WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (13/01/2021)–Wednesday (20/01/2021)

	Temperature (°C)		**Possibility of Rain**	**Cloud Cover**	**Wind Speed (Km/hr) Min-Max**	**R H%**	
	Min	**Max**				**Min**	**Max**
Nashik	16-19	29-31	**Nashik, Ozar, Palkhed, Dindori, Devla, Vani, Loni, Kalwan, Pimpalgaon Baswant, Niphad, Shirdi** – No Rain.	Partly Cloudy	0-14	29-37	42-57
Pune	18-21	29-32	**Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Narayangaon, Supa, Junnar, Yavat, Patas, Baramati** – No Rain.	Partly Cloudy	0-13	27-32	51-55
Solapur	18-20	31-33	**Solapur, Vairag, Nannaj, Kati, Pangri, Osmanabad, Pandharpur, Barshi, Kasegaon, Atpadi, Latur, Ausa Tuljapur** – No Rain.	Partly Cloudy	3-14	24-30	44-66
Sangli	17-20	31-33	**Sangli, Miraj, Kagvad, Palus, Tasgaon, Shetfal, Khanapur, Shirguppi, Vita, Arag, Walva, Palsi Kawthe Mahakal** -No Rain.	Partly Cloudy	1-15	25-32	48-69
Vijayapura	16-19	27-31	**Vijayapura, Tikota, Telsang, Chadchan** – No Rain.	Partly Cloudy	5-17	26-32	50-69
Hyderabad	15-19	27-31	**Hyderabad, Medchal, Zahirabad** – No Rain.	Partly Cloudy	1-9	27-39	65-89

Note: Above weather information is summary of weather forecasting given in following websites

https://www.wunderground.com/?cm_ven=cgi

https://imdagrimet.gov.in/weatherdata/BlockWindow.php

https://www.accuweather.com/

ICAR-National Research Centre for Grapes does not claim accuracy of it.

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

a) **Days after fruit pruning:** 107

b) **Pan evaporation**: 3.5-5 mm

Amount of irrigation advised

In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.

1. During Berry development stage, apply irrigation through drip @ 6,000- 8,500L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 3,000 – 4,200 L/ acre. Still if you are not able to control the vigour, stop irrigation till such time growth is controlled.
2. 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.
3. Flooding should be avoided.

Soil and Nutrient management

Berry Development stage:

1. If the berry size is from 2-4mm, spray calcium @ 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
2. If the berry size is from 5-8mm, spray calcium & 2g Calcium Chloride or 0.5 g Ca chelate per litre. Target sprays immediately after GA application (preferably next day) for better absorption.
3. In the calcareous soil, spray magnesium sulphate @ 3g/L on the vines followed by fertigation of magnesium sulphate @ 10kg/acre from setting till 6-8 mm berry stage.
4. Foliar spray of sulphate of potash @ 3g/acre at 8-10mm berry size.
5. After 8-10 mm berry size, start application of nitrogen in the form of ammonium sulphate @ 25kg /acre in 4 splits in calcareous soil and as urea @ 15 kg/acre in other soils in 3 splits. Follow this up with Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks.
6. If soil is calcareous, then apply zinc sulphate and ferrous sulphate @ 5 kg/acre at 65-70 days after pruning.
7. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of berry cracking.

Ripening to Harvest stage:

1. Apply Sulphate of potash or 0-0-50 @ 25 kg/ acre in 3-4 splits for next two weeks. Total potassium application (SOP) should be approx. 60 kg/acre during this stage. Follow this up with Magnesium sulphate @ 10 kg/acre in two splits.
2. Spray Magnesium sulphate and potassium sulphate @ 3g/L in calcareous soil.
3. Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of berry cracking.

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

Nil.

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

At present the major grape growing areas are experiencing either cloudy condition or rainfall. This will create the problem of berry development. The practices/measures are suggested for the following.

