मौसम पूर्वानुमान आधारित साप्ताहिक सलाह
Weather Forecast Based Weekly Advisory

(Assumption: Pruning date-15/04/2016)

I. Weather Data for the Prevailing Week

Thursday (15/09/2016) - Thursday (22/09/2016)

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nashik	23	26-27	**Thu-Fri, Thu Good Rain** Shirdi, Loni, Rahata **Fri-Thu Medium Rain** Nasik, Ojhar, Pimpalgaon Baswant, Vani, Dindori **Thu-Thu Light Rain** Satana, Kalwan, Devla, **Thu-Tue, Thu Light Rain and Wed Good Rain** Palkhed, Niphad,	Cloudy	06-16	77-81	93-97
Pune	23	26-27	**Thu-Thu Good Rain** Pune, Phursungi, Narayangaon, Junnar, **Thu-Sat Good Rain** Loni Kalbhor, Uruli Kanchan Thu, Sat-Sun, Thu **Good Rain** Yavat, Rahu, Patas, Pargaon, Supa, Baramati **Thu-Thu Medium to Good Rain** Narayangaon, Junnar	Cloudy	10-19	80-84	91-96
Solapur	23	26-28	**Thu, Tue-Thu Medium Rain and Fri-Mon Light Rain** Solapur, Nanaj, Kati, **Thu, Sat Good Rain and Tue Light Rain** Vairag, Barshi, Pangri, Kari. **Thu, Wed Good Rain** Osmanabad, Tuljapur **Thu-Sun, Tue- Thu Good Rain** Latur, Ausa **Thu-Sun Light Rain and Tue- Thu Medium Rain** Pandharpur **Thu,sun,Thu Good Rain and Sat, Mon- Wed Light Rain** Kasegaon **Thu- Fri, Mon-Wed Light Rain and Sun, Tue, Thu Good Rain** Atpadi	Cloudy	14-27	72-85	90-95

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Sangli	22	25-28	**Sun- Tue Light Rain and Wed - Thu Good Rain** Sangli, Miraj, Shirol, Shirguppi, Arag, Kagwad, **Thu, Sun-Mon, Thu Good Rain** Tasgaon, Palus, Valva, Kavate Mahankal **Tue-Thu Light Rain** Shetfal **Thu-Sat and Tue-Thu Good Rain** Khanapur **Thu, Sun-Thu Medium to Good Rain** Palsi, Vite	Cloudy	14-27	71-85	94-96
Bijapur	22	26-28	**Wed Light Rain and Thu Good Rain** Bijapur, Tikota, Telsang, **Thu, Sat, Tue-Thu Good Rain** Chadchan	Cloudy	21-31	73-80	91-96
Hyderabad	21	26-27	**Thu, Sat, Thu Light Rain and Sun- Tue Good Rain** Hyderabad, **Tue-Thu Good Rain** Zahirabad, **Thu, Sat-Sun Light Rain and Wed-Thu Good Rain** Medchal,	Cloudy	16-21	79-86	92-100

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:

b) Expected growth stage of the crop

90-140 days- Buildup of storage

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

Expected pan evaporation: 4 – 6 mm

All recommendations are per acre/hectare basis.

Amount of irrigation advised:

Foundation pruning season: In general there will be no need to apply irrigation as the soils are already at field capacity (wapsa condition). Irrigate the vineyard only if the vines start showing moisture stress i.e. leaf cupping/ curling. Then, apply irrigation through drip @ 2800 litre/acre/day.

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

Foundation pruning season

1. The vineyards where sodicity problems are there, apply gypsum to the soil for removal of sodium from the soil exchange complex. In case of calcareous soils, use sulphur for similar purpose.
2. In case pruning is scheduled during October, green manuring with Sunnhemp / Dhaincha is advised. In sodic soils, dhaincha is preferred.
3. Remove plastic/ organic mulch 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. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. Mixing of sulphur in organics further improves its efficacy.
5. If Fruit pruning is planned during September, go for soil and water testing for proper nutrient and water management.

Fruit pruning season

1. Apply FYM/ other organic sources including green manuring at least 12-15 days before fruit pruning. If possible mix 200 kg Single super phosphate in the FYM and apply in the soil. Application of organics improves the nutrient and water retention in the root zone and reduces nutrient losses from the profile. In calcareous soils, where sulphur needs to be applied, mix the same with organics and then apply to the soil. This will lead to better utilization of sulphur for reducing calcium carbonate in the root zone along with reduction in soil pH also.
2. During shoot growth stage, apply irrigation through drip @ 6720 to 10080 L/ acre/ day. However, in case of rains, if wapsa condition is there, then postpone irrigation water application for a day or two at least depending upon soil type.
3. Based upon the soil test value, during shoot growth stage apply urea @ 65 kg / acre with 15kg urea being applied per week in two splits. If the soil is calcareous, instead of urea apply ammonium sulphate @ 100 kg/ acre with 20 kg being applied in splits every week. Depending upon the crop growth regulate nitrogen application.
4. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.

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

As per the present growth stage application of growth regulators are not required.

VI. Recommendation for canopy management (Dr. R.G. Somkuwar)

1. **Timely pruned vineyard**: Apply potash @ 1.0 kg/acre and irrigation based on the requirement for advancing cane maturity.
2. **Grafting on rootstock**: The bud sprouting will be visible 10-12 days after grafting. Sometimes, the drying of new sprouts on scion will be seen in the newly grafted vineyard. To avoid, irrigation and application of urea @ 0.5 kg/acre alternate day will be sufficient.

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

As light to medium rains are prevalent in most of the parts, the time is apt for the application of biocontrol agents like *Bacillus* sp @ 2g/L or *Trichoderma* sp @4g/L or *Ampelomyces* sp @ 4-5g/L.

For the early pruned growers where the vines stand at a 3-5 leaf stage 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 should be done in absence of rain to protect against downy mildew.

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

Risk levels of different insects

Thrips	Caterpillar	Mealybug	Jassids	Flea beetle	Mites
Low	High	Moderate to High	Low	Low	Moderate to High

- As high relative humidity coupled with moderate to high rains and cloudy conditions will prevail in most of the grape growing areas, the caterpillar (*Spodoptera litura*) infestation may continue. *Spodoptera litura* Nuclear Polyhedrosis Virus (SlNPV) @ 250 LE/ha may be used for biological control of these caterpillars. Alternatively, emamectin benzoate 5 SG @ 0.22 g/liter water can be given.

Figure 1. *Spodoptera litura* larva feeding on grape leaves

- With high relative humidity, the activity of mealybug natural enemies such as predatory coccinellids and parasitoids will increase and help in reducing mealybug population. Avoid spraying broad spectrum insecticides to conserve these natural enemies. If ant population is noticed, application of entomogenous fungi, *Metarhizium anisopliae* @ 10^6 cfu/ml can be given. The prevailing high humidity will help in establishing this entomogenous fungi and managing both ants and mealybugs. Buprofezin 25 SC @ 1.25 ml/L water may be used to manage mealybugs, if required.
- Mite incidence may be high in most of the grape growing areas especially Bijapur and Solapur regions due to favourable crop and weather conditions. For the management of mites, sulphur 80 WDG @ 2.0 g/L water is effective.
- Excess shoot growth due to high humidity conditions may help to build up thrips population and reduce coverage during insecticide applications, therefore, excess shoot growth should be removed to reduce thrips incidence.
- Heavy weed infestations due to rains increase caterpillar and mite populations. Hence, keeping vineyards free from weeds will help in reducing their infestations.

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.