

मौसम पूर्वानुमान आधारित साप्ताहिक सलाह

Weather Forecast Based Weekly Advisory

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

I. Weather Data for the Prevailing Week

Thursday (03/11/2016) - Thursday (10/11/2016)

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	17-18	31-32	No Rain Nasik, Ojhar, Pimpalgaon Baswant, Vani, Palkhed, Dindori, Shirdi, Loni, Rahata, Niphad, Kalwan, Devla, Lasalgaon, Satana.	Clear	02-13	19-26	42-62
Pune	20-22	30-32	No Rain Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Rahu, Patas, Pargaon, Supa, Baramati, Narayangaon, Junnar.	Clear	04-19	24-44	51-79
Solapur	19-21	33-34	No Rain Solapur, Nanaj, Kati, Atpadi, Vairag, Pandharpur, Kasegaon, Barshi, Pangri, Kari, Latur, Ausa, Osmanabad, Tuljapur.	Clear	06-21	16-23	44-55
Sangli	19-21	33-34	No Rain Sangli, Miraj, Shirol, Arag, Shirguppi, Kagvad, Kavate Mahankal, Palus, Valva, Palsi, Shetfal, Vite, Khanapur	Clear	05-23	15-29	42-57
Bijapur	19-21	33	No Rain Bijapur, Tikota, Telsang, Chadchan	Clear	05-18	16-27	46-60
Hyderabad	17-20	30-31	No Rain Hyderabad, Medchal, Zahirabad, Rainlaguda.	Clear – Partly Cloudy	06-21	26-43	56-78

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: ≥ 22 days

b) Expected growth stage of the crop: Active shoot growth

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

Expected pan evaporation: 4 to 6 mm

Amount of irrigation advised

- During shoot 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. Further, in case vigour is more than desired, then reduce irrigation water application by half to 3400 L/ acre/ day for Nasik, Pune and Hyderabad regions and 4250 L/acre/ day for other regions. Still if you are not able to control the vigour, stop irrigation till the vigour is controlled.
- During flowering to berry setting stage, apply irrigation through drip @ 2800 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 1400 L/ acre for Nasik, Pune and Hyderabad regions and 1680 L/acre for other regions.

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

- This week, during active shoot growth stage apply urea @ 15kg / acre in two splits, based on the soil test values. If the soil is calcareous, instead of urea apply ammonium sulphate @ 20 kg/ acre in two splits. Depending upon the crop vigour, regulate nitrogen application.
- 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.
- Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
- If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits during this week.
- Donot apply any nitrogen based fertilizers just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis). Apply 5 kg Phosphoric acid in two splits this week.
- After Berry setting, continue initially with Phosphoric acid application @ 5 kg in two splits this week.
- If the berry size is from 2-4mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre.

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

- The shoot thinning to be carried out during this week
- If leaves look yellowish or pale or dull in color, apply $MgSO_4$ @ 10 kg/ acre through soil, as well as one spray of same chemical may be useful.
- If severe chlorosis is observed then apply $FeSO_4$ @ 15 kg/acre through soil.

- In this week one can go for application of GA₃ for radius elongation. The details are given in the following table.

Table: Application of GA₃ for radius elongation

Stage	GA ₃ (ppm)	pH	Purpose
Parrot green stage	10	5-6 (Phosphoric acid)	Panicle growth
4 day after parrot green stage	15	5-6 (Phosphoric acid)	Rachis elongation
*8 days after parrot green stage	20	5-6 (Phosphoric acid)	Rachis elongation

*Apply if required.

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

- Removal of excess shoots at 14 to 16th days after fruit pruning.
- In case of early pruning, where there are 10-12 leaf above the bunch, shoot tip pinching to be done. This will maintain the balance between source and sink.
- In case of grafted vines, give soil application of DAP @ 30 kg/acre. This will support the proper callus formation and root development.
- The growth after the success of grafts can be pinched at 7-8 leaf stage for trunk development. This will help to develop the thick trunk with reserved food material.

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

- There is a possibility of powdery mildew incidence due to fluctuations in temperature. Hence, this week's disease management strategy should be focused on powdery mildew. Application of triazole fungicides like difenconazole @ 0.5 ml/lit or hexaconazole @ 1.0 ml/lit at 5-7 leaf stage will help to reduce the vigour and promote the development of good quality bunches.
- During this week climate will be mostly clear and rain free, however there is a possibility of light rains for few days after 10th November. Due to this, the inoculum of downy mildew already present in the vineyards may flare up suddenly. Hence, fungicide applications are necessary well in advance to reduce the downy mildew inoculum.
- Preventive sprays of systemic fungicides from CAA group viz, dimethomorph 1g + mancozeb 2g (tank mix) or iprovalicarb + propineb (ready mix) will be helpful to minimize the subsequent incidence of hidden infection of downy mildew due to acquired better systemicity of the fungicide. This will help in healthy and disease free growth of leaves and developing bunches.
- In vineyards at fruit setting stage, apply phosphide based fungicides like potassium salt of phosphoric acid @ 3.0 g/lit.
- Application of *Trichoderma* sp. through drenching and spraying in experimental vineyards at Nasik has shown promising results for reducing the downy mildew incidence by 50%. This was evident in the form of reduction in the number and size of disease spots on treated leaves compared to untreated check. Equal numbers of preventive sprays of fungicides were maintained in both the cases. Hence, *Trichoderma* application is advised for reducing the incidence of downy mildew.

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

Risk levels of different insects

Thrips	Caterpillars	Mealybug	Jassids	Flea beetle	Mites
Very High	Low	Very High	Very high	high	Nil

A. Pest risks:

- High risk of infestation of thrips, jassids and flea beetle on actively growing tender shoots and leaves.
- High risk of mealybug infestation on vines due to relatively low RH and clear weather.

B. Safer options for management:

- Installation of light traps will be helpful in controlling jassids in particular and moths in general. Run the light traps for 3 hours daily, during evening between 7.00 pm – 10.00 pm for maximum catch efficiency.
- Application of entomopathogenic fungi, *Beauveria bassiana* + *Lecanicillium lecanii* (2×10^8 spores/ml) @ 5.0 + 5.0 mL/L twice at fortnightly interval may help to check the population of thrips, mealybugs and jassids.
- In case infestation of leaf eating caterpillar is noticed, spraying of viral biopesticide *S/NPV* @ 250 LE/ha may be helpful

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

1. *Imidacloprid 17.8 SL @ 0.3 ml/lit for control of thrips, flea beetle, mealybugs and jassids
2. **Fipronil 80 WDG 0.06 g/lit will be helpful to control thrips, jassids, flea beetle and caterpillars
3. Lambda cyhalothrin 5 EC @ 0.5 ml/lit will be helpful against thrips, jassids, caterpillars
4. Emamectin benzoate 5 SG @ 0.22 g/lit against thrips and caterpillars

*Avoid use of imidacloprid at preflowering and flowering periods.

**Fipronil should be used only once in a fruiting season and should be avoided after 50 days of fruit pruning

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.