मौसम पूर्वानुमान आधारित साप्ताहिक सलाह
Weather Forecast Based Weekly Advisory

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

I. Weather Data for the Prevailing Week

Thursday (29/09/2016) - Thursday (06/10/2016)

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	21-22	24-29	**Sun and Wed-Thu Light Rain** Nasik, Ojhar, Pimpalgaon Baswant, Vani, Palkhed, Dindori. **Sat-Tue Light Rain and Wed Onwards Medium Rain** Shirdi, Loni, Rahata, Niphad, Kalwan, Devla, Lasalgaon, Satana.	Cloudy	08-19	65-83	89-95
Pune	21-22	27-29	**Sun -Thu Light Rain** Pune, Phursungi. **Wed- Thu Medium Rain** Loni Kalbhor, Uruli Kanchan Yavat, Rahu, Patas, Pargaon, Supa, Baramati. **Mon-Thu Light Rain** Narayangaon, Junnar.	Cloudy	08-19	61-75	87-94
Solapur	22-23	27-31	**Thu-Thu Drizzling** Solapur, Nanaj, Kati, Pandharpur, Kasegaon, Atpadi. **Wed-Thu Medium to Good Rain** Vairag, Barshi, Pangri, Kari, Osmanabad, Tuljapur. **Tue-Thu Medium Rain** Latur, Ausa.	Cloudy	08-23	59-67	87-95
Sangli	20-22	28-30	**Thu-Mon Light Rain** Sangli, Miraj, Shirol, Arag, Shirguppi, Kagvad **Wed-Thu Light Rain** Kavate Mahankal, Tasgaon, Palus, Valva, Vite. **Thu-Thu Light Rain** Palsi, Shetfal **Tue-Thu Good Rain** Khanapur	Cloudy	08-23	59-67	93-99
Bijapur	21-22	27-30	**Thu-Mon Drizzling** Bijapur, Tikota, Telsang. **Mon-Thu Light Rain** Chadchan	Cloudy	11-23	53-68	92-97
Hyderabad	21-22	26-29	**Mon-Tue Light Rain** Hyderabad, Medchal, Zahirabad.	Cloudy	06-21	69-81	97-99

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:

b) Expected growth stage of the crop

90-140 days- Buildup of storage

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

Expected pan evaporation: 0 - 5 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)

121 days upto Fruit pruning

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 Fruit pruning is planned during October, go for soil and water testing for proper nutrient and water management.

Fruit pruning season

1. **Before fruit pruning:** Apply FYM/ compost/other organic sources including green manuring atleast 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 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 lead to better utilization of sulphur for reducing calacium carbonate in the root zone along with reduction in soil pH also.

2. During shoot growth stage, apply irrigation through drip @ 8500 L/ acre/ day. However, in case of rains, if wapsa condition is there, then postpone irrigation water application for a day or two atleast depending upon soil type or if the leaves show cupping or curling symptoms. Further, in case vigour is more than desired, then reduce irrigation water application by half to 4250 L/ acre.
3. 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.
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. **Leaf removal for grafting to be started well in advance. If the vine health is good indication the leaves are intact, the leaf should be removed at least 15 days in advance, while under the situation of 40-50% leaf fall due to any reasons, the leaf removal to be done at least 10 days before the fruit pruning. In case of leaf removal by chemical spray, care should be taken that the irrigation was stopped 5-6 days before the spray.**
2. **Grafting on rootstock**: Under the condition of bud sprouts, there will be incidence of flea beetle attack on the young buds. Hence spraying of insecticide at bud sprouting stage with Proclaim @ 0.30ml/litre may done.
3. **Under the condition of delayed bud sprouts, spray the grated vine with water twice in a day**. The spraying to be started from 12th day after grafting and continued till 17 – 18th days after grafting.

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

Application of biocontrol agents like *Bacillus* sp @ 2g/L or *Trichoderma* sp @4g/L or *Ampelomyces* sp @ 4-5g/L. Dusting of mancozeb 75 WP @ 2.5 kg per acre may be done as a preventive against downy mildew for the early pruned growers. If 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 or Cymoxanil +Mancozeb WP@2g/L should be done before Saturday to protect against downy mildew. In places where downy mildew is observed, Fosetyl-Al 80WP@ 4 g/L or Potassium salt of phosphorus acid @ 4 g/L as a tank mix with mancozeb 75WP@2g/L or propineb 70WP @3g/L may be sprayed.

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.