

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 (25/10/2018) -- Thursday (01/11/2018)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	19-22	33-35	Nashik, Ojhar, Pimpalgaon Baswant, Palkhed, Dindori, Vani Light Rain –Thu (25/10)	Clear	04-14	18-25	37-55
Pune	19-22	33-34	Narayangaon, Junnar, Light Rain- Thu (25/10)	Clear	05-18	20-34	45-69
Solapur	21-22	34-36	Solapur, Nanaj, Kati, Barshi, Vairag, Kasegaon, Pandharpur, Atpadi Light Rain- Thu (25/10)	Clear	04-13	21-40	39-65
Sangli	19-21	33-34	Sangli, Miraj, Palus, Valva, Arag, Kagvad, Shirguppi, Tasgaon, Vite, Kavathe Mahankal, Shetfal, Light Rain –Thu (25/10)	Clear	03-12	28-49	42-63
Bijapur	19-21	32-34	Bijapur, Tikota, Telsang, Chadchan Light Rain –Thu (25/10)	Clear	06-22	21-36	49-79
Hyderabad	18-19	32-34	No Rain	Clear	03-12	26-39	61-96

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: 41 days

b) Expected growth stage of the crop: - Early shoot growth after fruit pruning

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

Expected pan evaporation: 5 to 7 mm

1. The irrigation water application should be based upon the growth of the vines. Generally, under wapsa (field capacity) condition of the soil, donot irrigate the vineyard.
2. In many grape growing areas still, low rainfall has been received. The salts might not have been leached sufficiently. Wherever, sulphur / gypsum were used for removing sodium from exchange complex, there is need to flood the root zone. In case water is available in canal/ well, flood the root zone to leach the salts. Before flooding remove the mulch from the bunds.

3. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 8,500- 11,900 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 4250 - 5500 L/ acre.
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.
5. During Flowering to setting stage, apply irrigation through drip @ 3000 to 4000L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 1500 to 2000L/ acre.
6. If the rootzone is saturated then donot apply any fertilizer. Growth will be slow, donot 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.

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

Fruit pruning season

Pre-Pruning operation:

1. Soil, petiole and water reports will give information on extent of buildup of sodicity in soil. Apply gypsum @ 150-200 kg/acre to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use Sulphur @ 100 kg/acre for similar purpose. Gypsum/sulphur should be properly mixed in soil and for better utilization efficiency it should be mixed with FYM and incorporated into soil. The soil should be moist. After approx. 20 days adequate irrigation 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 atleast 15-20 days before pruning. 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.
REMEMBER: Sulphur should not be left on the surface of the bund. This will not help in removing calcium carbonate from the soil.
3. Remove mulch applied during Foundation pruning and loosen the soil for improving movement of water through the root zone to reduce salts accumulated in the root zone. Organic mulch can be mixed in the soil to improve the porosity of the soil.
4. Apply FYM/ other organic sources including green manuring atleast 12-15 days before pruning. Application of organics improves the nutrient and water retention in the root zone and reduces nutrient losses from the profile.
5. In calcareous soil, if planning to add single super phosphate, mix with FYM and then apply. This will improve phosphorus use efficiency as well as reduce the phosphorus fixation in calcareous soil.
6. 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.

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 puning, 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 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.

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 in the form of Calcium Chloride @ 2g/L or Ca chelate @ 0.5 g/L.

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

1. Apply 5-7.6 ml/lit. of ethep for defoliation (if, CIB restrictions are not there)
2. Prune the vineyard as per bud testing data
3. Apply hydrogen cyanamide based on cane thickness before 48 hrs. of pruning

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

Early pruned vineyard:

In these gardens, flowering to veraison stage is seen. During the flowering stage, canopy in terms of number of leaf above the bunch to nourish the developing bunch is important. Approximately 12-13 leaf with a size of 15-160 sqcm is required for developing a bunch of about 450-500g. Hence, leaf requirement to be achieved before the berry set. Application of nitrogenous fertilizer based on vigor requirement (number of leaves already available above the bunch and actual requirement) will help to complete the leaf area requirement.

