WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (11/11/2020)–Wednesday(18/11/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	12-21	30-33	Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Vani, Niphad, Kalwan, Devla, Shirdi, Loni - Fri, Sat & Tue- Drizzling. Sun- Light Rain.	Clear	1-20	23-39	42-75
Pune	13-18	29-31	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar Fri, Sat- Drizzling. Tue- Light Rain.	Partly Cloudy	2-18	24-49	53-83
Solapur	15-21	30-33	Solapur, Vairag, Barshi, Nannaj, Kati, Pangri Osmanabad, Latur, Ausa, Kasegaon, Atpadi Fri & Mon- Light Rain. Sat & Tue- Drizzling. Tuljapur, Pandharpur Sat, Sun & Next Wed- Drizzling.	Partly Cloudy	5-18	21-54	60-91
Sangli	17-21	31-33	Sangli, Miraj, Shirguppi, Kagvad, Arag, Kawthe Mahakal, Palus, Walva, Tasgaon, Vita, Shetfal, Khanapur Fri & Mon- Drizzling. Sat- Light Rain. Palsi No Rain.	Partly Cloudy	5-22	26-56	63-87
Bijapur	17-21	31-33	Bijapur, Tikota, Telsang, Chadchan Thu & Mon- Drizzling. Fri & Sat- Light Rain.	Partly Cloudy	7-23	24-50	71-95
Hyderabad	17-21	25-30	Hyderabad, Medchal Thu & Fri- Drizzling. Zahirabad Thu- Light Rain. Fri, Sat & Mon- Drizzling.	Partly Cloudy	1-14	47-55	72-90

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

a) **Days after fruit pruning:** 44 days

b) **Pan evaporation**: 4-6 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- 10200 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application to 3000 - 5000 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 3500L/ 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- 10200 L/ acre/ day.

IV. Soil and Nutrient management:

Shoot growth stage:

1. 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.
2. 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.
3. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
4. 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.

5. The quantity of nutrients to be applied through foliar, depends upon canopy size.
6. 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.
7. Minimum temperature predicted is low especially in Nasik and Pune. The growth will be slow. If not sprayed go for foliar spray of Sulphate of potash @ 2-3g/L depending upon leaf age during prebloom stage and apply through drip 15-20 kg SOP/ acre. This helps in stress management.

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 water is still available in sufficient quantity in the root zone. This is delaying the formation of white roots. Hence, following practices are suggested.

a) Loosening the bund should be done once the soil comes under wafsa condition. 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

Use of hydrogen cyanamide:

In majority of the grape vineyards, the night temperature started dropping thus may delay bud sprouting. Hence, the use of hydrogen cyanamide for bud pasting should be in higher concentration. The concentration used should be depend upon the cane diameter, temperature in the vineyard and also the bud swelling condition. In general, 50 ml hydrogen cyanamide with a cane diameter of 8 to 10 mm during this period will be required.

Bunch retention:

Retention of bunches per vine is one of the major activity to be followed during this period. In majority of the grape vineyards, the bunch emergence is less. This was mainly due to reduced sunlight available to the vine for fruit bud differentiation and cane maturity that has been converted a bunch into fillage. However, the bunch retention based on purpose in pre-bloom stage will help to obtain good quality as the source and sink relationship will be playing major role. The vineyard meant for local market should be maintained with

0.75 to 1.0 bunch per square feet area allotted to each vine. For export purpose, it should be around 1.0 bunch per 1.5 sft area allotted to each vine.

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)**
44	Low	Moderate	Low	Nil

As cloud cover is expected in most of the grape growing areas and humidity is low, powdery mildew is expected to occur. An application of triazoles like Hexaconazole or Difenoconazole @ 1ml/L may be done to control powdery mildew. Application of high value chemicals like Fluopyram + Tebuconazole @0.5ml/L may be done but within 50 days after fruit pruning. 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. In late pruned crop, preventive application of Mancozeb @2g/L for downy mildew may be continued.

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

Growth Stage: Early shoot growth to flowering 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 (not to be used during and after pre-flowering and flowering stages) 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 flea beetle and thrips.
- Jassid incidence may be seen at some places, spraying of lambda cyhalothrin 4.9 CS @ 0.5 ml per litre or imidacloprid 17.8 SL @ 0.4 ml per litre water at night is effective.
- 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 Sangli, 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