

WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (28/10/2020)–Wednesday(4/11/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	RH%	
	Min	Max				Min	Max
Nashik	16-20	31-32	Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Vani, Niphad, Kalwan Thu & Fri- Drizzling. Sat & Sun- Light Rain. Shirdi, Loni Thu to Mon- Drizzling. Devla Wed to Sat- Drizzling.	Mostly Cloudy	0-12	27-33	58-78
Pune	17-21	30-31	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar Thu, Fri, Sun & Mon- Drizzling. Sat- Light Rain.	Mostly Cloudy	0-11	41-45	70-91
Solapur	19-22	31-32	Solapur, Vairag, Barshi, Osmanabad, Latur, Ausa, Kasegaon, Atpadi- Wed, Thu & Sun- Drizzling. Fri & Sat- Light Rain. Nannaj, Kati, Pangri, Tuljapur, Pandharpur Wed to Sat- Drizzling.	Mostly Cloudy	2-14	29-43	64-87
Sangli	18-20	30-31	Sangli, Miraj, Shirguppi, Kagvad, Arag, Kawthe Mahakal, Palus, Walva, Tasgaon, Vita, Shetfal Wed to Fri- Drizzling. Sat- Light Rain. Palsi, Khanapur Wed to Sat- Drizzling.	Mostly Cloudy	1-13	43-48	72-92
Bijapur	18-21	30-31	Bijapur, Tikota, Telsang, Chadchan Thu- Drizzling. Fri & Sat- Light Rain.	Mostly Cloudy	2-15	35-44	70-87
Hyderabad	18-21	29-31	Hyderabad, Medchal Wed & Sat- Drizzling. Thu, Fri & Tue- Light Rain. Zahirabad Wed, Fri & Sat- Drizzling. Thu- Light Rain.	Mostly Cloudy	0-11	41-52	72-98

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

a) **Days after fruit pruning:** 30 days

Pan evaporation: 2-4 mm

i. Amount of irrigation advised

1. In case the soil is under wapsa (field capacity) condition, donot irrigate the vineyard.
2. Most of the vineyards have already crossed cane maturity stage. The irrigation water application should be such as to avoid new shoot growth as this may lead to development of disease and pests. Emphasis should be to maintain existing leaf in healthy condition and avoid leaf fall till it is desired.
3. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 3400- 6800 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application to 1500 - 3000 L/ acre.
4. 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.
5. During Flowering to setting stage, apply irrigation through drip @ 1500 to 2500L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half.
6. During Berry development stage, apply irrigation through drip @ 3400-6800 L/ acre/ day.

ii. Soil and Nutrient management

If the rootzone is saturated then donot apply any fertilizer. Growth will be slow, donot worry. As and when the soil comes into field capacity (wapsa), root activity will increase and the growth will progress. After that only fertilizer should be applied.

1. In case leaf yellowing/ pale leaf colour is observed due to minimal root activity, spray urea (0.5g/L) + zinc sulphate (0.25g/L) followed by Magnesium sulphate @ 2-3g/L at 5-7 leaf stage during prebloom stage.
2. 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.

Pre-pruning operations – Fruit pruning season:

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. The application should be alongwith FYM/compost etc. They should be mixed in the soil and not left on the top.
2. If soils are calcareous in nature, then apply 50 kg sulphur between the vines in the soil atleast 15-20 days before pruning. The sulphur should be properly mixed in the soil for improving its efficacy in taking care of calcium carbonates. The efficacy of sulphur is improved if FYM/ Compost are applied along with sulphur and mixed in the soil.

REMEMBER: Sulphur should not be left on the surface of the bund. This will not help in removing calcium carbonate from the soil.

3. In case in calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
4. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
5. Efforts should be made to reduce the soil pH (pH exceeding 7.6). Apply less decomposed organic matter sources like FYM or green manure like Dhaincha etc. to the soil before pruning. Elemental sulphur @ 25-50 kg/acre could lead to more reduction in soil pH values.

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.

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

NIL.

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

In the vineyard following practices to be followed:

1. Loosen the bunds after rains. This will support for development of white roots.
2. Avoid application of nitrogen. Since the moisture and humidity is still more, the vigour may increase.
3. Use hydrogen cyanamide as per cane thickness and weather conditions.
4. After bud supports, remove the excess shoots after 14 days or when the bunches are more visible. This will help in controlling downy mildew.
5. Try to maintain open canopy. This will support for disease control and increase photosynthetic activity of vine.
6. During the stage of flowering, many vineyards are experiencing excessive flower drop. Pinching of shoot tip and application of cytokinin based PGR and increase of irrigation should be priority.
7. Under the condition of weedicide application unknowingly the leaf symptoms will be pale yellow vine and shoot drying. During such condition, spray urea @ 1 to 1.5g per litre of water followed by only water spray.

