

Technical Specifications of various inputs for Empanelment of Companies/ Firms/ Nurseries for implementation of different schemes under the Department of Horticulture & Soil Conservation, Manipur

A. PLANTING MATERIALS

Sl. No.	Particulars	Specifications
1	Blueberry	<ul style="list-style-type: none"> Age: 12-15 months old Avg. dia. at collar region : 8-10 mm approx. Height : Min. 50 cm from the base. The planting material must be free from known pests and diseases especially <i>Anthraco</i>se, Aphids, Mealy Bugs, Fruit Fly, etc.
2	Ginger	<ul style="list-style-type: none"> Local variety, planting material/rhizome must be healthy and free from known pests and diseases and physiological disorder especially <i>Anthraco</i>se, Rhizome rot, Bacterial diseases etc.
3	Potato	<ul style="list-style-type: none"> Variety: Kufri Jyoti and Kufri Giridhari
4	Quinoa	<ul style="list-style-type: none"> Local variety, seeds must be healthy and free from known pests and diseases and unwanted weed seeds. Min. 90 % (High) germination
5	Avocado	<ul style="list-style-type: none"> Propagated by : Grafting/ Seedling Variety: Fuerte & Hass (the two varieties must be supply in the ratio 1:1) Fuerte & Hass variety must be tagged separately Age: 8-12 months old
6	Kiwi Female (Alison / Hayward) – 6000 nos. Male (Tomori) – 1000 nos.	<ul style="list-style-type: none"> Propagated by : Grafting/ Cutting Female plants - var. Alison/ Hayward Male plants - var. Tomori Male and female saplings tagged separately Average diameter of the plant : Approx. 8-12 mm
7	Litchi	<ul style="list-style-type: none"> Method of propagation : Vegetative (air layering) Age of the shoot : 10-12 months Height of the air layered plants : 30-45cm Average diameter of the air layered plants : 1.5-2 cm The planting material must be free from Pests and diseases especially Leaf miner, Litchi mite, Shoot borer, Leaf roller, <i>Anthraco</i>se, Leaf spot disease, etc as well as nutrient deficiency symptoms.
8	Dragon Fruit	<ul style="list-style-type: none"> Variety: <i>Hylocereus undatus</i> (red skin, white flesh) Age: 5-6 months Height of the plant: minimum 12 inch long. The cuttings must be free from pests and diseases especially Cactus Scale.
9	Orange	<ul style="list-style-type: none"> Variety: Khasi Mandarin Propagated by: T- Budding/ Grafting Rootstock: Rough Lemon/ Rangpur Lime Age: 12-15 months from the time of budding Height: minimum 50 cm from the base. Graft/ Bud union: smooth, at least 15 cm above the base.
10	Lemon	<ul style="list-style-type: none"> Variety: Pati Lemon; Kachai Lemon Propagated by: T- Budding/ Grafting Age: 10-15 months from the time of budding Height: minimum 50 cm from the base.

		<ul style="list-style-type: none"> Graft/ Bud union: smooth, at least 15 cm above the base. The planting material must be healthy, vigorous and free from known pests and diseases and physiological disorder especially, citrus Tristeza Virus, Citrus Greening, Phytophthora, Leaf Miner, Aphids, etc.
11	Apple	<ul style="list-style-type: none"> Variety: HRMN-99 (low chilling variety) Rootstock : M-106 or M-111 series Height of the plant: Minimum 20 cm long.
12	Banana	<ul style="list-style-type: none"> Variety: Grand Naine Propagation: Tissue Culture (TC) Height of the plant: Minimum 15 cm long.
13	Pomegranate	<ul style="list-style-type: none"> Variety: Bedana Propagation: Grafted Height of the plant: Minimum 20 cm long.
14	Grapes	<ul style="list-style-type: none"> Variety: Thomson Seedless Propagation: Grafted Height of the plant: Minimum 20 cm long

Note: The planting material must be healthy, vigorous and free from known pests and diseases and physiological disorder.

