

मौसम पूर्वानुमान आधारित साप्ताहिक सलाह

Weather Forecast Based Weekly Advisory

(Assumption: Fruit Pruning date - 15/10/2017)

I. Weather Data for the Prevailing Week

Thursday (26/10/2017) - Thursday (02/11/2017)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	19-20	31	Nashik, Ojhar, Palkhed, Dindori Niphad, Vani, Pimpalgaon Kalwan, Devla, Baswant, Satana, Shiridi, Loni - No Rain	Clear	01-12	29-52	59-67
Pune	18-19	30-31	Pune, Phursungi Loni Kalbhor Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar - No Rain	Clear	01-19	42-50	57-70
Solapur	20-23	30-32	Vairag Barshi, Pangri, Solapur, Nanaj, Kati, Osmanabad, Latur, Ausa, Tuljapur Kasegaon, Pandharpur- No Rain Atpadi Drizzling - Fri & Sat	Clear	08-11	32-50	79-88
Sangli	16-20	29-32	Sangli, Miraj, Shirguppi, Kagvad, Arag Light Rain - Fri & sat Kavatha Mahankal, Palus, Valva, Tasgaon, Khanapur, Vite, Shetfal Palsi Drizzling - Sat	Partly Cloudy	04-14	33-64	77-98
Bijapur	20-23	29-31	Bijapur, Tikota, Telsang, Chadchan Drizzling – Fri	Partly Cloudy	06-19	33-57	76-91
Hyderabad	19-21	28-30	Hyderabad, Medchal, Zahirabad Drizzling – Thu & Sat	Partly Cloudy	00-14	43-63	77- 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: 10 days

b) Expected growth stage of the crop: - Bunch emergence stage

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

Pan evaporation: 5-7 mm

1. Generally, under wapsa (field capacity) condition of the soil, do not apply irrigation.
2. During shoot growth stage (fruit pruning season), for vineyards raised on heavy soils, there will be no need to apply irrigation at least for 3-4 days as the soil is saturated with water unless the leaves show cupping symptoms. Apply irrigation in light soils. If required apply irrigation through drip @ 8500- 11,900 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 4200 - 6000 L/ acre.

3. During Flowering to setting stage, apply irrigation through drip @ 2800 to 4000L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 1400 to 2000L/ acre.
4. If the root zone is saturated then do not apply any fertilizer. Growth will be slow, do not worry as and when the soil comes into field capacity (wapsa), root activity will increase and the growth will progress. After that only fertilizer should be applied.

Nutrient management:

Pre-pruning:

1. If the soils are sodic then apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use sulphur for similar purpose. Gypsum/sulphur should be properly mixed in soil. The soil should be moist. After approx. 20 days adequate should be provided to leach sodium from the soil.
2. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil. If calcium carbonate content is more than 15 % apply 100 kg sulphur per acre in the root zone. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. The efficacy of sulphur is improved if FYM/ Compost are applied along with sulphur and mixed in the soil.
3. Efforts should be made to reduce the soil pH (pH exceeding 7.6). Apply less decomposed organic matter sources like FYM or green manure like Dhaincha etc. to the soil before pruning. Elemental sulphur @ 25-50 kg/acre could lead to more reduction in soil pH values.
4. Apply FYM/ other organic sources including green manuring at least 12-15 days before pruning. If possible mix 200 kg Single super phosphate in the FYM and apply in the soil especially in case of sodic soils. Application of organics improves the nutrient and water retention in the root zone and reduces nutrient losses from the profile.

Shoot growth stage:

1. Based upon the soil test value, during shoot growth stage apply urea @ 15kg / acre this week in two splits. If the soil is calcareous, instead of urea apply ammonium sulphate @ 20 kg/ acre in two splits this week. Depending upon the crop vigour, regulate nitrogen application.
2. 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 pruning, 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.
3. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
4. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.
5. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom 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).
2. Apply 4-5 kg Phosphoric acid in two to three splits this week.

Berry Development stage:

1. After Berry setting, continue initially with Phosphoric acid application @ 5 kg in two splits this week.
2. If the berry size is from 2-4mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre.

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

In this week the climate is clear in Nasik, Pune and Solapur area and it's partly cloudy in Sangli, Bijapur and Hyderabad. Hence following operations may be done;

1. Application of GA₃ @ 10 ppm at parrot green stage for bunch elongation; pH should be maintained at 5.0-6.0. by using Phosphoric acid
2. 2nd application has to be done by after 3-4 days after 1st spray, 2nd spray of GA₃ @ 15 ppm for Rachis elongation.
3. Don't use excess GA₃ and should not mix more than 2 chemicals
4. Ideal canopy must be maintained to avoid berry drop and berry rot
5. In vineyards of Sangli, Bijapur and Hyderabad if required effective fungicides must be used along with GA₃ and phosphoric acid.

