मौसम पूर्वानुमान आधारित साप्ताहिक सलाह
Weather Forecast Based Weekly Advisory

(Assumption: Fruit Pruning date - 15/10/2016)

I. Weather Data for the Prevailing Week

Thursday (24/11/2016) - Thursday (01/12/2016)

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	17-18	31-33	**No Rain** Nasik, Ojhar, Pimpalgaon Baswant, Vani, Palkhed, Dindori, Shirdi, Loni, Rahata, Niphad, Kalwan, Devla, Lasalgaon, Satana.	Clear	06-18	19-24	47-64
Pune	17-18	31-33	**No Rain** Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Rahu, Patas, Pargaon, Supa, Baramati, Narayangaon, Junnar.	Clear	03-18	20-25	45-55
Solapur	19	34-36	**No Rain** Solapur, Nanaj, Kati, Atpadi, Vairag, Pandharpur, Kasegaon, Barshi, Pangri, Kari, Latur, Ausa, Osmanabad, Tuljapur.	Clear	05-16	15-19	47-51
Sangli	18-19	33-35	**No Rain** Sangli, Miraj, Shirol, Arag, Shirguppi, Kagvad. Kavate Mahankal, Palus, Valva, Palsi, Shetfal, Vite, Khanapur	Clear	08-19	17-22	46-59
Bijapur	18-19	32-34	**No Rain** Bijapur, Tikota, Telsang, Chadchan	Clear	06-19	17-20	40-59
Hyderabad	16-17	31-32	**No Rain** Hyderabad, Medchal, Zahirabad, Rainlaguda.	Clear	03-13	26-34	63-69

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: 25 to 50 days

b) Expected growth stage of the crop: - Bunch elongation to berry set

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

Expected pan evaporation: 3 to 6 mm

Amount of irrigation advised

During shoot growth stage, apply irrigation through drip @ 5100 to 6800 L/ acre/ day for Nasik, Pune, and Hyderabad regions and from 8500 to 10,200 L/ acre/ day for other regions. Further, in case vigour is more than desired, then reduce irrigation water application to 3400 L/ acre/

day for Nasik, Pune and Hyderabad regions and 5000 L/acre/ day for other regions. Still if you are not able to control the vigour, stop irrigation till such time vigour is controlled.

During Flowering to setting stage, apply irrigation through drip @ 2500 L/ acre/ day for Nasik, Pune and Hyderabad regions and from 3360 L/ acre/ day for other regions. Further, in case vigour is more than desired, then reduce irrigation water application by half to 1250 L/ acre for Nasik, Pune and Hyderabad regions and 1680 L/acre for other regions.

During Berry growth stage, apply irrigation through drip @ 6800 L/ acre/ day for Nasik, Pune, and Hyderabad regions and from 8500 to 10,200 L/ acre/ day for other regions.

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

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 pruning, the petiole test stated that boron was deficient then apply boric acid @ 1.5 kg to 5 kg depending upon the soil test value. Apply one kg boric acid 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, apply 10 kg Sulphate of potash per acre in 2 splits this week.
4. Do not apply any nitrogen based fertilizer from 4-5 days before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis). Apply 5 kg Phosphoric acid in two splits this week.
5. After Berry setting, continue initially with Phosphoric acid application @ 7.5 kg in two splits this week.
6. Spray Calcium @ 2g Calcium Chloride or 0.5 g Ca chelate per litre at berry size of 2-4 mm and 6-8 mm.
7. After 15 days after setting (around 60-65 days), start application of ammonium sulphate @ 20 kg/acre in 3splits followed by application of 0-0-50 through drip @ 20 kg in 3 splits
8. If the soil has high calcium carbonate content, apply 5 kg Zinc sulphate along with 5 kg Ferrous sulphate in two splits

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

During this week climate is clear but the minimum temperature is reduced and in most of the grape growing regions it may be below 10^0 C. Hence it becomes necessary to keep the leaves very healthy. For this purpose use of micronutrients or application of known sea weed extract or known biostimulant may serve the purpose. It is a commercial practice in India to spray GA_3 on Thompson Seedless grapes to increase berry size. In Thompson Seedless, GA_3 is sprayed for increasing the berry size 3-4 times at weekly intervals commencing from full bloom until the berries attain 6-7 mm diameter with increasing concentrations starting from 40 to 50 ppm. More sprays from full bloom to shatter when done, particularly in vines where the cane size is thin, the shoot elongation was found to cease and the resultant berries were thin and slender. On the other hand, if sprays are given after the shatter stage, the growth is adequate to nourish the clusters and bold berries are formed.

