

## Pomegranate Orchard Health Management

These are the package of practices approved by the Scientists (ICAR, SAU), Technical officers and grower representatives, attending the conference, and have come from Maharashtra, Karnataka and Andhra Pradesh.

### **1. Selection of planting material:**

- Air layered cuttings for raising the nursery should be obtained from apparently disease free (Bacterial light caused by *Xanthomonas axonopodis* pv. *punicae*) orchard.
- The mother plant should be tested for the presence of pathogen through appropriate techniques like visual/microscopy, isolation, ooze test, ELISA, Bacteriophages, DNA finger printing techniques.
- Potting mixture used for raising saplings in nursery be solarised. The solarisation time could be 2 to 4 months. Steam/chemical sterilisation can also be practiced.
- Consortium consisting local isolates @ 1 kg *Trichoderma viride* or *T. harzianum* 100 kg of soil , *Pseudomonas fluorescence*  $10^9$  CFU per g of formulation, neem cake (5 kg/100kg soil) mixed with compost, VAM culture (200g/100kg of soil ) either alone or in combination of all these may be incorporated.
- While preparing the planting material, the air layered portion can be covered with moss, *P.fluorescence* ( $10^9$  CFU per g) formulation and IBA (1500 ppm) Bordeaux paste (10%) should be applied to the cut ends of the plants.
- The ratio of compost /FYM to soil (loam) should be 50:50 in potting mixture . This mixture should be used after 8 days for planting the air layers in the nursery.
- The air layered cuttings should preferably be raised in black polythene bags (4”X6” size, 250 gauge).
- while bagging, the roots of the air layered cutting should be treated with Copper oxychloride (0.2%) for various diseases.
- The ideal age of air layered plant should be minimum 4 months after cutting from mother plant.
- The air layered plant material be kept at 50% shade net and about 10 bags can be kept in 1 meter area and adjacent 1 meter area is left between two rows. The nursery shall be sprayed with mancozeb (0.25%) or chlorothalonil (0.25%) at 15 days interval.
- The air layered planting material should be watered as per requirement.

### **2. Main Field (up to first year):**

- From nursery the planting material is shifted to main field in pits treated with Calcium hypochlorite ( 100g/pit).
- Minimum planting distance should be 4.5 x 3.0 m and plant should be trained to have 3 stems as it alleviates microclimate for disease development.

- Sanitation measures should be strictly followed and all fallen leaves be collected and burnt. Drenching of bleaching powder 150 g per 5-7 litre of water per plant (as per the age of the plant) or dusting of copper dust 4% @ 20 kg/ha. on soil below canopy at the time of bahar treatment could reduce the bacterial inoculum.
- Branches have to be pruned about 2” below the infected area.
- During pruning , secateurs should be sterilized with dettol (1%) after every cut.
- Bordeaux paste (10%) should be applied to the cut ends after pruning. Preferably apply Mahathotex wax immediately over the pasted wounds if available.

### 3. Orchards management schedule;

- Urea 5% may be used to force plants for defoliation.
- Branches have to be pruned about 2 “ below the infected area.
- During pruning, secateurs should be sterilized with dettol (1%) after every cut.
- Bordeaux paste ( 10%) should be applied to the cut ends after pruning and stems up to 2 feet. Preferably apply Mahathotex wax immediately over the pasted wounds if available.
- First spray should be given of Bordeaux mixture (1%) immediately after pruning.
- Second spray should be applied at foliage emergence with streptocycline (250ppm) + copper oxychloride (0.25%). Non-ionic sticker may be used with the fungicides (except Bordeaux mixture) , particularly during the rainy season.
- Third spray should be given at 15 days interval with Bordeaux mixture (0.5%).
- Fourth spray should consist of streptocycline (250 ppm) + carbendazim (0.1%).
- However, under favourable weather condotions for disease development such as overcast sky and rains and high disease inoculum pressure , higher concentrations of streptocycline (500ppm) may be used. Also, spray interval can be reduced to 8 to 10 days.
- In those areas where scab (*Sphaceloma* sp) is a problem, a spray of thiophanate methyl (0.15%) can be given once a week.
- Rest period of 3 to 4 months should be practiced and during the period Bordeaux mixture (1.0%) be sprayed at one month’s interval. Streptocycline (250ppm) should be applied once during the rest period.
- For controlling shot hole borer (*Xyleborus* spp), which is associated with wilt disease, 10 litres preparation of red soil (4kg) + lindane (25gm) + chlorpyriphos (20ml) + copper oxychloride (25 gms) can be applied on plants from second years onwards.

**EMPHASIS SHOULD BE ON CLEAN POMEGRANATE CULTIVATION PRACTICES AND AVAILABLE CLEAN-UP CAMPAIGN OF ALL ORCHARDS ANNUALLY.**