

WEATHER DATA FOR THE PREVAILING WEEK

Date of Fruit Pruning: 28/09/2020

Wednesday (14/10/2020)–Wednesday(21/10/2020)

Location	Temperature (°C)		Possibility of Rain	Cloud Cover	Wind Speed (Km/hr) Min-Max	R H%	
	Min	Max				Min	Max
Nashik	21-23	29-31	Nashik, Pimpalgaon Baswant, Ozar, Palkhed, Dindori, Vani Wed & Sun to Next Wed- Drizzling. Thu to Sat- Good Rain. Shirdi, Loni Wed & Tue- Drizzling. . Thu to Sat- Good Rain. Sun, Mon & Next Wed- Light Rain. Niphad, Kalwan, Devla Wed, Sat to Mon- No Rain. Thu & Tue- Light Rain. Fri- Good Rain. Next Wed- Drizzling.	Mostly Cloudy	0-26	61-74	95-100
Pune	21-23	27-30	Pune, Phursungi, Loni Kalbhor, Uruli Kanchan, Yavat, Patas, Supa, Baramati, Narayangaon, Junnar Wed to Sat- Good Rain. Tue & Next Wed- Drizzling. Sun & Mon- No Rain.	Mostly Cloudy	1-19	64-85	97-100
Solapur	22-23	25-31	Solapur, Nannaj, Kati, Pandharpur, Vairag, Pangri, Barshi, Osmanabad, Latur, Ausa, Kasegaon, Atpadi- Wed- Good Rain. Thu- Moderate Rain. Fri to Next Wed- Drizzling. Tuljapur Wed & Thu- Moderate Rain. Fri & sat- Drizzling. Sun & Mon- Light Rain. Tue & Next Wed- No Rain.	Mostly Cloudy	3-22	65-84	94-97
Sangli	21-22	25-30	Sangli, Miraj, Shirguppi, Kagvad, Arag, Kawthe Mahakal, Palus, Walva, Tasgaon, Palsi, Vita, Shetfal Wed to Fri- Good Rain. Sat to Next Wed- Drizzling. Khanapur Wed to Fri, Sun & Mon- Drizzling. Sat, Tue & Next Wed- No Rain.	Mostly Cloudy	3-22	63-87	95-100
Bijapur	21-22	24-30	Bijapur, Tikota, Telsang, Chadchan Wed & Thu- Good Rain. Fri to Mon & Next Wed- Drizzling. Tue- Light Rain.	Mostly Cloudy	7-28	64-85	94-98
Hyderabad	22-23	25-29	Hyderabad, Medchal Wed & Sun- Moderate Rain. Thu to Sat & Mon to Next Wed- Drizzling. Zahirabad Wed, Thu, Sat, Mon to Next Wed- Drizzling. Fri & Sun- Light Rain.	Mostly Cloudy	1-15	76-87	96-100

II. a) Days after fruit pruning: 16 days

Expected pan evaporation: Nil - 5 mm

Amount of irrigation advised:

1. Grape growing areas are likely to receive from drizzling to good rains. The irrigation water application should be based upon the growth of the vines. In case rain exceeds 5 mm on a given day soil is under wapsa (field capacity) condition, do not 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. In areas of Solapur, Sangli and Bijapur the ground water used for irrigation contains more salt and less and poor quality irrigation water was used during Foundation pruning season, remove the mulch and allow the bund/ rootzone to be fully wet with water received from rains for leaching of salts for subsequent fruit pruning.
4. In areas of Solapur, Sangli and Bijapur where less rainfall was received, poor quality water was used and the quantity of available water is less, it is advised to flood the rootzone(only) with water to leach out the salts and wet the entire soil depth before pruning and then cover with mulch. Thereafter irrigate as per availability of water.

Shoot growth stage:

1. During shoot growth stage (fruit pruning season), apply irrigation through drip @ 7000-9,800 L/ acre/ day. Further, in case vigour is more than desired, then reduce irrigation water application by half to 3500 - 4900 L/ acre.
2. Still if growth is more, stop the irrigation till such time the growth is brought under control and then start irrigation.
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.

