

# Pomegranate Advisory for Jun-July

Dr. Jyotsana Sharma , Dr Ashis Maithy, Dr Mallikarjun , Shri Dinkar Chaudhari , Shri Yuvraj Shinde

## Bahar – Mrig

### A. Nutrient Management –

#### Current Stage of the Orchard – Release of stress

1. Apply 25-30 kg FYM or 15-20 kg FYM + 2 kg vermicompost + 2kg neem-cake per plant **Or** 7.5 kg well decomposed poultry manures + 2 kg neem-cake per plant.
2. Apply 2.5- 2.8 kg Gypsum and 800 g Magnesium sulphate per plant followed by mixing with rhizosphere soil.
3. Apply bio-formulation of *Azospirillum* sp., *Aspergillus niger*, *Trichoderma viride* and *Penicillium pinophilum* @ 10-20 g/plant after incubating separately with well decomposed farmyard manure for 15 days maintaining 60% moisture content in the mixture and periodical stirring under shed.
4. Also apply Arbuscular Mycorrhizal Fungi, AMF (*Rhizophagus irregularis*) @ 10-15g per plant
5. Give light irrigation immediately after manures application.

### B. Insect Pest Management

#### Sprouting Stage:

1. First spray Azadirachtin/Neem oil 1% (10000 ppm) @ 3.0 ml +0.25ml spreader sticker/ l water or Pongamia oil@ 3ml +0.25ml spreader sticker/ l water
2. **Or** combination of both the above@3+3 ml/l with 0.25 ml spreader sticker
3. Second spray 7-10 days after first spray with Cyantraniliprole (Benevia) @ 0.75 ml/l +0.25 ml spreader sticker /l water or Thiamethoxam 25%WG@ 0.5g+ 0.25 ml Spreaders sticker
4. **Flower bud initiation/Flowering stage :** Spray Spinetoram 12% SC @ 1.0 +0.25 ml spreader sticker **Or** Spray Spinosad 45% SC @ 0.5 + 0.25 ml spreader sticker/ l water
5. Foliar application of planofix @ 22.5 ml per 100 lit water
6. Foliar application of micronutrient mixture @ 1.0-1.5 kg ha<sup>-1</sup>
7. **Early fruit set/ Fruit set:** Chlorantraniliprole(18.5%EC) @ 0.75 ml+ 0.25 ml spreader sticker/ l water

#### Flowering stage:

8. If plot is infested with nematodes apply Fluensulfone 2% GR @ 40/plant and it need to distributed according to the no. of dippers for >2 year old plants. Method of application: Soil application below each dripper equally or by dissolving the 40/g in 4-5 litre water and drenching in circular fashion around the plant/ pouring below the each dripper in a pit of 5-10 cm deep.

## **Inter-cultivation Operations –**

1. Remove all the dried plant debris/weeds and dispose them properly.
2. After first rains spray bleaching powder @ 2.5% on orchard soil.
3. Remove suckers and stem pasting with prescribed chemicals
4. Remove new sprouts from time to time till fruits are of lemon size/100g.
5. Remove weeds from the plant basin

## **Bahar – Hasta**

### **A. Nutrient Management –**

#### **Current Stage of the Orchard – Rest period**

1. Undertake light pruning if not done after harvesting of previous crop.
2. Apply 20-25 kg FYM or 13-15 kg FYM + 2kg vermin-compost + 2 kg neem-cake per plant.  
Or 7.5 kg well decomposed poultry manures + 2 kg neem-cake per plant.
3. Apply 205 g N (446 g neem-coated urea/plant) 50 g P<sub>2</sub>O<sub>5</sub> (315 g Single Super Phosphate/plant) and 152 g K<sub>2</sub>O per plant (254 g Murate of Potash or 304 g Sulphate of Potash per plant) followed by light irrigation.

