

Pomegranate Advisory for October-November 2020

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Bahar – Mrig

A. Nutrient Management –

Current Stage of the Orchard – Fruit development and maturity

1. Three foliar application of 0-52-34 (Mono-Potassium Phosphate) @ 10 g/lit at 15-20 days interval.
2. Two foliar application of manganese sulphate @ 6 g/lit at 10-15 days interval
3. Fertigate with N:P:K::00:52:34 (Mono-Potassium Phosphate), urea and 0-0-50 @ 12.80, 31.40 and 11.50 kg/ha/application respectively -Give 10 applications at 7 days interval through irrigation water.

B. Insect Pest Management

Current Stage of the Orchard -Fruit maturity

Fruit piercing moths:

1. Remove Tinospora/Gulvel from field boundaries.
2. Take bagging of individual fruits/tree/rows with Poly Propylene Non-Owen Bags (PPNW)/butter paper bags. Before bagging take the spray if bacterial blight, mealybugs or as per pest presence.
3. If bagging is delayed then take spray with Azadirachtin/Neem oil 1% (10000ppm) @ 3ml + Fish Oil Resin Soap @ 0.5-1.0 ml/l water preferably on border row plants.
4. **Fruit fly damage:** Install 12 McPhail/water bottle traps/ha with *Torula yeast/Bactrocera dorsalis* lure and replace at 15-20 days' interval.
5. **Southern stink bug (Egg stage):** Spray Azadirachtin/Neem oil 1% (10000ppm + Pongamia oil @ 3+3ml/l +0.25ml spreader sticker/ l water.

(Nymph and adult stage):Spray Cyantraniliprole (Benevia) @ 0.75 ml/l or Chlorantraniliprole (Coragen) 18.5 SC @ 0.75 ml/l + or Spinetoram 12% SC @ 1.0 or Lambda cyhalothrin 5% EC @ 0.5-0.75 ml/l + 0.25 ml spreader sticker /l water.

Bahar – Hasta

A. Nutrient Management –

Current Stage of the Orchard – Flowering and fruit setting

- Foliar application of planofix @ 22.5 ml per 100 lit water
- Foliar application of micronutrient mixture @ 1.0-1.5 kg ha⁻¹
- Fertigate N:P:K::00:52:34 (Mono-Potassium Phosphate) @ 8.5 kg/ha/application -Give 3 applications at 7 days interval through irrigation
- Apply Gypsum @ 1.70- 1.80 kg /plant and MgSO₄ @ 700 g/plant followed by thorough mixing with the soil and watering. Magnesium sulphate can also be applied through drip system.

After completion of fruit setting

- Fertigate N:P:K::00:52:34 (Mono-Potassium Phosphate), urea and 0-0-50 @ 8.50, 22.50 and 16.30 kg/ha/application respectively -Give 5 applications at 7 days interval through irrigation

- Foliar application of micronutrient mixture @ 1-1.5 kg ha⁻¹
- Two foliar application of gibberellic acid @ 50 ppm at 15 days interval

B. Insect Pest Management – Flowering/Fruit setting/development stage

Flowering: Spray Azadirachtin/Neem oil 1% (10000ppm+ Pongamia oil @ 3+3ml/l or Spinetoram 12% SC @ 1.0 or Spinosad 45% SC @ 0.5ml/l + 0.25 ml spreader sticker /l water.

Fruit setting/development stage:Cyantraniliprole (Benevia) or Chlorantraniliprole (Coragen) 18.5 SC or Tolfenpyrad 15 % EC or Flonicamid 50% WG (Ulala) @ 0.75-1.0 ml/l + 0.25 ml of spreader sticker/ l water.

Bahar – Ambia

A. Nutrient Management –

Current Stage of the Orchard – Rest and stress period.

B. Insect Pest Management – Rest/Stress period

1. Regular monitoring/observation for stem borer shot hole bore termites and leaf eating caterpillars etc.

Take need based spray every 15-20 days after consultation.

2. **Root-Knot Nematode infested plot:** Apply Nimitz (Fluensulfone) 2% GR @ 40/plant at the time of first irrigation in a pit of 5-10 cm deep below each dripper equally or dissolve 40/g in 4-5 litre water and drench circularly around the plant.

Note: 1.**Stem pasting needs to be taken after the end of south-west monsoon for all the bahar crops/seasons crops make the paste mixing:**

Red soil 4kg+ Chlorpyriphos 20% EC 20ml+ COC 25 g 10 litres of water and paste on a stem up 2-2.5 ft. from the bottom.

2. **Above suggested management practice need to be taken based on the insect pest incidence/examination.**

3. **Adhoc list of chemical may be referred for list of chemicals**

Note: These recommendations for N-P₂O₅-K₂O are applicable if the leaf test report reveals N-P₂O₅-K₂O concentrations are within the optimum concentration range. If any nutrient is below the optimum range, it is advised to increase the above recommendation by 25%.