PGR application in the vineyard should be as below

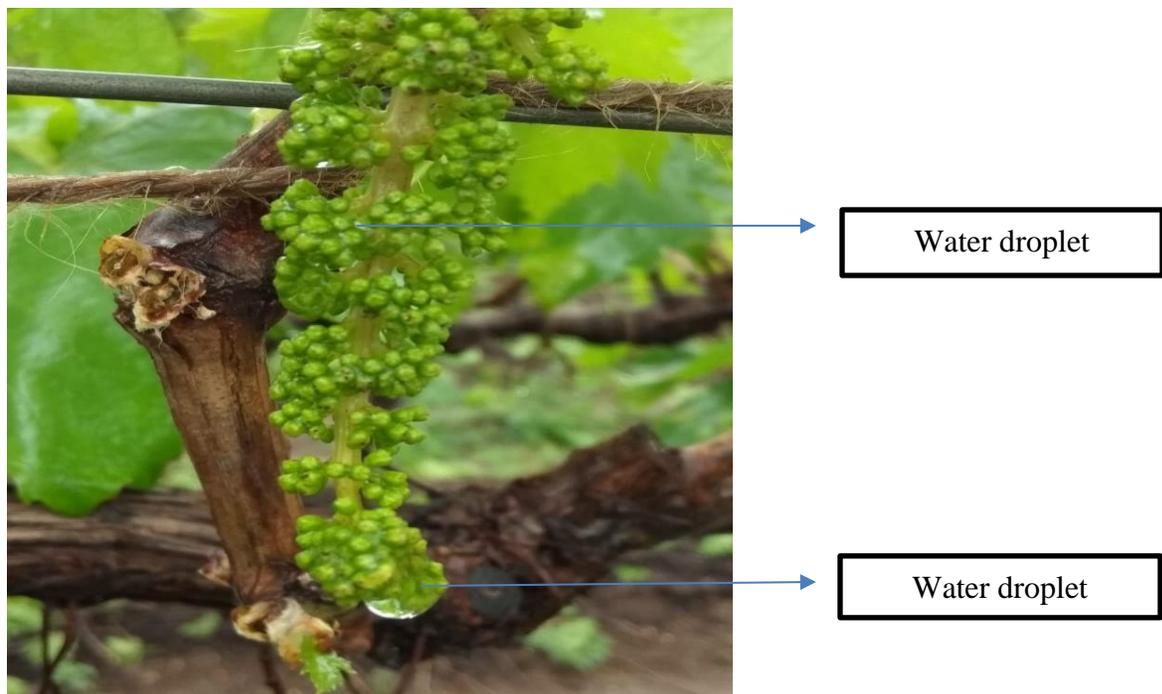
1. Spray GA3 @ 10 ppm during pre-bloom stage (parrot green color of a bunch)
2. Second spray of GA3 15 ppm 5 days after the first spray.
3. The pH of the spray solution should be 5.5 to 6.0. This will help in increasing the efficiency of spray.
4. To increase efficiency of GA3, citric acid or urea phosphate can be added.
5. Use good quality water. This will help in increasing the efficiency of spray.
6. Application of GA3 at proper stage will help for proper cell multiplication and elongation. This will be reflected in increase in length of rachis and distance between two rachis.

V. Disease management (Dr. Sujoy Saha)

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

As rains are being expected in most of the grape growing areas, 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. If downy infection is heavy in certain areas, application of new fungicide amisulbrom @ 375g/ha may be done twice at 7-10 days interval. Vineyards with “ponga” stage can adopt dusting technique with mancozeb 75WP @ 5kg/acre for downy control. Potassium salt of phosphoric acid @4g/L + mancozeb 75WP@2g/L as a tank mix will also control downy mildew effectively due to high systemicity of the potassium salt of phosphoric acid. 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. Due to drizzle, water might get accumulated in berries and a horticultural grade oil spray may be undertaken @2ml/L which will shed the water from within. No sprays should be taken during rainfall period and an open dry period should be selected for subsequent sprays. 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.



Water accumulation in berries

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.
- 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.

