

MANAGEMENT OF POMEGRANATE



Advisory for Ambe bahar Crop

Sr. No	Days	Stage	Period	Horticultural Operations
Pre ambe bahar Horticultural Operations				
1.	-	Crop growth	June 15-30	<ul style="list-style-type: none"> Moderate to heavy pruning to remove disease affected, broken, criss-cross branches, water sprouts, suckers and opening canopy to improve light penetration. Apply Bordeaux paste (10%) on cut ends. Ploughing in inter- space. Bronopol (0.5 g/l) + Coper oxichloride (COC) (2.5g/l)/ Kocide (2g/l) + Spreader and sticker(0.5g/l) Apply recommended dose of manure and Fertilizer as per Table.1 along with Neem cake 0.5kg+vermicompost 1.5kg+ calcium ammonium nitrate 50g/tree in circular trench (15-20 cm wide of 8-10cm depth) at 45-60cm apart from the stem, cover the trenches properly with soil and start irrigation.
2.	-	Crop growth	July 1-15	<ul style="list-style-type: none"> Spray Bordeaux mixture (1%) or Kocide (2g/l)
3.	-	Crop growth	July 16-31	<ul style="list-style-type: none"> Spray Bronopol (0.5 g/l) + COC(2.5g/l)/Kocide (2g/l)+ Spreader and sticker(0.5g/l) Weeding.
4.	-	Crop growth	Aug 1-15	<ul style="list-style-type: none"> Spray Bordeaux mixture (1%) or Kocide (2g/l) Remove water sprouts and suckers.
5.	-	Crop growth	Aug 16-31	<ul style="list-style-type: none"> Evening spray Bronopol (0.5 g/l) + carbendazim 50WP (1g/l) + Acetamiprid 20SP@ 0.3g/l +spreader and sticker (0.5ml/l). Harrowing and Weeding
6.	-	Crop growth	Sept 1-30	<ul style="list-style-type: none"> Spray Bordeaux mixture 1% or Kocide (2g/l) Weeding
7.	-	Stress	Oct 1-30	<ul style="list-style-type: none"> Remove water sprouts and suckers. Ploughing / Harrowing in inter space. Spray Bronopol (0.5 g/l) + COC (2.5g/l)/Kocide (2g/l)+ Spreader and sticker(0.5g/l)
8.	-	Stress	Nov. 1-15	<ul style="list-style-type: none"> Spray Bordeaux mixture 1% or Kocide (2g/l)
9.	-	Stress	Nov. 16-30	<ul style="list-style-type: none"> Spray Bronopol (0.5 g/l) + COC (2.5g/l)/Kocide (2g/l) + Spreader and sticker(0.5g/l)

Horticultural Operations in ambe bahar				
1	0-7	Defoliation	Dec.1-7	<ul style="list-style-type: none"> • Spray 1% Bordeaux mixture 2days before defoliation • Defoliate with Ethrel (1.5-2ml/l)+DAP 5g/l.
2	8-15	leaf fall (85-100 %), emergence of new leaves and sprouts	Dec.8-15	<ul style="list-style-type: none"> • Remove weeds and suckers • Collect & burn fallen leaves /debris from the orchard • Harrowing in interspaces. • Apply full dose of well rotten FYM and P, 1/3rd N&K fertilizers (Table. 2). + Micronutrients (ZnSO₄, FeSO₄, MnSO₄ each 25g and 10g Borax (Boron) /tree)+ Neem Cake 1-1.5 kg /tree + Vermicompost 2 kg/tree+ Phorate10G @ 25g/tree or Carbofuran 3G@40g/tree in shallow trench or ring (15-20 cm wide of 8-10cm depth) at 45-60cm apart from the stem, cover the trenches properly with soil and give light irrigation immediately after fertilizer application.
3	16-31	New flush emergence/ Flower bud initiation	Dec.16-31	<ul style="list-style-type: none"> • Evening spray Streptocycline (0.5g/l) + Carbendazim 50WP (1g/l) + Thiamethoxam 25WG @ (0.3g/l) +spreader and sticker (0.5ml/l) • Spray ZnSO₄,(3g/l) + MnSO₄ (6g/l)
4	32-46	Flower bud initiation continue	Jan.1-15	<ul style="list-style-type: none"> • Morning spray Salicylic acid formulation @ 0.3g/l • Spray Boric acid (2g/l) or Solubor (2g/l) • Evening spray Bronopol (0.5g/l) + Ziram 80% WP (2g/l) + Acetamidrid 20SP@ (0.3g/l) + Spreader and sticker (0.5ml/l) • Apply 1/3rd dose of Nitrogen + 1/3rd dose of potash
5	47-62	Flower bud development	Jan.16-31	<ul style="list-style-type: none"> • Evening spray Streptocycline (0.5g/l) + Thiophanate Methyl 70 WP (1g/l) + Thiamethoxam 25WG @ (0.3g/l) +spreader and sticker (0.5ml/l)
6	63-77	Flowering	Feb. 1-15	<ul style="list-style-type: none"> • Morning spray salicylic acid formulation @0.3g/l • Evening spray Captan 50WP (2.5g/l) + Bronopol (0.5g/l) + Spreader and sticker (0.5ml/l)+ Methomyl 40% SP@ (1g/l) • Remove suckers & weeding
7	78-90	Flowering continue & fruit setting	Feb16-Feb28	<ul style="list-style-type: none"> • Spray ZnSO₄ (3g/l) + MnSO₄ (6g/l) • Spray Streptocycline (0.5g/l) + Mancozeb 75% WP (2g/l)+ Cypermethrin 25% EC (1ml/l) + Spreader and sticker (0.5ml/l) • Apply 1/3rd dose of Nitrogen + 1/3rd dose of potash
8	91-106	Flowering continue & Fruit setting	March 1-15	<ul style="list-style-type: none"> • Evening spray Bronopol (0.5g/l) + Carbendazim 50WP (1g/l) +Spreader and sticker (0.5ml/l) • Morning spray Solubor (2g/l) + commercial micronutrient mixture (1g/l)
9	107-122	Fruit setting continue	March 16-31	<ul style="list-style-type: none"> • Morning spray salicylic acid formulation @0.3g/l • Evening spray Steptocycline (0.5g/l) + Thiophanate Methyl 70WP (1g/l) + Cypermethrin 25% EC (1ml/l) + Neem Seed Kernel Extract @50g/l (75g if entire seed is used) + spreader and sticker (0.5ml/l) • Need based fruit thinning. • Remove suckers & do weeding
10	123-138	Fruit enlargement	Apr 1-15	<ul style="list-style-type: none"> • Morning spray Magnesium sulphate (2g/l) + ZnSO₄ (3g/l) + MnSO₄ (6g/l) • Evening spray Bronopol (0.5g/l) +Fosetyl Al 80% WP (2g/l) +spreader and sticker (0.5ml/l) + Thiamethaxam (0.3g/l)
11	139-153	Fruit enlargement continue	Apr 16-30	<ul style="list-style-type: none"> • Morning spray salicylic acid formulation @ 0.3g/l • Evening spray Bordeaux mixture (0.5g/l)
12	154-169	Fruit	May 1-15	<ul style="list-style-type: none"> • Morning spray calcium nitrate (15 g/l) • Evening spray Bronopol (0.5g/l) + (0.5g/l) + Mancozeb 75% WP

