WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (04/11/2020)–Wednesday(11/11/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	15-18	30-32	**Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Vani, Niphad, Kalwan, Devla, Shirdi, Loni** -No Rain.	Clear	2-17	24-31	64-75
Pune	15-18	30-31	**Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar** Sat-Drizzling.	Partly Cloudy	0-17	32-44	69-82
Solapur	17-20	31-32	**Solapur, Vairag, Barshi, Nannaj, Kati, Pangri Osmanabad, Latur, Ausa, Kasegaon, Atpadi** Sat & Sun-Drizzling. **Tuljapur, Pandharpur** No Rain.	Partly Cloudy	4-16	22-38	63-68
Sangli	15-21	31-32	**Sangli, Miraj**, **Shirguppi, Kagvad, Arag**, **Kawthe Mahakal, Palus, Walva, Tasgaon, Vita, Shetfal, Khanapur** Sat & Sun- Drizzling. **Palsi** No Rain.	Partly Cloudy	5-18	33-51	64-83
Bijapur	16-20	30-31	**Bijapur, Tikota, Telsang**, **Chadchan** Fri to Sun- Drizzling.	Partly Cloudy	6-19	25-47	66-87
Hyderabad	16-19	29-30	**Hyderabad, Medchal, Zahirabad** Fri & Sat- Drizzling.	Partly Cloudy	2-11	35-57	68-94

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

a) **Days after fruit pruning:** 37 days

b) Pan evaporation: 4-5 mm

Amount of irrigation advised :

1. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 6800- 8500 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application to 3000 - 4000 L/ acre.
3. 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.
4. During Flowering to setting stage, apply irrigation through drip @ 2500 to 3000L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
5. During Berry development stage, apply irrigation through drip @ 6800- 8500 L/ acre/ day.

IV. Soil and Nutrient management

Due to continuous sprays the leaf will not look healthy, need based sprays should be followed as the leaf health is bound to affect the photosynthate formation. This will impact bunch development.

Shoot growth stage:

1. In case organic fertilizers are applied, check the C:N ratio. Lower the C:N ratio more the nitrogen release, hence possibility of enhanced growth. Control nitrogen application based upon growth of vine.
2. 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 @ 25 kg/ acre in three splits this week. Depending upon the crop vigour, regulate nitrogen application.
3. 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 punning, 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.
4. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
5. If sodicity problem is there (available Na > 1000ppm), apply 10 kg Sulphate of potash per acre in 2 splits this week. The total SOP application should not exceed 40 kg/acre.
6. Until and unless leaves are fully developed donot go for any foliar application of nutrients. It will lead to wastage of spray.
7. The quantity of nutrients to be applied through foliar, depends upon canopy size.
8. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom stage. One spray is sufficient during this stage.

Flowering to setting stage:

1. Donot apply any nitrogen based fertilizer just before Flowering to Setting stage to avoid problems of kooj (inflorescence necrosis). Manage canopy for adequate sunlight and air movement within the canopy for avoiding/ minimizing problems of kooj (inflorescence necrosis).
2. If SOP not applied, then apply 15 kg SOP in case low temperature and cloudy conditions forecasted during flowering stage.
3. Apply 3-4 kg Phosphoric acid in two to three splits this week. Remember that the pH of the irrigation water should be near 6.0.
4. **Petiole nutrient testing: At 70% capfall stage, petiole samples should be taken for nutrient analysis. The leaf opposite the bunch should be removed for sampling.**

Berry Development stage:

1. After Berry setting, continue initially with Phosphoric acid application @ 2 kg followed by 5 kg 12-61-0/acre.
2. 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.
3. 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.
4. 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.

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

NIL.