GA_3 application for berry growth

Stage	Bioregulator and their concentration	pH	Purpose
For export quality grapes			
3-4 mm berry size	30 ppm GA_3 + 2 ppm CPPU	Acidic	Berry elongation
6-7 mm berry size	40 ppm GA_3 + 1 ppm CPPU	Acidic	Berry elongation
For local market			
3-4 mm berry size	40-50 ppm GA_3 + 0.5 ppm CPPU	Acidic	Berry length
6-7 mm berry size	40 ppm GA_3	Acidic	Berry length

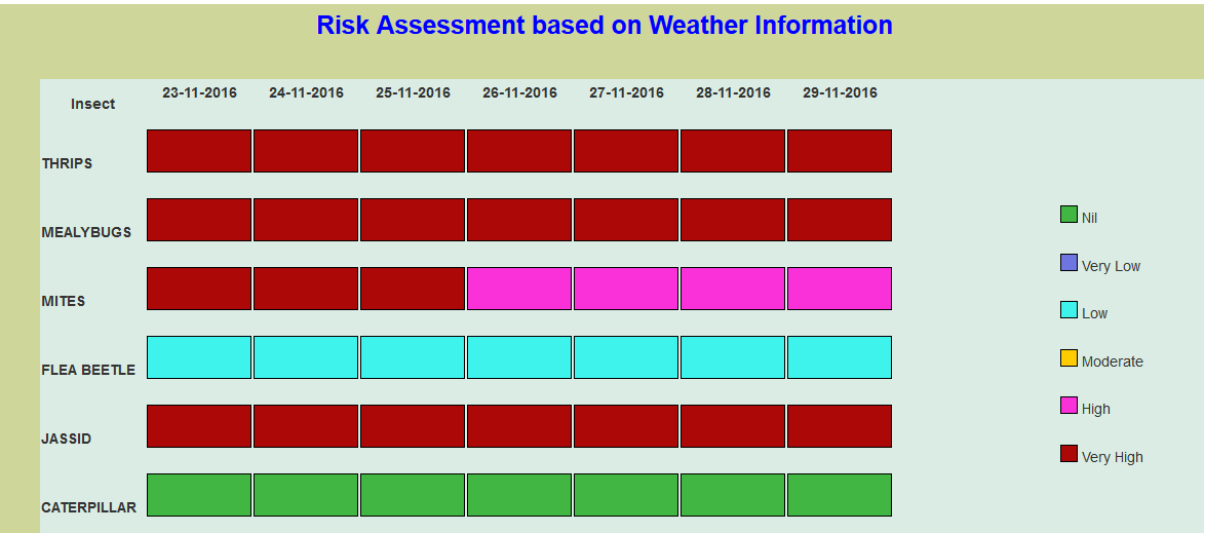
VI. Canopy management (Dr. R.G. Somkuwar)

1. In the pre-bloom stage vineyards, there will be slow vegetative growth due to reduction in minimum temperature. Hence, irrigation and nitrogen application to be taken seriously so as to obtain 10-12 leaf after the bunch. In case of berry setting stage vineyards, if the shoot growth is excess, pinching of shoot tip is to be done. This will help to maintain proper source: sink ratio.
2. In case of grafted vines, apply potash through soil and also through spray for shoot maturity. Under the situation of green growth, pinching of green parts to be carried out. This will help to advance the shoot maturity and reserve food material required during re-cut (February).

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

If powdery mildew is present in the field, dusting of sulphur 80%WG @ 5-6 kg /acre or foliar spray of sulphur 80%WG @ 2g/L should be done. A follow-up application of chitosan 10% @ 2ml/L should be done for better efficacy of the sulphur. Application of biocontrol agents like *Bacillus* sp @ 2g/L or *Trichoderma* sp @4g/L or *Ampelomyces* sp @ 4-5g/L should continued. If the incidence of powdery mildew is high, application of Difenoconazole @0.5ml/L along with potassium hydrogen carbonate or mono potassium phosphate should be done.

VIII. Insect and Mite management. (Dr. D.S. Yadav and Dr. B.B Fand)



A. Pest risks:

- Very high risks of infestation of thrips, mealybugs and jassids
- High risk of infestation of mites and low risk for flea beetle and caterpillars

B. Safer options for management:

- Continue installation of light traps for controlling jassids. Run the light traps for 3 hours daily, during evening between 7.00 pm – 10.00 pm for maximum catch efficiency.
- Application of entomopathogeic fungi, *Beauveria bassiana* + *Lecanicillium lecanii* ($2x10^8$ spores/ml) @ 5.0 + 5.0 mL/L twice at fortnightly interval may help to check the population of thrips, mealybugs and jassids.
- Use of Neem based products will be helpful for controlling thrips, mealybugs, jassids and mites

C. Need based spraying of insecticides when high infestation occurred:

1. Lambda cyhalothrin 5 EC @ 0.5 ml/lit will be helpful against jassids
2. Emamectin benzoate 5 SG @ 0.22 g/lit against thrips
3. Buprofezin @ 1.25 ml/lit for controlling mealybugs
4. Sulphur 80 WDG @ 2 g/lit for controlling mites

*Avoid use of imidacloprid at flowering period and after 50 days of fruit pruning.
**Fipronil should be used only once in a fruiting season and should be avoided after flowering period

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.