. In addition, removal of 2-3 leaf above the graft joint will help to reduce the spread of downy mildew and easy coverage of fungicide.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
69	Low	Moderate	Nil	Nil

In areas where old infection of downy was present, or if there is an existing infection of downy mildew in the orchard or vicinity, application of Mancozeb 75WP@2g/L may be done. As 90% of the crop is between flowering and fruiting stage, it is advised to spray Fosetyl-Al @1g/L(salts of phosphoric acid) +Mancozeb@ 2g/L immediately. If leaf wetness continues and there is a presence of disease, the above spray may be repeated or spray of Cyamoxanil+Mancozeb @3.0g/L may be continued. Incidence of powdery mildew is on the increase and if the crop is between flowering and fruiting stages application of, Fluopyram200+Tebuconazole 200SC @0.5ml/L or Difenconazole@ 0.5ml/L or hexaconazole @1ml/L or myclobutanil@ 0.4g/L or tetraconazole @ 0.75 ml /L should be applied Application of sulphur 80WP@2g/L is advised to avoid residue detections in crops which is between late flowering stage and early berry set stage. Application of Trichoderma formulations or Ampelomyces quisqualis @4-5g/L,(where there is low temperature) at this stage will also be beneficial but NOT with triazoles..

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



- Thrips population may reduce temporarily due to rains for few days and thereafter increase again. Spraying of emamectin benzoate 5 SG @ 0.22 gram per litre water or cyantraniliprole 10 OD @ 0.7 ml per litre water is effective to manage thrips.
- Spraying of imidacloprid 17.8 SL @ 0.4 ml/L water or emamectin benzoate 5 SG @ 0.22 gram per litre water or lambda cyhalothrin 5 CS @ 0.5 ml per litre water or buprofezin 25 SC @ 1.25 ml/L water are effective to manage jassids.
- Imidacloprid 17.8 SL @ 0.4 ml/L water or lambda cyhalothrin 5 CS @ 0.5 ml per litre water are effective to manage flea beetle.
- 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.
- Sulphur 80 WDG @ 1.5-2.0 g/L water may be applied if mite infestation is observed.

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](mailto:director.nrcg@icar.gov.in).