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 (13/12/2018) -- Thursday (20/12/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	14-16	25-29	**No Rain**	Clear	07-23	31-43	55-94
Pune	15-18	27-30	**No Rain**	Clear to Partly cloudy	06-24	31-39	58-70
Solapur	16-21	26-32	**Solapur, Nanaj, Kati, Osmanabad, Tuljapur, Pandharpur, Kasegaon, Atpadi Fri-** Light Rain **Latur, Ausa Fri and Sun-** Light Rain **Vairag, Barshi, Pangri Fri and Sun-** Drizzling	Clear to Partly cloudy	06-25	33-47	65-88
Sangli	16-20	28-32	**Khanapur Sun-** Light rain	Clear to Partly cloudy	08-24	34-45	64-90
Bijapur	15-20	26-32	**Bijapur, Tikota, Telsang Fri and Sat-** Drizzling **Chadchan Fri-** Light Rain	Clear to Partly cloudy	08-22	34-46	66-96
Hyderabad	14-19	21-28	**Hyderabad, Medchal Fri to Mon-** Light Rain **Zahirabad Sun-** Moderate Rain	Partly cloudy	08-18	52-72	78-100

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: **87** days

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

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

Expected pan evaporation: 2.5 to 4 mm

1. Possibility of rains in pockets of Sangli, Solapur and Bijapur, apply irrigation only if the soil is not in wapsa condition.
2. During Flowering to setting stage, apply irrigation through drip @ 1,500 to 2,500L/ acre/ day.
3. During Berry development stage, apply irrigation through drip @ @ 4,250- 6,800L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 2,100 – 3,400 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
4. 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.

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

1. Inflorescence necrosis could be a issue in dense canopy. Remove side shoots and reduce canopy to allow penetration of the sunlight for proper aeration. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis).
3. If SOP not applied, then apply 15 kg SOP and follow it up with SOP spray for building up the potassium levels in the vines. This will be especially beneficial during low temperature and rainy conditions.

Flowering to setting stage:

1. Donot 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 (2/3rd Cap fall stage). The petiole sampled should be opposite the bunch.

Berry Development stage:

1. After Berry setting, continue initially with Phosphoric acid application @ 5 kg in two splits this week till 8 mm berry size.
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 the present stage of 7 – 8 mm berry size, 40 – 50 ppm GA_3 along with 1 – 2 ppm CPPU (pH 5.5 – 6.0) should be applied to increase berry size. For elongated berries lower dose of CPPU should be given.
- In some parts of southern Maharashtra, rain may occur. However, this is not the stage for berry cracking so nothing to spray.
- Do not apply flood irrigation, it may avoid "Ukadya" disorder**.**

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

Cultural practices to be followed under rainy period in grape vineyard:

As per the weather prediction, rainfall or drizzles are expected in the coming week. Under different period of pruning in vineyards, the growers may face the following problems.

1) **Vineyard at pre-bloom stage**: The vineyard at the pre-bloom stage may become susceptible to the flower drop as well as pre-bloom bunch rot due to the cloudy weather or even rainfall at this stage. Dense canopy and increased nitrogen /gibberellins in the vine may contribute for this problem. These vineyards are to be managed with the following cultural practices.
   - **a) Shoot pinching**: This will help to improve the cytokinin in the vine thereby developing the strength to the vine. This will control the flower drop.
   - **b) Open canopy**: The dense canopy helps in increasing the relative humidity in the vine thereby increasing the chances for spread of fungal diseases like downy mildew. The arrangement of open canopy in the vineyard will help for free air movement thereby reducing the relative humidity. Hence, it is advised to reduce the shoot growth by pinching of shoot tip and also removal of side shoots for encouraging the free air circulation.
   - **c) Application of cytokine and potassic fertilizer**: Increase in cytokinin level in the vine by application of cytokinin based PGR and potash through drip may help to make the vine strong.

