

#### 4. FERTILIZER SCHEDULE FOR PLANTATION CROPS

##### Arecanut

Apply to each bearing palm (5 years and above) 10 - 15 kg of FYM or green leaf. 100 g N, 40 g P and 150 g K. To palms less than five years old, half of the above dose is recommended. Manures are applied during January - February after the North - East monsoon in a basin of 0.75-1.00 m radius around the tree to a depth of 20 - 30 cm.

Time of application	N	P	K
(kg/ha)			
Trees less than 5 years	50	20	25
Trees more than 5 years old	100	40	150

##### Betelvine

Apply 150 kg N/ha/year through Neem cake (75 kg N) and Urea (75 kg N) and 100 kg P<sub>2</sub>O<sub>5</sub> through Super phosphate and 30 kg Muriate of potash in three split doses first at 15 days after lifting the vines and second and third dose at 40 - 45 days intervals. Apply on beds shade dried neem leaf or *Calotropis* leaves at 2 t/ha and cover it with mud (2 t in 2 split doses).

Time of application	N	P	K
(kg/ha)			
Basal dressing	37.5	100	50
Top dressing @ 3 split doses	112.5	0	0

##### Cashewnut

Manures and fertilizers (per tree)	I year old	II year old	III year old	IV year old	V year onwards
Compost (kg)	10	20	20	30	50
N (g)	70	140	210	280	500
P (g)	40	80	120	160	200
K (g)	60	120	180	240	300

Fertilizer application may be done during November - December in the East Coast areas. Wherever possible the fertilizer can be applied in 2 equal split doses during June-July and October-November periods.

##### Cocoa

Trees of 3 years of age and above are manured with 100 g N, 40 g P and 140 g K per tree in two split doses during April - May and August - September. Trees younger than three years may be applied with half of this dose.

Time of application	N	P	K
(kg/ha)			
1 – 3 years old trees	50	20	70
Trees more than 3 years old	100	96	140

### Coconut

From 5 th year onwards, apply 50 kg of FYM or compost or green manure. 1.3 kg urea (560 g N), 2.0 kg super phosphate (320 g P<sub>2</sub>O<sub>5</sub>) and 2.0 kg muriate of potash (1200 g K<sub>2</sub>O) in two equal splits during June – July and December – January. Apply manures and fertilizers in circular basins of 1.8 m from the base of the palm, incorporate and irrigate. During 2nd, 3rd and 4th year ¼, ½ and ¾ doses of the above fertilizer schedule should be adopted respectively. Sufficient moisture should be present at the time of manuring. Fertigation may be done at monthly intervals with 75% of the recommended dose of the above fertilizers. Phosphorous may be applied as super phosphate in the basins and incorporated or as DAP through drip when good quality of water is available.

### TNAU Coconut tonic

For nut bearing coconut, root feed TNAU coconut tonic @200ml/palm once in six months.

### Bio-fertilizer recommendation

- 50 g of Azospirillum
- 50 g of Phosphobacteria ( or ) 100 g Azophos
- 50 g of VAM

Mix all the contents in sufficient quantity of compost or FYM and apply near feeding roots once in 6 months / palm starting from planting. Don't mix with chemical fertilizers and pesticides

### Organic recycling

Any one of the green manure crops like sunnhemp, Calapagonium or Daincha may be sown and ploughed *in situ* at the time of flowering as a substitute of compost to be applied. Sow sunnhemp @ 50 g/palm in the basin and incorporate before flowering. Coir pith compost/vermicompost made from coir pith/ coconut leaves/ other wastes from coconut grove can be applied.

### Oilpalm

Based on the fertilizer experiments conducted under rainfed conditions in India, the following fertilizer schedule is recommended for oil palm until specific results are derived from multilocational fertilizer trials.

Fertilizer recommendation for oilpalm

Age	Nutrients (gram/palm/year)		
	N	P	K
First year	400	200	400

Second year	800	400	800
Third year onwards	1200	600	2700

## Rubber

### For immature rubber trees at pre-tapping stage

Apply 12 kg of compost or FYM and 120 g of rock phosphate in each pit before planting. Apply 10:10:4:1.5 NPK and Mg as per schedule given below:

Months after planting	Period of application	Quantity per plant	
		10:10:4	12:12:6
3	September/October	225 g	190 kg
9	April/May	445 g	380 kg
15	September/October	450 g	380 kg
21	April/May	450 g	480 kg
27	September/October	550 g	480 kg
33	April/May	550 g	380 kg
39	September/October	450 g	380 kg

Apply 400 kg of mixture/ha in 2 doses, once in April/May and another in September/October from the 5th year till the tree is ready for tapping.

### Matured rubber trees under tapping

Apply NPK 12:6:6 mixture at the rate of 400 kg/ha every year in two split doses. Add 10 kg commercial Magnesium sulphate for every 100 kg of the above mixture if there is magnesium deficiency.

## Tea

### At Nursery

After the tent is removed the cuttings are sorted and staked. 30 g of Nursery soluble mixture of the following composition dissolved in 10 litres of water may be applied over an area of 4 sq.m. This should be done fortnightly.

### Composition of the fertilizer

Ammonium phosphate (20:20)	35 parts by Wt
Potassium sulphate	15 parts by Wt
(or) MOP	12 parts by Wt
Magnesium sulphate	15 parts by Wt
Zinc sulphate	3 parts by Wt
<hr/> Total	<hr/> 80 parts by Wt

### After transplanting

Manuring should be done 2 months after planting. Phosphorous should be applied at 80 - 100 kg/ha as Rock phosphate once in a year by placement at 15 - 25 cm depth up to the first pruning and thereafter once in two years. N : K ratio 2 : 3 should be adapted for the first 3 years and a ratio 1 : 1 thereafter.

Year of application	Total weight kg/ha/annum		No. of applications	Qty/plant (g)	
	N	K		Ammonium Sulphate	Urea
I year	180	270	5	13	27
II year	240	360	6	23	15
III year	300	450	6	29	18
IV year onwards	300	300	6	33	19

Application of fertilizers should be done before the onset of monsoon. Fertilizers should be broadcast around the drip circle avoiding contact with the collar.