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 (13/10/2016) - Thursday (20/10/2016)

Location	Temperature		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr)	R H%	
	Min	Max				Min	Max
Nasik	19-20	31-32	**No Rain** Nasik, Ojhar, Pimpalgaon Baswant, Vani, Palkhed, Dindori, Shirdi, Loni, Rahata, Niphad, Kalwan, Devla, Lasalgaon, Satana.	Clear	02-10	34-44	66-80
Pune	19-21	31-32	**No Rain** Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Rahu, Patas, Pargaon, Supa, Baramati, Narayangaon, Junnar.	Clear – Partly Cloudy	03-14	34-52	68-84
Solapur	20-21	32-34	**No Rain** Solapur, Nanaj, Kati, Atpadi, Vairag, Pandharpur, Kasegaon, Barshi, Pangri, Kari, Latur, Ausa, Osmanabad, Tuljapur.	Clear – Partly Cloudy	05-14	27-41	69-73
Sangli	18-21	31-32	**Thu (13/10) Light Rain** Sangli, Miraj, Shirol, Arag, Shirguppi, Kagvad **No Rain** Kavate Mahankal, Palus, Valva, Palsi, Shetfal, Vite, Khanapur	Clear – Partly Cloudy	03-16	34-48	69-83
Bijapur	19-21	32-33	**No Rain** Bijapur, Tikota, Telsang, Chadchan	Clear	05-18	26-44	67-73
Hyderabad	18-19	29-31	**No Rain** Hyderabad, Medchal, Zahirabad, Rainlaguda.	Clear	03-16	39-50	73-80

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

After foundation pruning **:** ≥ 150 days - Build-up of storage

After fruit pruning (in case pruning done) **:** ≤ **3** days, dormant/swollen bud

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

Pan evaporation: 4 to 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 @ 3000 L/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. Organic mulch can be mixed in the soil to improve the porosity of the soil.

3. Soil and water testing for proper nutrient and water management needs to be carried out.

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 (based upon soil test) 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. In case of calcium carbonate content more than 15 % apply 100 kg sulphur per acre in the root zone. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. Mixing of sulphur along with organics 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 @ 6800 to 10,200 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 3400 to 5100 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 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.

5. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.

6. If the crop is at Flowering stage, then apply phosphoric acid @ 1L per day for next one week. During this stage, go for petiole test to plan for fertilizer application later on.

7. To avoid issues of inflorescence necrosis(kooj), proper shoot thinning is advised so that canopy is open and there is no buildup of RH in the canopy.

8. 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)

In the present situation in many places either very less number of bunches has been reported or very small bunches are observed in Maharashtra. Hence, it becomes very much necessary to carry out the bud testing. This will facilitate to identify the correct fruitful zone and accordingly pasting of hydrogen cyanamide will be applied. This will solve the above problem. One more thing growers can do is that based on bud testing or without testing report they may apply the paste of hydrogen cyanamide not only on 2 buds but also they should apply this paste on more number of buds so that we may not miss the bunches.
This is the time to go for fruit pruning immediately after pruning the paste of hydrogen cyanamide may be applied. This must be applied at once only and this should be based on cane thickness. If canes in the vineyards are of variable thickness then naturally paste has to be applied of variable concentration of hydrogen cyanamide. This will improve the uniformity as well as more and quick sprouting of the buds.

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

Unpruned vineyards

- This and next week, the climate will be clear with no rains and cloud cover in majority of the grape areas. However, there is a possibility of rains during last week of October till first week of November. Hence, decision of undertaking fruit pruning during current week considering the clear weather will be quite risky as it would be difficult to manage diseases at ponga or early flowering stages those will coincide with the rains. Hence, in grape areas where fruit pruning is yet to be done, ***pruning may be withheld for next 8-10 days so that the ponga stage will not coincide with the rains***. There will be likely no rains from second week of November onwards and delayed pruning may lead to development of ponga stage during rain free period.

Already pruned vineyards

- In already pruned vineyards, there will be risk for downy mildew for next 2-3 days. After 2-3 days, as temperature is likely to shoot above 30^{o}C, the risk for downy will decrease whereas the risk for powdery mildew will increase due to high RH. ***Hence, the disease management strategy for this week should focus on management of downy mildew during initial 2-3 days and for powdery mildew thereafter.***

For downy mildew

- At ponga stage, spraying of Mancozeb @ 2 g /litre of water
- At 2-3 leaf stage, spraying of Systemic fungicides:

  Dimethomorph 1 g + Mancozeb 2 g (Tank mix)

  OR

  Dimethomarph +Ametoctradin (Ready mix + Compound Fungicide) 2 g/litre of water

  OR

  Cymoxynil + Mancozeb (Compound Fungicide) 3 – 3.5 g/litre of water

For powdery mildew:

- At 5-6 leaf stage: Sprying of fungicides from triazole group, e.g. Difenconazole @ 0.5 ml/lit or tebuconazole + fluopyram (ready mix) @ 0.57 ml/lit. The triazole fungicides will help to control the powdery mildew on new growth and also help to regulate the excess vine growth after rains.
- At more than 8-10 leaf stage: Spray chitosan @ 2-3 ml/lit after a spray of fungicide for better control of powdery 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
Moderate to high	Moderate to High	Moderate to High	Low	Moderate to high	Nil

- During this week, there will be no rains in majority of the grape growing areas except the possibility of light showers in Sangli region. Relative humidity will be moderate to high and sky will be clear with little sunny weather.
- In newly pruned vineyards where buds are in swollen stage or new sprouts have come out, there is a risk for infestation of thrips, flea beetle and mealybugs.
- To prevent colonization and further spread of mealybugs on new sprouts and tender growth, removal of dead bark on the stems and a complete plant wash (main stem, cordons and canes) with buprofezin 25 SC @ 1.25 ml/ lit (use 1.0 – 1.5 lit of water per vine) is recommended within 1 – 2 days after pruning.
- Preventive spray of Imidacloprid 17.8 SL @ 0.3 ml/lit at swollen bud stage/ sprouting stage is advised against flea beetle, mealybugs and thrips.
- In case the leaf eating caterpillar damage is seen due to light rains in some areas, take spray of Fipronil 80 WDG 0.06 g/lit or Emamectin benzoate 5 Sg @ 0.22 g/lit

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.