B. PLANT PROTECTION

Sl. No.	Particulars	Specificatio ns
1	Blitox-50 WP	<ul style="list-style-type: none"> Technical Name : Copper Oxychloride 50% WP
2	Dichlorvos	<ul style="list-style-type: none"> Technical Name : Dichlorvos 76 % EC
3	Bio-Fungicide	<ul style="list-style-type: none"> Technical Name : <i>Metarhizium anisopliae</i> (Biopesticide Green muscardine fungus) It should contain - 1 x 10⁶-8cfu/ml
4	Thionutri	<ul style="list-style-type: none"> Technical Name : Sulphur 8% WDG
5	Bio-control Agent	<ul style="list-style-type: none"> <i>Trichoderma viride</i> 1.5% WP; 1 kg Packet <i>Pseudomonas fluorescens</i> 1% WP; 1 kg Packet
6	Bio- pesticides	<ul style="list-style-type: none"> Azadirachtin; 500 ml Packet

C. MANURE AND MICRO-NUTRIENT

Sl. No.	Particulars	Specifications
1	Vermicompost	<ul style="list-style-type: none"> It should be free from harmful plant pathogens and unwanted weed seeds Color: Dark brown to black; Odour: Absence of foul odour; Bulk density: 7-9 g/cm³ Particle Size: 90 % material should pass through 4.00 mm IS sieve. Total Organic Carbon: Min. 18% ; Total Nitrogen: Min. 1.5% ; Total Phosphorus: 0.8% ; Total Potassium: 0.8% Colour: Dark brown to black; odour: absence of foul odour; Particle size: minimum 90% material should pass through 4.0 mm IS sieve; Bulk density: 7-9 g/cm³; Total organic carbon: Minimum 18%; Total nitrogen: minimum 1.5%; Total phosphorus: minimum 0.8%; Total potassium: minimum 0.8%
2	Ishabion	<ul style="list-style-type: none"> Water soluble and readily available to plants for absorption. Amino acids and nutrient base bio-stimulant.

3	NPK	<ul style="list-style-type: none"> • Water soluble with minimal impurities • Polyfeed N:P:K ratio (19:19:19)
4	Fertilizers : Urea, SSP, MOP, DAP, Rock Phosphate	<ul style="list-style-type: none"> • Containing all major essential plant nutrients (Nitrogen, Phosphorus, Potassium); Bag : 50 kg
5	Micro-nutrients	<ul style="list-style-type: none"> • Containing all essential plant nutrients (Zn, Boron, Mn, etc.) • Liquid formulation
6	Compost/FYM	<ul style="list-style-type: none"> • Color: Dark brown to black; Odour: Absence of foul odour; Bulk density: 7-9 g/cm³ • It should be properly dried, friable, and free from harmful plant pathogens, insects and unwanted weed seeds.
7	Bio-fertilizer	<ul style="list-style-type: none"> • <i>Azospirillum</i> (N)
		<ul style="list-style-type: none"> • <i>Pseudomonas</i> (P)
		<ul style="list-style-type: none"> • <i>Frateuria</i> (K)
		<ul style="list-style-type: none"> • <i>Azotobacter</i>
		<ul style="list-style-type: none"> • Phosphorus Solubilizing Bacteria (PSB)
		<ul style="list-style-type: none"> • Potassium Mobilizing Bacteria (PMB)
8	Bio-fungicide	<ul style="list-style-type: none"> • <i>Trichoderma viridae</i> & <i>Trichoderma harzanium</i> • Formulation: Powder; 1 kg packet
9	Organic Adhesive/ Sticker	<ul style="list-style-type: none"> • Acacia Gum (2%) or molasses
10	Bio- pesticides	<ul style="list-style-type: none"> • <i>Beauveria bassiana</i> • <i>Metarrhizium anisopliae</i> • Formulation: Wettable Powder; 1 kg packet; shelf life: 12 months
11	Organic Potash	<ul style="list-style-type: none"> • Liquid formulation
12	Organic Potash Granule	<ul style="list-style-type: none"> • Granular; 25 kg pack
13	Organic Zinc	<ul style="list-style-type: none"> • Liquid formulation
14	Organic Phosphorus Granule	<ul style="list-style-type: none"> • Granular; 25 kg pack
15	Organic Phosphorus	<ul style="list-style-type: none"> • Liquid formulation
16	Organic Zinc Granule	<ul style="list-style-type: none"> • Granular; 5 kg pack
17	Organic Megacal	<ul style="list-style-type: none"> • Liquid formulation
18	Organic NPK Granule	<ul style="list-style-type: none"> • Granular; 25 kg pack
19	Organic MG	<ul style="list-style-type: none"> • Liquid formulation
20	Organic MG	<ul style="list-style-type: none"> • Liquid formulation