### **B. Insect Pest Management –**

1. Regular monitoring/ observation for stem borer shot hole bore termites and leaf eating caterpillars etc.
2. Take need based spray every 15-20 days after consultation to below given contact

## **Bahar – Ambia**

### **A. Nutrient Management –**

#### **Current Stage of the Orchard – Fruit enlargement stage**


1. 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
2. Foliar application of micronutrient mixture @ 1-1.5 kg ha<sup>-1</sup>
3. Two foliar application of gibberellic acid @ 50 ppm at 15 days interval
4. Three foliar application of 0-52-34 (Mono-Potassium Phosphate) @ 10 g/lit and
5. Two foliar application of manganese sulphate @ 6 g/lit at 10 days interval

### **B. Insect Pest Management –**

1. If egg stage of Fruit borer is observed: Spray Azadirachtin/Neem oil 1% (10000 ppm) @ 3ml +0.25ml spreader sticker/ 1 water or Pongamia oil@ 3ml +0.25ml spreader sticker/ 1 water
2. Or combination of both the above@3+3 ml/l with 0.25 ml spreader sticker

3. If Larval stage/bored holes are observed: Remove all the bored fruit and dispose by burying in pit and take the spray with Cyantraniliprole/ Chlorantraniliprole @ 0.75 ml/l +0.25 ml spreader sticker /l water

**Note:** These recommendations for N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O are applicable if the leaf test report reveals N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O 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%.

	
<b>Heavy pruning soon after Harvest</b>	<b>Light Pruning at Crop Regulation</b>
	
<b>Terminal lowering (Not preferred)</b>	<b>Flowering within tree canopy ( Desirable)</b>

<p align="center"><b>Management of Diseases for all seasons</b></p>
<p align="center"><b>Spray During crop season for Bacterial blight</b> (7-10 days interval )</p> <p align="center">Bordeaux mixture (0.5% except 1% just after pruning) <i>altered with</i> 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)</p> <p>Depending on fungal problems present in the orchard Copper based formulations may be replaced with appropriate fungicides</p> <p align="center">4 sprays of Salicylic acid@ 0.3g/l 4 sprays of Micronutrients</p>
<p align="center"><b>Emergency Sprays for bacterial blight</b></p> <p>Take 1-2 sprays at 4 day interval soon after blight infection seen on fruits in green lemon stage</p> <ol style="list-style-type: none"> <li>1. streptocycline (5g/10l)+ Bronopol (5g/10l) + <b>Kocide (20g/10 l)</b> + spreader sticker (5ml/10l).</li> <li>2. streptocycline (5g/10l)+ Bronopol (5g/10l)+ <b>carbendazim(10g/10 l)</b> + spreader sticker (5ml/10l)</li> </ol>
<p align="center"><b>Precautions</b></p> <ul style="list-style-type: none"> <li>• Take only need based sprays at recommended doses</li> <li>• Reduce number of sprays.</li> <li>• Take additional spray after the rains</li> <li>• Use non-ionic spreader sticker except with Bordeaux mixture.</li> <li>• Before every spray remove and burn all bacterial blight/rot affected fruits</li> <li>• Prepare Bordeaux mixture fresh and use on the same day</li> <li>• Take sprays in the evening.</li> </ul>
<p align="center"><b>During rest period</b> (10-15 days interval )</p> <p align="center">Bordeaux mixture (1%) OR copper oxychloride or copper hydroxide or suitable fungicide+ (20-25g/ 10 l) + Spreader sticker ( 5 ml /10l)</p>
<p><b>Some promising fungicides for Pomegranate fungal Scab, Spots and Rots</b></p> <ol style="list-style-type: none"> <li>1: Mandipropamid23.4% SC @ 1ml/l</li> <li>2: Propiconazole 25% EC @ 1ml/l+Azoxystrobin@ 1ml/l</li> <li>3:Azoxystrobin 20% +difenoconazol 12.5% SC @2ml/l</li> <li>4: Chlorothalonil 50% +metalazxyl M 3.75% @2ml/l</li> </ol>

- 5: Bordeaux mixture @ 0.5%
- 6: Tricyclazole 18%+Mancozeb 62% WP @ 2-2.5g/ l
- 7: Chlorothalonil 75% WP @2g/l
- 8: Propiconazole @1ml/l

**Note:**

- i. 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.
- ii. Always use spreader sticker with sprays except Bordeaux mixture
- iii. Need based sprays be used later
- iv. 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)



**Diagrammatic layout of wilt affected orchard for understanding soil treatment procedure**

 	<p>Formaldehyde treatment of soil from where partially wilted (above 25%) and completely wilted plants have been uprooted and safely disposed off</p>	 	<p>Soil drenching with fungicide of plants where fungal wilt initiated and healthy plants around affected plants</p>
---	---	---	--

**Soil Treatment of Wilt Affected Plot**



**Correct way of Drenching with fungicide**

### **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>