

1. FERTILIZER SCHEDULE FOR FRUIT CROPS

Mango

Manures and fertilizers may be applied in September – October. Fertilizers are applied 45 to 90 cm away from the trunk up to the peripheral leaf drip and incorporated.

Manures and Fertilizers	1 Year old (Kg per tree)	Annual increase (Kg per tree)	6th year onwards (Kg per tree)
FYM	10.00	10.00	50
N	0.20	0.20	1.0
P	0.20	0.20	1.0
K	0.30	0.30	1.5

Banana

General recommendations for garden land, wetland banana and hill bananas.

Details	N (g)	P (g)	K (g)
Garden land			
Varieties other than Nendran	110*	35*	330*
Nendran	150	90	300
Wetland			
Nendran	210	35	450
Rasthali	210	50	390
Poovan, Robusta	160	50	390

* For Tissue culture banana, apply 50% extra fertilizers at 2nd, 4th, 6th and 8th month after planting.

Hill bananas

After forming semicircular basins on uphill side, apply 375 g of 40:30:40 NPK mixture, plus 130 g Muriate of Potash per clump per application during October, January and April. Preceding the chemical fertilizer application, apply *Azospirillum* and *Phosphobacterium* @ 20 gm each at planting and 5th month after planting.

Apply N as Neem coated urea. Apply N and K in 3 splits on 3rd, 5th and 7th month, Phosphorous at 3rd month of planting. Apply 20 g in each of *Azospirillum* and *Phosphobacteria* during planting and five months after planting. (This should be applied prior to chemical fertilizer application).

The fertigation technique must be followed for maximizing the productivity. Apply 200:30:300 g N: P₂O₅: K₂O / plant using water soluble fertilizers along with 25 litres of water/day. For economizing the cost of fertilizers, fertigate using normal

fertilizers (Urea and Muriate of potash) with 50% of the recommended dose along with recommended dose of phosphorus as basal at 2nd month after planting. Fertigate at weekly intervals as per the following schedule.

Weeks after planting	N (%)	P ₂ O ₅ (%)	K ₂ O (%)
9-18 (10 weeks)	30	100	20
19-30 (12 weeks)	50	--	40
31-42 (12 weeks)	20	--	32
43-45 (4 weeks)	--	--	8
Total	100	100	100

Acid lime

N is applied in two doses during March and October. FYM, P₂O₅ and K₂O are to be applied in October.

Manures and Fertilizers	1 year (kg)	Annual increase (kg)	From 6 th year (kg)
FYM	10.000	5.000	30.000
N	0.200	0.100	0.600
P ₂ O ₅	0.100	0.025	0.200
K ₂ O	0.100	0.040	0.300

Spray Zinc sulphate at the rate of 0.5% (500 g/100 lit of water) thrice in a year (March, July and October) after the emergence of new flushes.

Sweet orange

Nitrogen has to be applied in two doses during March and October. However Farm yard manure, Phosphorous and Potash are to be applied in October.

Manures and Fertilizers	1 year (kg)	Annual increase (kg)	From 6 th year (kg)
FYM	10.000	5.000	30.000
N	0.200	0.100	0.600
P ₂ O ₅	0.100	0.025	0.200
K ₂ O	0.100	0.040	0.300

Manures are applied in the basin 70 cm away from the trunk and incorporated in the soil. Spray solution containing Sulphate of Zinc (0.5%), Manganese (0.05%), Iron (0.25%), Magnesium (0.5%), Boron (0.1%) and Molybdenum (0.003%) once in 3 months at the time of new flush production. In addition to that apply 50 g in each of Sulphate of Zinc, Manganese and Iron per tree per year.

