

## **Report on visit to flood affected vineyards at Walva, district: Sangli**

Based on the request received from MRDBS, Sangli division, a team of scientists comprising Dr. R. G. Somkuwar, Director; Dr. N. A. Deshmukh, Scientist (Fruit Science) and Dr. S. K. Holkar, Scientist (Plant Pathology) from ICAR-NRCG, Pune visited the flood affected vineyards in Walva and Nagthane villages of Sangli district on 11<sup>th</sup> August, 2021 along with the MRDBS officials. The team has visited 7-8 vineyards of different age group and interacted with around 35-40 grape growers. As per the information received from officials of MRDBS and grape growers, these vineyards were submerged up to 72 hours during 20<sup>th</sup> to 22<sup>nd</sup> July, 2021 flood. Based on the present situation of grape vineyard, the team of scientists has guided the growers on following points.

### **1. Silt deposition on leaf surface:**

The grape vineyards situated near to river basin received heavy flood and the vines were submerged for a period of about 72 hrs. The water stagnated in the vineyard led to deposition of silt on the leaves and remained on the leaf surface despite the water level was reduced. As per the information, the area experienced heavy rainfall on 22<sup>nd</sup> July. Even after 18-20 days, the silts were intact on 30% leaf surface. In some cases, due to excess silt depositions, leaf showed symptoms of drying. This may hamper the photosynthetic activity of vine. Since there is sufficient time for fruit pruning the growers were advised to take following measures:

1. Water spray with about 500-600 L/acre in vineyard to wash out silt from leaf surface to regain the leaf photosynthetic activity. If necessary, repeat the water spray to remove complete silt.
2. Wash the cordons completely with water to remove silt to avoid dead arm in next season.
3. Spray urea @ 1.0 to 1.5 g/L of water to increase photosynthetic activity.
4. Spray of P and K grade fertilizer (e.g. 12:61:0 @ 1.0 to 1.5 g/L) for advancing the cane maturity.

### **2. Leaf fall due to flood:**

In majority of the vineyards, leaf fall was the major problem which ranged from 20-70% in general. In present condition of increased humidity and temperature, the vines are physiologically active. The moisture in the root zone has also been reduced thus facilitating the aeration in root zone favoring root activation. Thus, the uptake of nutrient and water supply to

the growing shoot may regulate. In addition, with the increase in temperature, bud swelling may start leading to initiation of bud sprouting. Under such situation fruit pruning will be the only option.

In majority of the vineyard, cane maturity is also a problem as pith is yet to fully develop. It was also observed that canes were matured up to 4<sup>th</sup> and 5<sup>th</sup> bud in general. However, pruning of this cane may lead to fillage or small sized bunch in coming season. To avoid these, following practices were suggested:

1. Allow new shoots to grow up to 7-8 leaf stage and then pinch at 6-7<sup>th</sup> leaf stage.
2. Do not irrigate the vineyards till the next 10 days.
3. Do not remove new shoots completely. Since, this may lead to sprouting of all buds.
4. If required, spray urea @ 1.0 to 1.5 g/L water to encourage new growth on immature portion of shoot. This will suppress the bud sprouting on basal portion of cane.
5. Spray Bordeaux mixture @ 0.75 to 1.0% on these new shoots to control major diseases like downy mildew and anthracnose.

### **3. Incidence of major diseases**

As per the discussion with grape growers, before flood vineyards in this region were free from diseases but after flood, rise in relative humidity and temperature was observed. Further, due to dry spell for about 1 week, temperature started rising and relative humidity increased above 60% and vineyards showed new shoot emergence at faster rate. Weather condition during this period favored for infection of anthracnose, bacterial leaf spot, and downy mildew diseases on new shoots, whereas on old shoot rust was observed. To manage these diseases the growers were advised to follow following practices:

1. Spray Thiophenate Methyl @ 1g/L of water. After 5 days, give one spray of Hexaconazole or Tebuconazole for the management of anthracnose.
2. Spray Chlorothalonil @ 2g/L of water and after 3 days give one spray of Azoxystrobin @ 1ml/L for the management of rust.
3. Spray Mancozeb @ 2.5g/L of water and after 4 days give one - two sprays of Kasugamycin + Copper oxychloride @ 0.75g/L for the management of bacterial leaf spot.
4. Spray Potassium salt of active phosphorus @ 4g/L + Mancozeb @ 2.0g/L for the management of downy mildew. Repeat the spray if required.
5. Further, it was suggested to go for foliar application of *Trichoderma* @ 2.0 ml/L and soil application of *Trichoderma* @ 10g/acre at 4-5 days interval for overall protection against diseases. The *Trichoderma* developed by ICAR-NRC Grapes, Pune (Manjari Vineguard @

2.0 ml/L for foliar spray and Manjari Trichoshakti @ 10g/Acre by drip) was suggested to the grape growers.