Effect Management after rains:

1) After the rainfall, berry cracking in many of the vineyard where bunches were in near harvest stage. Under this condition, the damaged berries are to be removed and buried in a pit at least 2 feet deep.
2) During this time the temperature in the vineyard might have come down with increase in relative humidity. This condition is favourable for faster multiplication of biologicals. Hence, 2 – 3 sprays of Trichoderma @ 5 ml/L water should be taken.
3) Side shoots are also to be removed. This will help for easy aeration.
4) In the vineyard where dew and fog remains for longer time, the chances of downy mildew will be more. Under this condition, Hence, priority should be given to remove extra shoots and 2-3 leaf below the bunches.

Root activity

1) The stamping on bund while doing many activities like berry thinning, bunch dipping and training the shoots on wire has reduced the activity of roots. Hence, the loosening of bund should be done.
2) Making a small trench on the side of a trench using tractor or loosening the soil on the bund just near the place where the water falls will help for activation of new roots called as white roots.

3) Mulching to be done on priority as the root activity will be better by increasing the temperature in root zone.
4) The increase in temperature in near future will also help in reducing the water requirement.

Yellowing of leaf:

1) Dense canopy on the vine after berry set will be reducing the sunlight.
2) Removal of 3-4 leaf below the bunch will support aeration in the canopy.
3) The side shoots on a bunch bearing shoot should be removed on priority. This will support individual leaf for photosynthesis.

In the dense canopy, the lower side leaf will become yellow. Such leaf will not prepare their food on their own but will depend on other leaf. Hence, removal of excess canopy should be priority.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
107	Low	Moderate	Nil	Nil

In regions where there is morning dew, dusting of Mancozeb 75WP @ 3-5 kg/acre should be done. If downy mildew persists, application of potassium salt of phosphoric acid @4g/L may be done. Spray application of Trichoderma sp. @ 2-3g/L specifically directed towards the bunches could prevent bunch rot. As most of the vines are in berry setting stage sulphur 80WDG @ 2g/L for managing powdery mildew should be applied. Application of Ampelomyces quisqualis @ 6-8g/L should be done now as the conditions are suitable for its multiplication and establishment. One application of chitosan@ 2ml/L may also be given to prevent berry cracking and powdery mildew infection in crops which are around 100 days. One spray of Bacillus subtilis @2g/L may be given to remove the pesticide residues from the berries. Use of chemical fungicides are to be minimized and more emphasis should be on bio-intensive disease management at this stage.

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

Growth Stage: Berry setting to development stage after October pruning

- Buprofezin 25 SC @ 1.25 ml/L (PHI 65 days) water or spirotetramat 15.31 OD @ 700 ml/hectare (PHI 60 days) may be used for the management of mealybugs. In case PHI cannot be maintained for application of insecticides, tag mealybug infested vines and wash with any trisiloxane polyether based surfactant @ 0.3 ml per litre water with water volume 10-12 litres per vine with single gun at high pressure to wash off the mealybugs.
- Mite infestation may increase in most of the grape areas. Sulphur 80 WDG @ 1.5-2.0 g/L or Abamectin 1.9 EC @ 0.75 ml/L (PHI 30 days) or Bifenazate 22.6 SC @ 0.5 ml/L (PHI 30 days) water may be applied if mite infestation is observed.
- All the damaged berries should be removed from the grape bunches. These berries should be destroyed by burying them minimum two feet deep in the ground away from the vineyards. It will reduce the scavenging fly population in the vineyard. Ripe banana can act as a good attractant for these scavenging flies. Therefore, banana traps can be made and installed at the rate 5 per acre. To make a banana trap, take a container with small holes at sides and put a fully ripe banana inside it cut into pieces. Pour 2-3 drops of spinosad 45 SC on the banana. Cover the mouth of the container with inverted paper-cone keeping a small hole at the bottom for fruit flies to enter. The berry cracking of grapes should be managed by following suitable viticultural practices.