Nutrients	Optimum conc. range in leaves
Nitrogen (%)	1.32-2.15
Phosphorus (%)	0.18-0.24
Potassium (%)	1.29-1.99
Calcium (%)	0.64-1.20
Magnesium (%)	0.23-0.45



1. Adult male and female



2. Adult moth feeding



3. Feeding Punctures



4. Rotting of infested fruit

Fruit sucking Moth in Pomegranate



1.Colletotricum fungal infection on fruits



2.Sphaceloma fungal Scab



3.Cercospora Fungal fruit spots



4.Bacterial Blight fruit cracking



5.Partial Fungal Wilt



6.Correct way of Drenching

Major Diseases in Pomegranate

Management of Diseases for all seasons

Spray During crop season for Bacterial blight

(7-10 days interval)

Bordeaux mixture (0.5% except 1% just after pruning)

altered with

streptocycline (5g/10 l)

or

2-bromo, 2-nitro propane-1, 3-diol (Bronopol) @ 5g/10 l

+

copper oxychloride or copper hydroxide (20-25g/ 10 l)

+

Spreader sticker (5 ml /10l)

Depending on fungal problems present in the orchard Copper based formulations may be replaced with appropriate fungicides

4 sprays of Salicylic acid@ 0.3g/l

4 sprays of Micronutrients

Emergency Sprays for bacterial blight

Take 1-2 sprays at 4 day interval soon after blight infection seen on fruits in green lemon stage

1. streptocycline (5g/10l)+ Bronopol (5g/10l) + **Kocide (20g/10 l)** + spreader sticker (5ml/10l).
2. streptocycline (5g/10l)+ Bronopol (5g/10l)+ **carbendazim(10g/10 l)** + spreader sticker (5ml/10l)

Precautions

- Take only need based sprays at recommended doses
- Reduce number of sprays.
- Take additional spray after the rains
- Use non-ionic spreader sticker except with Bordeaux mixture.
- Before every spray remove and burn all bacterial blight/rot affected fruits
- Prepare Bordeaux mixture fresh and use on the same day
- Take sprays in the evening.

During rest period

(10-15 days interval)

Bordeaux mixture (1%)

OR

copper oxychloride or copper hydroxide or suitable fungicide+ (20-25g/ 10 l) + Spreader sticker (5 ml /10l)

Some promising fungicides for Pomegranate fungal Scab, Spots and Rots

- T1: Mandipropamid 23.4% SC @ 1ml/l
- T2: Propiconazole 25% EC @ 1ml/l+Azoxystrobin@1ml/l
- T3: Azaoxystrobin 20% +difenoconazol 12.5% SC @2ml/l
- T4: Chlorothalonil 50% +metalaxyl M 3.75% @2ml/l
- T5: Bordeaux mixture @ 0.5%
- T6: Copper Oxychloride 45%+ Kasugamycin 5% @ 2.5g/ l

- T7: Zineb 68%+ Hexaconazole 4% WP) @ 2.5g/ l
- T8: Tricyclazole 18%+Mancozeb 62% WP @ 2.5g/ l
- T9: Chlorothalonil 75%WP @2g/l
- T10: Propiconazole @1ml/l

Note:

- Best results are obtained with 2 sprays starting during flowering and fruit setting stage at 15 days interval with any of the above. This will avoid several sprays at later stages.
- Always use spreader sticker with sprays except Bordeaux mixture
- Need based sprays be used later
- No pesticide should be used more than 2 times in a season except copper fungicides

Fungal Wilt Management

NOTE: Prefer drenching soon after harvest in rest period, or initial stage of crop regulation

Use only one of the following methods

I. (1st drenching Propiconazole 25% @2ml/l+Chlorpyrifos @ 2ml (10l solution). After 30 days of first application 2nd drenching Aspergillus niger AN 27 fungus @ 5gm/plant with 2Kg FYM/plant 3rd application after 30 days of 2nd application - VAM fungus(Vesicular arbuscular mycorrhizae - Rhizophagus irregularis @ 25gm/plant with 2Kg FYM/plant) –

OR

II. Propiconazole 25% @2ml/l+Chlorpyrifos @ 2ml (3 drenchings at 20 days interval)

OR

III. 1st drenching Fosetyl Al 80% WP @6gm/plant (10l solution)] [2nd drenching Tebuconazole 25.9% w/w EC @3ml/plant (10 l solution)] [3rd @6gm/plant (10 l solution)] [4th drenching Tebuconazole 25.9% @3ml/plant (10l solution)] (20 days interval)

Advantages of applying bioformulation Aspergillus niger AN 27 (Fungus)

1. Only biopesticide and biofertilizer patented in the world using *Aspergillus niger*
2. Controls all types of wilt pathogens including nematodes,
3. Works in all types of climatic, soil and water conditions
4. Releases beneficial hormones promoting plant growth, flowering and fruit yield.
5. Increases resistance in plants to diseases and other stress conditions.
6. Aspergillus niger AN 27 and VAM fungus(Vesicular arbuscular mycorrhizae - Rhizophagus irregularis (previously known as *Glomus intraradices*) have synergistic effect.
7. VAM fungus establishes in pomegranate roots and helps under water stress conditions
8. Both are phosphate solubilizers

Important Links for details :-

For the information on management of diseases on Pomegranate in above bahars, farmers are advice to use following links.

1. Adhoc list of chemicals :-<http://nrcpomegranate.icar.gov.in/files/Advisory/30.pdf> link
- 2.IDIPM Schedule :- <http://nrcpomegranate.icar.gov.in/files/Advisory/12.pdf>
- 3.Wilt disease management :- <http://nrcpomegranate.icar.gov.in/files/Advisory/34.pdf>