2) Berry cracking: The rainfall during berry development stage (14mm to harvest stage) may increase the turgor pressure in the berry thereby leading to berry crack. The vineyards at this condition may be given full irrigation one day before the rains predicted. This will help to reduce the chances of berry crack.

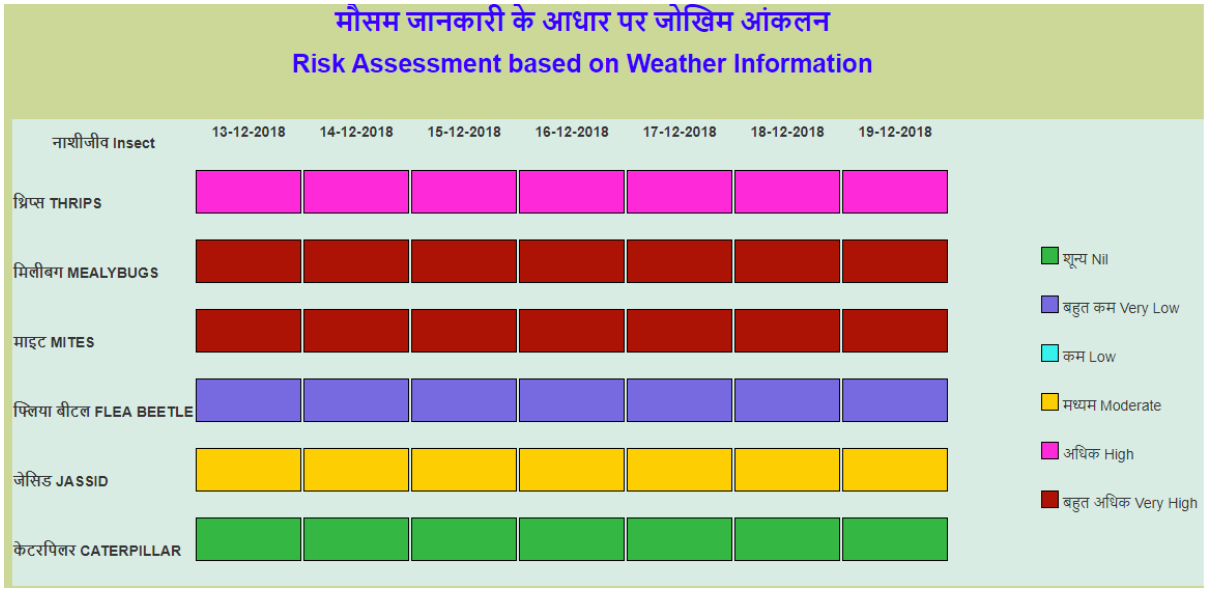
VII. Disease management (Dr. S.D. Sawant and Dr. Sujoy Saha)

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

Cloudy regions will be seen in Sangli, Sholapur, Latur, Varshi regions and partially in Nashik too. Drizzling or light showers will prevail in these areas but there is a possibility of no rains in Nashik. However, there is a possibility of rains during 22nd-23 rd which is more threatening to the growers. Dew in certain areas have resulted in downy infection on the top shoots which has later progressed to the bunches. The infected regions should be clipped off to remove the inoculum source. If the crop is less than 60 days a spray of Cyamoxanil+Mancozeb @3.0g/L followed by Fosetyl-Al @3g/L or potassium salts of phosphoric acid@4g/L may be given. If the rain is more or if it continues, it can be repeated. If the berries are for export, Fosetyl-Al or potassium salts of phosphoric acid may be given upto 75-80 days but if it is for China, it should

not be given after 60 days. For local market after the spray of aforementioned fungicides, a spray of chitosan@ 2g/L followed by biocontrol agents like Trichoderma or Bacillus formulations may be given. In case of powdery mildew management, application of sulphur 80WP@2g/L or *Ampelomyces quisqualis* @6-8g/L,(where there is low temperature) at this stage will also be beneficial.

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



- 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.