21	Push (Botanical Crop Protector)	<ul style="list-style-type: none"> Liquid formulation
22	SAFE (Botanical Crop Protector)	<ul style="list-style-type: none"> Liquid formulation
23	Neem Powder	<ul style="list-style-type: none"> 10 kg Pack
24	Neem Oil	<ul style="list-style-type: none"> Liquid formulation
25	NPK	<ul style="list-style-type: none"> Water soluble with minimal impurity; Polyfeed N:P:K ratio (19:19:19)
26	Geo- Green	<ul style="list-style-type: none"> 50 kg bag
27	Neem DOC	<ul style="list-style-type: none"> 50 kg pack
28	Micronutrients	<ul style="list-style-type: none"> Liquid formulation

D. HORTICULTURE TOOLS AND IMPLEMENTS

Sl. No.	Particulars	Specifications
1	Gardener kit	<ul style="list-style-type: none"> 15 Pcs. Kit (such as Grafting Knife, Khurpi, Hand weeder, Pruning saw, Hand Trowel, Long reach pruners etc.)
2	Power Weeder	<ul style="list-style-type: none"> Cutting : 15 mm; Engine type : 2S; Engine : AX-52T Power : 2.1 HP/7500 rpm Ignition system : Electronic Ignition Displacement : 51.7 cc; Fuel Tank Cap. : 0.9 Litre
3	Portable Power tiller 6 HP	<ul style="list-style-type: none"> Engine: Petrol Displacement: 149 cc, 2- stroke electronic Rotary Tiller: Adjustable – 33 cm to 120 cm. Tilling width: 330 mm to 1200 mm. Low maintenance, high fuel efficiency and easy control. Weight: 67 Kgs or less.
4	Knapsack Sprayer	<ul style="list-style-type: none"> Capacity: 16 L with ISI approved mark. Tank Material : HDPE The pump should be efficient and light weight, having uniform spraying and more area coverage. Normal working pressure: 3 kg/cm³ Nozzle: Brass Pressure camber material: Brass
5	Secateur	<ul style="list-style-type: none"> Cutting : 15 mm T. Length : 225 mm
6	Grass Shear	<ul style="list-style-type: none"> Blade Size: 175mm
7	Hedge Shear	<ul style="list-style-type: none"> Blade size: 250 mm Length: 535 mm with plastic handle
8	Pruning Saw	<ul style="list-style-type: none"> Blade Size: 260mm
9	Grafting Knife	<ul style="list-style-type: none"> Two (2) Stainless steel blades & brass budder with Nylon comfortable grip
10	Bill Hook	<ul style="list-style-type: none"> Blade size: 305 mm, total length; 457 mm with hardened and tempered Blades

11	Hand Digging Trowel	<ul style="list-style-type: none">• Fixed plastic handle, light weight
12	Khurpa (S)	<ul style="list-style-type: none">• Size: 1" × 5" with plastic handle
13	Khurpa (M)	<ul style="list-style-type: none">• Size: 2" × 5" with plastic handle
14	Hand Weeder/ Hand cultivator	<ul style="list-style-type: none">• Fixed plastic handle, light weight
15	Long reach Pruners	<ul style="list-style-type: none">• Length: 620 mm