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

1. Old vineyard:

During this week, the weather will be clear thus helping to increase the atmospheric temperature and reduction in relative humidity. This will also help to reduce the disease threat. However, with the available sunlight, the vine should be in a position to absorb more light and utilize for the photosynthetic activity. Open canopy will help to achieve the same. Removal of excess shoots, side shoots and also shoot tipping will help to achieve open canopy.

Removal of basal 2-3 leaf on each shoot will support for uniform coverage of fungicide or PGR sprays. This will also improve the photosynthetic activity of a vine.

2. Grafted vines:

After the bud sprouting in the grafted vines, the suckers on the rootstock shoot will emerge at faster rate. This will delay the bud sprout on the scion or in the extreme state; there may be failure of grafting. Hence, timely removal of suckers will help for faster emergence of new shoots on the scion.

The incidence of downy mildew is also seen in majority of the grafted vineyards. The grafting was done on two shoots with two buds on each shoot. The sprouting of all four buds have converted into growing shoot which has been tied with a sutali to the bamboo fixed near the rootstock. In this portion the humidity builds up is more thus creating the congenial condition for the development of disease. Hence, retain only one shoot on each successful grafts. Removal of basal leaf on each shoot will avoid the relative humidity and also the reduction of disease. Spray coverage will also be proper.

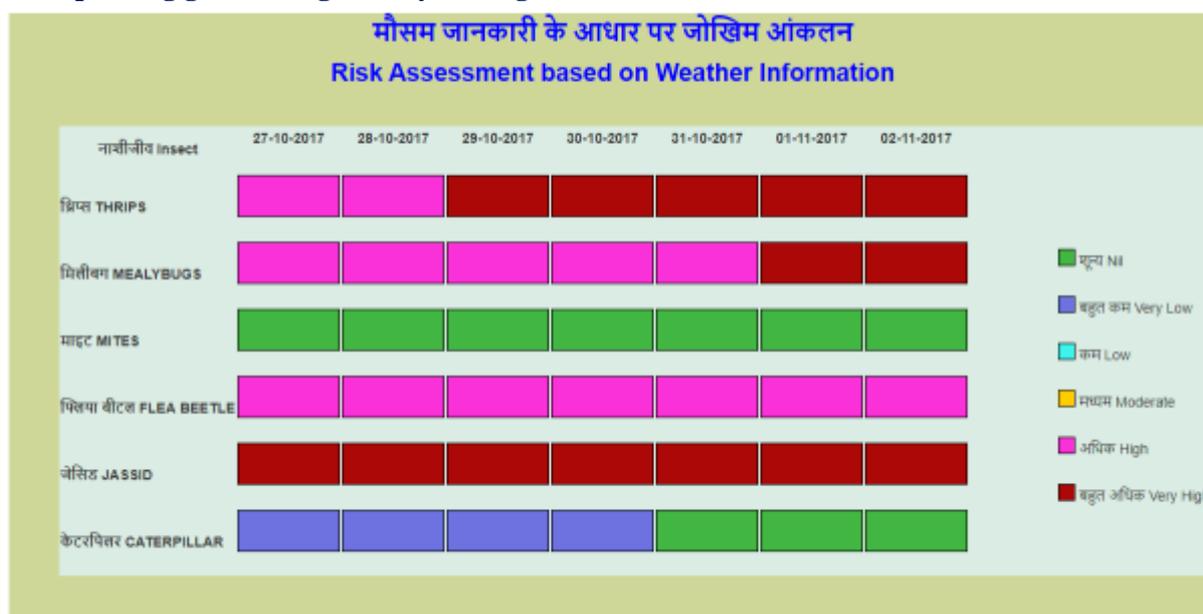
VI. Disease management (Dr. S.D. Sawant and Dr. Sujoy Saha)

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthraco nose	Others (specify)
10	High	Medium	Low	Medium Bacterial leaf spot

As no rains are predicted and most of the vines are in flowering stage, application of potassium salt of phosphoric acid @ 4g/L + Fosetyl Al@1g/L will give a good protection against the disease. For powdery mildew management, Hexaconazole @1ml/L or Difenconazole@ 0.5ml/L or tetraconazole @ 0.75 ml /L or Metrafenone 50% SC @0.25ml/L should be applied. Incidence of bacterial leaf spot is also on the rise and application of streptocycline @ 1g/10 litres can be done. However, as the temperature is slowly going down, bacterial problem will also be reduced.

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

Fruit pruning growth stage: Early shoot growth



- Imidacloprid 17.8 SL @ 0.3 ml per litre, fipronil 80 WG @ 0.06 g per litre, lambda cyhalothrin 4.9 CS @ 0.5 ml per litre of water may be given for managing thrips, flea beetle and jassids.
- Remove loose bark and give spot plant wash with buprofezin 25 SC @ 1.25 ml/litre water in case of mealybug infestation. At 15 days interval, plant wash with entomopathogenic fungi viz. *Metarhizium*, *Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.

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.