Mandarin orange

a) For Palani Hills

Manures & Fertilizers	I year	II year	III year	IV year	V year	VI year onwards
	Kg/plant/year					
FYM	10.000	15.000	20.000	25.000	25.000	30.000
N	0.100	0.200	0.300	0.400	0.500	0.600
P	0.040	0.080	0.120	0.160	0.160	0.200
K	0.050	0.100	0.200	0.300	0.300	0.400

(Apply twice in a year during June and October)

b) For Shervaroyan hills (for trees above 6 years old)

Apply 700:375:600 g/tree of NPK along with VAM (*Glomus fasciculatus*) @ 1 kg/tree. Manures are to be applied in the basin at 70 cm away from the trunk and incorporated. Apply micronutrients as suggested for sweet orange. Apply agricultural lime or Dolomite at 4 kg/tree during January – February once in 2 – 3 years. This should not be combined with other chemical fertilizers.

Grapes

VARIETY	FYM			GREEN LEAVES			N			P			K		
	(Kg per vine)						(g per vine)								
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Muscat	50	50	100	50	50	100	10	20	20	08	16	16	30	40	60
Pachadraksha Thompson seedless	50	50	100	50	50	100	20	30	40	08	16	24	40	80	20
Sonaka, Manikchaman Sharad seedless, Anab-e-Shahi	50	50	100	50	50	100	20	40	60	08	16	24	40	80	20

The manures should be applied twice after pruning. Apply half the dose of potash immediately after pruning and the other half after 60 days of pruning. Foliar spray of 0.1% Boric acid + 0.2% ZnSO₄ + 1.0% Urea twice before flowering and 10 days after first spray should be done to overcome nutrient deficiency.

Guava

FYM 50 Kg and one Kg in each of N, P and K per tree in two split doses during March and October should be applied. To increase the yield, spray Urea 1 % + Zinc sulphate 0.5% twice a year during March and October. To correct the boron deficiency (reduction in size of leaves and fruit cracking and hardening) spray 0.3% borax during flowering and fruit set stage.

Micronutrients spray for controlling bronzing of leaves

A combined spray should be given containing ZnSO₄, MgSO₄ and MnSO₄ @ 0.5% and CuSO₄ and FeSO₄ @ 0.25 % plus Teepol @ 1ml per 5 lit of solution on various stages viz., new flush, one month after, flowering and fruit set stages.

Pineapple

FYM 40-50 t/ha, N 16 g, P 4 g and K 12 g/plant in two equal splits at 6th and 12th month after planting. Apply as foliar spray 0.5% - 1.0 % sulphate of Zinc and Ferrous solutions at 15 days interval to overcome the deficiencies in the early crop phase.

Sapota

Manures and fertilizers may be applied in September-October at 45 cm away from the trunk up to the leaf drip and incorporated.

Manures and Fertilizers	1 year old	Annual increase	6 th year onwards
	(Kg/tree)		
FYM	10.000	10.000	50.000
N	0.200	0.200	1.000
P	0.200	0.200	1.000
K	0.300	0.300	1.500

Papaya

Apply FYM 10 Kg/plant as basal and 50 g in each of N, P and K per plant at bi-monthly intervals from the third month of planting after removing unwanted sex forms. Apply 20 g in each of *Azospirillum* and Phosphobacterium at planting again six months after planting.

Pomegranate

Manures and Fertilizers	1 st year	2 nd to 5 th year	6 th year onwards
	(per plant)		
FYM	10 kg	20 kg	30 kg
N	200 g	400 g	600 g
P	100 g	250 g	500 g
K	400 g	800 g	1200 g

Jack

The manures and fertilizers should be applied in two splits during May - June and September - October.

Manures & Fertilizers	1 year old	Annual Increase	6 th year and above
FYM	10.000	10.000	50.000

N	0.150	0.150	0.750
P	0.080	0.080	0.4000
K	0.100	0.100	0.500

Amla

Manures and Fertilizers (per plant / year)	Bearing tree
FYM	10 kg
N	200 g
P	500 g
K	200 g

Manuring should be done immediately after pruning.

Apple

For a bearing tree apply FYM 25 Kg, N 500 g and each one Kg of P and K per bearing tree.

