

Advisory for mitigating the effects of rising temperature on pomegranate

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Adverse effects of rising temperature on pomegranate:

The rise in temperature (beyond 40°C) affects the yield and quality of pomegranate fruits in the following ways.

1. Dropping of flower buds and flowers
2. Reduction in fruit set
3. Increase in fruit drop
4. Reduction in yield of fruits
5. Poor quality fruits: lesser juice recovery, poor development of fruit and aril colour, reduction in nutrient content
6. Higher incidence of sunscald and aril browning (internal breakdown)
7. Higher incidence of fruit cracking

Measures for mitigating the effect of rising temperature:

The following measures are suggested to mitigate the effects of rising temperature in pomegranate.

1. Application of FYM @ 50% of requirement (15-20kg/plant) of bearing plants according to age.
2. Drip irrigation and sub-surface drip irrigation in drought prone areas
3. Foliar spray of growth regulators : NAA @ 10ppm for reducing the flower drop; Growth Regulator 2,4-D @20ppm for arresting the post-set drop; Salicylic acid @300ppm for increasing the drought tolerance of plants.
4. Mulching: Use organic mulches viz., sugarcane trash, wheat straw, safflower stalk, dry grasses etc. around the basin of pomegranate plants. Similarly, inorganic mulches viz., pervious mulch along the rows of pomegranate.
5. Cut the weeds, grasses using slasher and allow the weed mat at the basin. Avoid uprooting of weeds.
6. Foliar spray of Kaolin (inert clay) @ 5% during hot summer months is useful in reducing the sunscald. If required, One or two additional spray with Kaolin @ 2.5% at 15 days may be taken up.

7. Foliar spray of gibberellic acid (GA₃)@50 ppm, benzylaminopurine (BAP) @40ppm, boric acid @0.25% will be useful to reduce the incidence of fruit cracking. If required repeat the spray at 15 days interval.
8. Application of Manganese sulphate @0.6% at 15 days interval during hot summer months will enhance photosynthetic activity of plants. Increase the application of nitrogenous fertilizers by 25% of recommended dose.
9. Use of grow-covers for crop : Bagging with butter paper cover will reduce the incidence of sunscald, and improve the fruit quality viz., fruit colour, aril colour, juice recovery, etc. Plant covers can be used for covering the individual plant or row of plants to overcome adverse effects of rising temperature.
10. Shading: Shading with 35% shadenets is effective in reducing the sunburn, fruit cracking etc.
11. Foliar spray of thiourea @ 1g/l, potassium nitrate @ 2.5g/l may be useful in enhancing the drought tolerance.

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