In the vineyard at veraison stage, due to low temperature and availability of less sunlight, the growers are using ethephon for early and uniform color development in black seedless early pruned vineyard. However, during this year the temperature is higher than the last year. Under such situation, color development can be achieved with minimum application of ethephon.

Grafted vineyard:

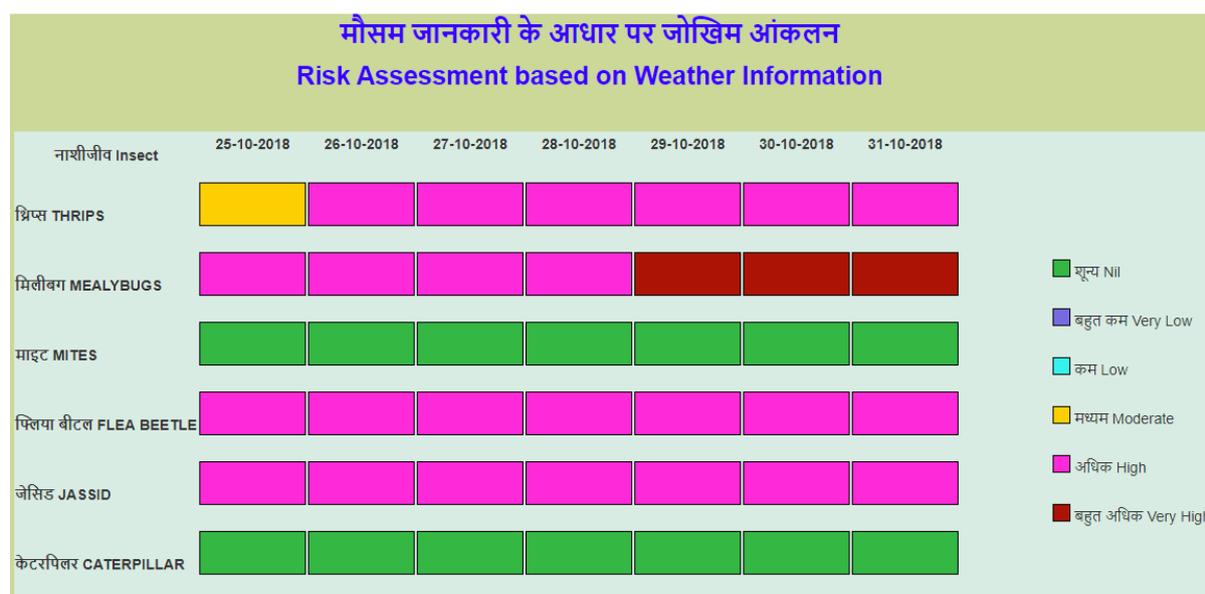
In these vineyards, removal of suckers on rootstock should be done regularly. In majority of the grape garden, incidence of flea beetle is observed. The severe incidence of flea beetle might be due high temperature in the vineyard. Hence, timely removal of suckers on the grafted vine and spraying of insecticide will help to control the insect attack and success of grafts. In addition, downy mildew on grafted plants also seen in few gardens. Weed grown in the vineyard help in increasing relative humidity thereby increasing the incidence of diseases. In the case of incidence, the organism enters in the green shoots and attack is seen more just near the graft joint. This will lead to failure of complete graft. Hence, in the grafted vineyards, weed management and disease control should be given priority.

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

Days after pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
41	Low	Nil	Nil	Nil

If there is an occurrence of rain and there is an existing infection of downy mildew in the orchard or vicinity, application of Dimethomorph@1g/L+mancozeb 75WP@2g/L or Iprovalicarb+propineb @ 2.25g/L or Mandipropamid@ 0.8g/L or Dimethomorph +ametoctradin@0.8g/L may be done . If there is an occurrence of dew due to the lowering of temperature prophylactic spraying with potassium salt of phosphoric acid@2-3g/l or mancozeb@2.5g/l may be carried out

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



- Spraying of emamectin benzoate 5 SG @ 0.22 gram per litre water or fipronil 80 WG @ 0.06 gram per litre water is effective to manage thrips and jassids.
- Imidacloprid 17.8 SL @ 0.4 ml/L water or fipronil 80 WG @ 0.06 gram 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.