Ber

Manures and Fertilizers (per plant/year)	1 st year	2 nd year onwards
FYM	20 kg	50 kg
N	200 g	500 g
P	100 g	200 g
K	200 g	500 g

Manuring should be done immediately after pruning. Spray 2% KNO₃ thrice at monthly intervals in January, February and March.

Peach

Apply FYM 25 kg/tree, N 500 g and 1 kg in each of P and K per bearing tree.

Pear

Apply FYM 25 kg, N 500 g and 1 kg in each of P and K per bearing tree/year. The recommended dose of IFFCO complex is 4 kg and Urea is 0.22 Kg/tree.

Plum

Apply FYM 30 kg and 500 g of N and 1 kg in each of P and K for bearing tree during October – November.

Minor fruits

Name of the fruit with botanical name	Manures and fertilizers
West Indian Cherry (<i>Malpighia puniceifolia</i>)	FYM 10 kg, N: 200 g, P: 50 g and K: 100 g/tree
Annona (<i>Annona squamosa</i>) (<i>A. cherimnoya</i> ; <i>A. reticulata</i>)	FYM: 10 kg, Neem cake: 1 kg, N: 250 g, P: 125 g and K: 250 g/tree Apply 30 g each of Azotobacter, VAM, Azospirillum, Phosphobacteria and 50% of 125:65:125 g N, P ₂ O ₅ , K ₂ O per tree.
Lemon (<i>Citrus limon</i>)	FYM: 30 kg N: 400 g, P: 200 g and K: 300 g/tree twice in a year
Durian (<i>Durio zebethinus</i>)	N: 38.3, P: 8.2 and K: 20.9 kg/ha (bearing tree)
Avocado (<i>Persea americana</i>)	FYM: 40-45 kg, Urea: 1 kg and Super phosphate: 1 kg
Fig (<i>Ficus carica</i>)	FYM: 36 kg, Neem cake: 2.25 kg and Sulphate of Ammonia: 680 g
Kiwi (<i>Actinidia deliciosa</i>)	FYM: 20 kg (basal dose), 0.5 kg NPK mixture containing 15% N is applied each year. After 5 years, N: 850-900g, P: 500-600g, K: 800-900g/vine
Apricot (<i>Prunus americana</i>)	FYM: 40 kg, N: 500g, P ₂ O ₅ : 250g and K: 200g
Bread fruit (<i>Artocarpus incise</i>)	FYM: 25 kg and 7 : 10 : 5 NPK mixture @ 1-2 kg/plant
Litchi (<i>Litchi chinensis</i> Sonner.)	FYM: 60 kg, N: 100 g, P: 40 g and K: 400 g for 10 year old tree. Apply N in two split doses in February & April. FYM, P and K to be applied in December
Mangosteen (<i>Garcinia mangostana</i>)	FYM: 75 kg, N: 1 kg, P: 0.8 kg and K: 3.0 kg/tree
Straw berry (<i>Fragaria vesca</i>)	FYM: 3 kg/m ² , N: 8 g, P: 8 g and K: 8 g/plant during October and February

Passion fruit (<i>Passiflora edulis Sims.</i>)	FYM: 10 kg, N: 20 g, P: 20 g and K: 15 g/plant
Bilimbi (<i>Averrhoa bilimbi</i>)	N: 80 g, P: 50 g and K: 100 g/bearing tree/year
Carambola (<i>Averrhoa carambola</i>)	N: 100 g, P: 50 g and K: 100 g/plant
Karonda (<i>Carissa caranda</i>)	FYM: 10 kg/plant
Loquat (<i>Eriobotrya japonica</i>)	N: 50 g, P: 30 g, K: 150 g and Ca: 40 g/tree
Phalsa (<i>Grewia asiatica</i>)	N: 50 g, P: 20 g and K: 50 g/plant
Mulberry (<i>Morus nigra</i>)	FYM or Tank silt: 10 kg, N: 50 g, P: 50 g and K:50 g/plant