

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 (10/01/2019) -- Thursday (17/01/2019)

| Location | Temperature (°C) | | Possibility of Rain | Cloud Cover | Wind Speed (Km/hr) | R H% | |
|-----------|------------------|-------|---------------------|-------------|--------------------|-------|--------|
| | Min | Max | | | | Min | Max |
| Nashik | 12-15 | 30-32 | No Rain | Clear | 00-15 | 18-27 | 52-61 |
| Pune | 13-17 | 32-33 | No Rain | Clear | 00-11 | 16-23 | 53-58 |
| Solapur | 14-18 | 32 | No Rain | Clear | 02-13 | 18-25 | 52-59 |
| Sangli | 14-17 | 32 | No Rain | Clear | 01-12 | 17-23 | 52-60 |
| Bijapur | 14-17 | 32 | No Rain | Clear | 05-17 | 17-25 | 60-69 |
| Hyderabad | 13-17 | 29-31 | No Rain | Clear | 03-10 | 23-35 | 79-100 |

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: 115 days

b) Expected growth stage of the crop: - Post-veraison stage after October pruning

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

Expected pan evaporation: 3.5 to 6 mm

Amount of irrigation advised:

1. From Berry development stage onwards till maturity, apply irrigation through drip @ 6,000- 7,600 L/ acre/ day for Nasik region and from 7,600 – 10,200 for Pune, Hyderabad, Sangli, Solapur and Bijapur region.
2. Remember that if the soil is at field capacity (wapsa) then donot irrigate.
3. 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.
4. Flooding the vineyard is not advised as it will lead to wastage of water. Concentrate in the root zone only.

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

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 or 0.75g Calcium Essence 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 or 0.75g Calcium Essence per litre. Target sprays immediately after GA application (preferably next day) for better absorption. 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.
4. 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.
5. In calcareous soil, apply zinc sulphate @ 10 kg/acre along with Ferrous sulphate @ 10kg/ acre after 8-10 mm berry size and before veraison initiation.

Ripening to Harvest stage:

1. Apply Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks. Follow this up with Magnesium sulphate @ 10 kg/acre in two splits. Spray Magnesium sulphate in calcareous soil.

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

Berry cracking, Ukadya may be the problems, hence, do not apply so many chemicals, regulate irrigation at field capacity. Paper wrapping to be done to avoid pink berry formation just at veraison stage.

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

During the period of berry development, low temperature is becoming hindrance. Based on the weather prediction, the minimum temperature is likely to below 5°C for about one week. The maximum temperature is also reaching to 35°C. The variations in temperature leading to problems and the measures to be taken are given below.

1. Berry development: The grapevine is physiologically active under specific temperature and humidity condition. For proper growth and development of vine, the minimum temperature should be above 15°C. Since this condition is not available in the grape vineyard, the berry development may get reduced. The growers are likely to use PGR along with sea weed extract. However, the use of PGR will lead to increase in berry skin thereby reducing the sugar and delay in harvest. The period extended for harvest will put the vine into stress. Hence, instead of using PGR, the growers are advised to do the following:
 - a) Increase the irrigation - This will help in increasing the temperature of vineyard.
 - b) Use of mulching – This will help in increasing the temperature in the root zone. In addition, the root activation will also be helpful for uptake of nutrients.
 - c) Loosening of soil on the bund – The soil will act as mulch thereby maintaining the aeration in root zone.

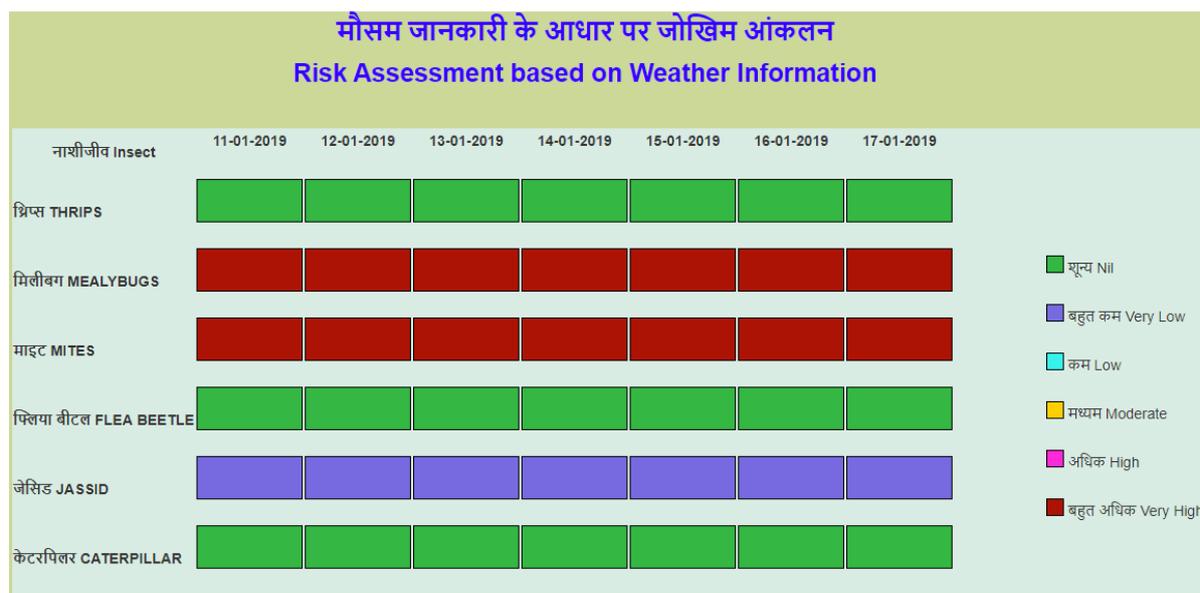
Pink berry formation: The minimum temperature once starts falling below 7°C and the maximum temperature exceeding above 35°C. This creates wide gap between the maximum and minimum temperature thereby converting the green pigment into pink. This condition is called pink berry. It is a physiological disorder. At present, no chemicals are found effective for controlling this. However, to reduce the pigmentation, covering the bunch with paper is found effective. This condition is generally seen in the vineyards reaching at the stage of veraison. Before covering the bunch, control of mealy bug and powdery mildew will be important.

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

| Days after pruning | Risk of diseases | | | |
|--------------------|------------------|----------------|-------------|------------------|
| | Downy mildew | Powdery mildew | Anthracnose | Others (specify) |
| 115 | Low | Moderate | Nil | Nil |

In grape regions where cold conditions are prevalent, paper wrapping practice is being followed for white varieties. In such vineyards, before paper wrapping, sulphur 80 WDG @ 2.0 gram per litre water may be sprayed. 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. As temperature is low in Nashik region application of *Ampelomyces quisqualis* is preferred.

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



- 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 (PHI 45 days) 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.