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 (15/11/2018) -- Thursday (22/11/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	18-20	32-34	**No Rain**	Clear to Partly cloudy	02-14	21-26	51-58
Pune	18-21	32-35	**No Rain**	Clear to Partly cloudy	03-16	22-26	51-60
Solapur	19-23	34-35	**No Rain**	Clear to Partly cloudy	04-17	22-28	53-62
Sangli	18-22	33-35	**No Rain**	Clear to Partly cloudy	03-12	22-27	50-57
Bijapur	20-21	32-34	**No Rain**	Partly cloudy	08-21	20-39	56-85
Hyderabad	17-21	31-33	**No Rain**	Partly cloudy	03-12	34-48	90-99

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: **62** days

b) Expected growth stage of the crop: - Flowering 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.

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

Fruit pruning season

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. In any case donot exceed 65 kg urea /acre or 100kg Ammonium sulphate/acre for the shoot growth stage.
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 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.
3. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
4. 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.
5. 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).
2. 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.
3. Apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage in case not applied previously.
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 in the form of Calcium Chloride @ 2g/L or Ca chelate @ 0.5 g/L.
3. 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 are nearing to flowering. If elongated berries have to be formed then 10, 15 & 20 ppm GA_3 has to be applied every alternate day.
- If physical stress has to be done for ease in berry thinning then minute stress has to be applied.

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

Production of quality bunch by bunch and berry thinning:

Bunch and berry retention on a vine plays an important role in producing the quality grapes. Bunch thinning is done during pre-bloom stage while the berry thinning is performed after berry set. Bunch thinning should be done based on the purpose.

The bunch retention should be based on the following.

i) Local market: One bunch per square feet (sft) area allocated to the vine

ii) Export market: One bunch for 1.5 sft area allocated to each vine

iii) Raisin making: Average two bunches/sft area allocated to each vine.

The bunch retention can also be done based on the cane diameter in the following.

i) The cane with 6mm diameter: Maintain only one bunch and single shoot

ii) The cane with diameter of 6-8mm: Maintain one bunch and one shoot.

iii) The cane with diameter of 8-10mm: Two bunches can also be maintained.

Berry thinning:

Berry thinning should be attempted after berry setting. Generally, within 7-8 days from berry set, berry thinning should be completed. Number of berries in a bunch varies with variety.

The berries/bunch based on the variety is as below.

i) Thompson Seedless: Approximately 110 to 120 berries

ii) Sonaka, Super Sonaka, Manik Chaman, etc.: 130-140 berries.

iii) Nanasaheb Purple: 65 to 75 berries

iv) Red Globe: 60 to 70 berries

The precautions to be taken while berry thinning:

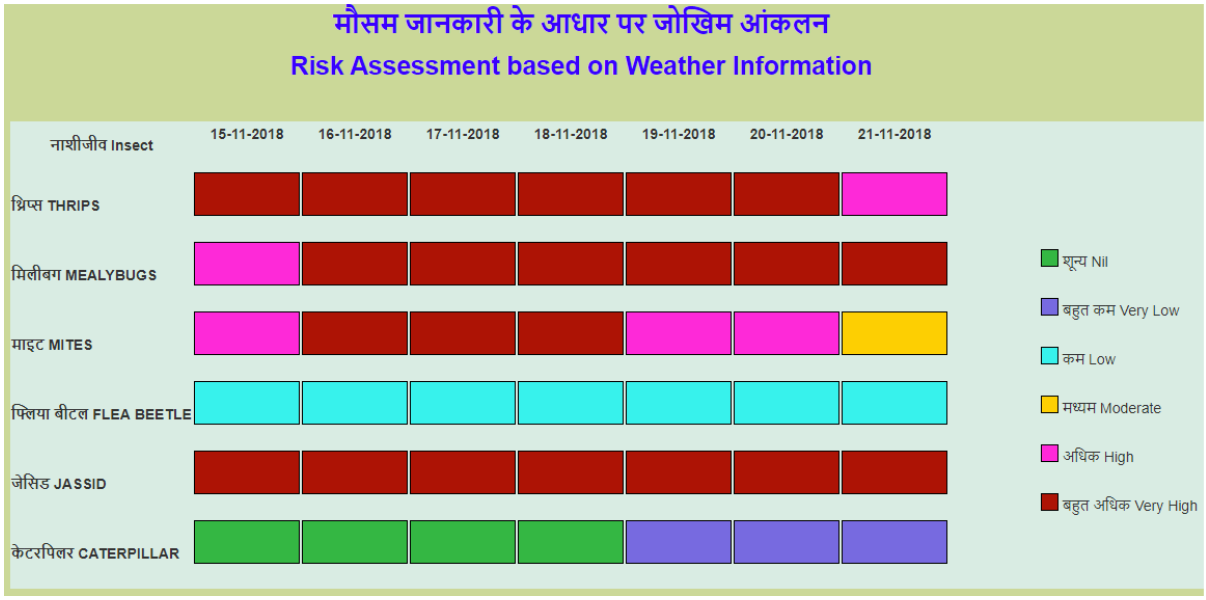
Each bunch produces about 15-18 rachis. Among these, first 3-rachis are larger in length and also the distance between two rachis is more thus helping to produce loose bunch. Hence, while berry thinning, do not remove these rachis. On an average, each rachis in a bunch bears 10-12 berries. Hence, retention of 8-10 well developed rachis is sufficient. While berry thinning retain first three rachis and removal of other rachis should be done alternatively. In case of excess bunch elongation in pre-bloom stage, bunch tipping can also be done by retaining appropriate number of rachis in a bunch.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
62	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. Incidence of powdery mildew is on the increase and if the crop is between flowering and fruiting stages application of, Fluopyram200+Tebuconazole 200SC 20.5ml/L or Difenoconazole@ 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.

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.

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.