		enlargement continue		(2g/l) +spreader and sticker (0.5ml/l) + Deltamethrin 2.8Ec@1.5ml/l • Remove suckers & do weeding
13	170-185	Fruit maturation	May 16-31	• Spray streptocycline (0.5g/l) + Propiconazole (1ml/l) + Neem seed kernel extract @50g/l (75g if entire seed is used) +spreader and sticker (0.5ml/l)
14	186-200	Fruit maturation continue	June1-15	• Evening spray Bronopol (0.5g/l) + Neem seed kernel extract@50g/l (75g if entire seed is used) + spreader and sticker (0.5ml/l)
15	201-215	Fruit ripening	June 16-30	• Spray Potassium nitrate@10g/l or 0:0:50 @10g/l
	216-230	Fruit ripening/harvesting	July1-15	• Harvest

Note: Streptocycline is streptomycin sulphate 90% + oxytetracycline 10%; Bronopol is 2- bromo, 2-nitro propane, 3-diol.

Table 1. Application of manures & fertilizers during growth period (Pre ambe bahar)

Age of tree (years)	FYM (kg/ tree)	N (g/tree)	P (g/tree)	K (g/tree)
3	10	170	40	40
4	15	170	40	85
5 and above	20	210	85	85

Table 2. Application of manures & fertilizers during ambe bahar

Age of tree (years)	FYM (kg/ tree)	N (g/tree)	P (g/tree)	K (g/tree)
3	20	330	85	85
4	25	330	85	165
5 and above	30	415	165	165

Precautions/Suggestions:

1. Streptocycline and Bronopol should be used only if orchard is having BBD symptoms.
2. Spraying should be done either in the morning or evening hours.
3. Need based spraying of fungicides, bactericides and insecticides should be done to minimise residues in fruits.
4. Irrigation interval may vary from 1-3 days depending upon weather condition, age of plant, crop stage, soil type etc.
5. Provide less irrigation during new leaf emergence and flower development stages as excess water during these stages may lead poor flowering.
6. There should not be moisture stress at fruit setting, fruit maturation and fruit ripening
7. Always prepare Bordeaux mixture fresh and use on the same day.
8. In general, the spray schedule for BBD (Bacterial Blight Diseases) varies from 7-20 days upon weather condition, crop stage and its level of infection on plant parts.
9. Judicious irrigations schedule should be followed to avoid wilt problem.
10. Number of spraying schedules may be increased or decreased as per actual need.
11. Use good quality and non –ionic spreader sticker while spraying. However, no stickers should be used with Bordeaux mixture.
12. Combine insecticides, fungicides or micronutrient sprays with bactericidal sprays depending on compatibility to reduce number of sprays. Mixture should not form precipitate.
13. **Integrated nutrient management practices using different sources of FYM, poultry manure, vermicompost, goat manure, neem cake etc. are must to keep the orchard healthy for developing natural immunity to various diseases / pests.**