Nutrient management:

1. Due to continuous rains earlier and also improper potassium management, the canes may not be mature. It is advised to spray SOP @ 5g/L twice followed by 15-20 kg SOP/acre through drip in two splits.
2. Remove mulch applied during Foundation pruning and loosen the soil for improving movement of water through the root zone to reduce salts accumulated in the root zone. Organic mulch can be mixed in the soil to improve the porosity of the soil.

Pre-pruning operations – Fruit pruning season:

1. In many of the grape growing areas in Nasik, Sangli and other areas, continuous spells of rains were received, the soils are already saturated. This has affected the rooting activity. Due to prolonged saturation, the roots may have started decaying. **Donot disturb the soil in the root zone even if pruning is being taken up. Wait for the soil to come to the wapsa condition before any soil related intervention has to be done.**
2. In case pruning is planned during October, raise Sunnhemp or Dhaincha for green manuring purpose.
3. 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.
4. 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.
5. In case in calcareous soils, if SSP is applied as basal dose, mix with FYM/compost etc. to avoid phosphorus fixation.
6. Test the soil and irrigation water, to plan for nutrient and water management during fruit pruning season.
7. 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.

Fruit pruning season:

1. 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.
2. Basal application should not be undertaken during this period.
3. 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.
4. 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.
5. If sodicity problem is there, apply 10 kg Sulphate of potash per acre in 2 splits this week.

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 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.
9. Apply 10 kg Magnesium sulphate per acre if the crop is between 5 leaf to prebloom stage.
10. If soils are calcareous, spray Sulphate of potash and Magnesium sulphate @ 2-3g/L depending upon leaf age during prebloom 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).
2. 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. OR apply SSP @ 125kg/acre as basal application. SSP should be mixed with FYM/Compost before application to minimize phosphorus fixation.
3. **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.**

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

Nil.

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

Following practices are suggested.

- a) Water stress to the vineyard is must in relation to complete leaf fall.
- b) Under the condition of leaf fall using chemical, water stress for about 5-6 days before actual spray is required. This will help for vine to enter in stress.
- c) Transport of nutrient from leaf to bud through petiole will be easy under the condition of slow leaf fall
- d) Bud testing just before fruit pruning will avoid errors in pruning.
- e) Bud pasting with hydrogen cyanamide on the next day may results into early sprout
- f) The concentration of hydrogen cyanamide as per the cane diameter and temperature available in the grape vineyard will support for early bud sprout.
- g) Spray of Bordeaux mixture just 2 before and after the fruit pruning on canes, cordon, trunk, bund and in between the rows will help for controlling the diseases.

V. Disease management (Dr. Sujoy Saha)

Days after fruit pruning	Risk of diseases			
	Downy mildew	Powdery mildew	Anthracnose	Others (specify)
16	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. 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 droplet

Water droplet

Water accumulation in berries

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

Foundation pruning growth stage: Cane maturity and afterwards

- Caterpillar (*Spodoptera litura*) infestation may increase in most of the grape areas as humidity is increasing. For the management of caterpillars, emamectin benzoate 5 SG @ 0.22 g/litre or fipronil 80 WG @ 0.06 g/litre water may be given.
- Mealybug population and movement of ants may be noticed under the bark. Due to possibility of rains and build-up of relative humidity, 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 lambda cyhalothrin 4.9 CS @ 2.5 ml/l.



Fruit pruning growth stage: Dormant bud to sprouting

- Caterpillar (*Spodoptera litura*) 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, emamectin benzoate 5 SG @ 0.22 g/litre or fipronil 80 WG @ 0.06 g/litre water may be given during night.
- Remove loose bark and give preventive plant wash with buprofezin 25 SC @ 1.25 ml/litre water. At 15 days interval, plant wash with entomopathogenic fungi viz. *Metarhizium*, *Beauveria* and *Lecanicillium* may be useful for controlling mealybugs and ants.

- Give soil drenching with *Metarhizium* just after fruit pruning to manage thrips pupa and ants in soil.
- Current rainfall may reduce flea beetle incidence to some extent temporarily. Remove weeds from inside and around the vineyards. Harrowing may be done in inter row space once the rainy spell is over. Then give soil drenching with clothianidin 50 WDG @ 200 gram per acre in the root zone to kill flea beetle grubs in the soil. Thereafter, foliar application of lambda cyhalothrin 4.9 CS @ 200 ml per acre or imidacloprid 17.8 SL @ 160 m.