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

Root activity in the vineyard:

Due to excess rains, the continuous water stagnation in the root zone resulted into blackening of roots. The feeder roots which are considered most important for the supply of nutrient and water to the vine are now missing. Under such condition, synthesis of PGR by roots will also be reduced. Following practices are suggested

a) Once the soil comes under wafsa condition, loosening the bund should be done on priority. This will help for proper aeration in the root zone and thus the white root formation will be easy.
b) While loosening the bund, the root cutting may be experience. However, care should be taken that the roots are not cut more than 10%.
c) Depending upon the soil condition and also the nutrient deficiency symptoms on leaf, application of nutrients through drip as well as spray to be taken up

Fillage/bunch abortion:

In majority of the vineyards, the water stagnation under black soil is experienced. In addition, the cloudy condition has also helped to increase relative humidity in the vineyard. Hence, the sudden change in increased gibberellins in the vine is experienced thus reflecting in increased vigor. The reduction in cytokinin content in the vine results into such condition thereby converting the bunch into tendril. This condition is also called as fillage.

Under such condition, the sprouted bud suck the nutrient from last season cane. The balance between reserve and requirement will tend to convert the bunch into fillage. To avoid this condition, following practices are suggested.

a) Apply potash through soil (under wafsa condition) and through sprays to control the vigor.
b) Spray cytokinin based plant growth regulators.
c) Removal of water from the root zone will provide aeration and thus the root will start synthesis of PGR.

Inflorescence rot (Kooj):

Under the condition of excess and continuous rainfall, the vine vigor increases. The vineyard under pre-bloom stage will lead to form dense canopy. Under such canopy, if a small drop of water is retained on the pedicil or the peduncle of a bunch will result into rot. The dense canopy will also support to increase the relative humidity thereby encouraging the suffocative environment. Hence, to avoid these following practices are advised.

a) Removal of excess shoots at the earliest should be the priority. This can be done during 14^{th} to 18^{th} days after the fruit pruning.
b) Shoot tipping immediately will help to reduce the gibberellin content in the vine.
c) Application of potassic fertilizer either through soil or spray will also help to control vigor thereby reducing the leaf succulency.
d) Spray of any fungicides for the control of downy mildew need to be take.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	**Powdery mildew**	**Anthracnose**	**Others (specify)**
37	Moderate	Moderate	Moderate	Bacterial spot

Application of triazoles like Hexaconazole or Difenoconazole @ 1ml/L may be done to control powdery mildew. Application of CAA fungicides viz. Dimethomorph@1g/L+mancozeb 75WP@2g/L or Iprovalicarb+propineb @ 2.25g/L or Mandipropamid@ 0.8g/L+ mancozeb 75WP@2g/L may be done for control of downy mildew, in regions which have a 5-7 leaf stage after pruning. The tank-mixture of Thiophenate methyl@1g/l + Mancozeb @ 2g/l will also give a good control of mixed infection of anthracnose and bacterial spot, if any.For all fungicide applications use of any silicon based adjuvants @ 1ml/L will enhance the efficacy of spray. Drip application of Trichoderma may be given in areas where there is slight drizzle which will enable the BCA to multiply. Foliar application of Trichoderma, twice, will also bring down the anthracnose infection. No biocontrol agents should be used in areas where copper is used.

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

Growth Stage: Early shoot growth after fruit pruning

- Caterpillar (*Spodoptera litura*) or flea beetle infestation may increase in most of the grape areas as humidity is high. Caterpillars may chew on buds and new sprouts. For the management of caterpillars and flea beetle fipronil 80 WG @ 0.06 g/litre water may be given during night. If the crop is nearing pre flowering, flowering and berry setting stages, application of spinosad 45 SC @ 100 ml per acre or spinetoram 11.7 SC @120 ml per acre preferably at night is effective against both the pests.
- At 15 days interval, plant wash with entomopathogenic fungi viz. *Metarhizium, Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.
- Do not spray any broad spectrum insecticides such as chlorpyrifos, dichlorvos, methomyl, profenophos, etc. for mealybug control. Higher humidity will favour development of natural enemies which will slowly kill mealybugs. In case chemical spray is required, prefer buprofezin 25 SC @ 1.25 ml per litre of water for plant wash.
- Incidences of new species of stem borer (red colour larva) may be noticed under bark in Sangali, Solapur, Nashik, Pune, Bijapur grape areas. Remove the loose bark and give good plant wash mainly targeting cordons and main trunk with broad spectrum insecticides, for example, lambda cyhalothrin 5 CS @ 2.5 ml/l.