MANURING COCONUT IN KERALA

By P. L. Ramanandan and A. S. Mathew*

Next to air and water manures play the most important role in the life of a coconut palm. Not only for its healthy growth but also for its maximum productivity, judicial manuring is a must. Specific recommendations regarding the manures required for the different soil types in Kerala are spelt out in this article.

India ranks third in the world production of coconut, the first and second places being occupied by Philippines and Indonesia respectively. As the production in the country is not sufficient to meet our internal demands a quarter of our requirements is met by imports. Kerala with 7.3 lakh hectares under coconut accounts for 70 per cent of the total production in the country. Coconut cultivation is vital to the economy of the Kerala State, because one third of the State's total agricultural income is derived from coconut. Most of the cultivators do not manure their coconut gardens in a scientific way and thereby the production potential of the palms is not attained. So manuring the coconut in conjunction with plant protection measures is of utmost importance to step up production.

Coconut is a perennial crop and remains on land for 60 or more years and so our primary interest in the management practices should be for the maximum economic production. The coconut is not very fastidious or exacting in its climatic or soil requirements. The coconut is unique in yielding and under suitable conditions gives nuts almost at monthly intervals all through its productive life. Since the coconut is grown on the same land for a number of years, the capacity of the soils to supply nutrients deteriorates. When the fertilizers are supplied, generally there will be increase of yield provided the soil conditions are also favourable. So it is important to supply nutrients to the soil in the form of fertilizers etc. In the case of coconut, it takes 2½ to 3 years to know the effect of manuring and so to get sust-

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.d assured yields manuring should every year.

:erala coconut grows on different he major soils on which coconut ı Kerala are the laterite, river ., coastal sandy alluvium, red sandy d reclaimed soils. Most of the deficient in the major nutrients n, Phosphoric acid and Potash) as ı calcium and magnesium. The annual yield per tree varies from place depending upon the soil manurial and irrigation practices as he control of pests and diseases. :ted gardens the yield is as low as ɔer tree per annum whereas in well gardens 100 to 150 nuts are har- ɜr tree per year. So by proper g spectacular increase in yield obtained. Taking into account ient deficient nature of the soils wing manurial schedule is recom- per tree per annum. As almost oils are deficient in calcium and ım, dolomite, which contains nutrients will have also to be or all the soils.

.e

ı — N=0. 5 kg.

ammonium nitrate	... 2.5 kg.
or	
	... 1.1 kg.
or	
.um sulphate	... 2.5 kg.

ric acid — P_2O_5 =0.32 kg.

ɔs	... 1.00 kg.
ıl	... 2.00 kg.

Potash — K_2O = 1.2 kg.

Muriate of potash	... 2.00 kg.
Organic matter or green leaves	... 25 kg.
Dolomite	... 2 kg.

River alluvium

Nitrogen — N = 0.5 kg.

Urea	... 1.1 kg.
or	
Ammonium sulphate	... 2.5 kg.

Phosphoric acid — P_2O_5 =0.32 kg.

Superphosphate (ordinary)	... 2.0 kg.
or	
Bonemeal	... 2.0 kg.

Potash — K_2O = 1.2 kg.

Muriate of potash	... 2.0 kg.
Organic matter of green leaves	... 25 kg.
(In the case of alluvial soil of sandy nature 50 kg. of organic matter or green leaves should be applied).	
Dolomite	... 2 kg.

Coastal sandy alluvium

Nitrogen — N = 0.5 kg.

Ammonium sulphate	... 2.5 kg.
or	
Urea	... 1.1 kg.

Phosphoric acid — P_2O_5 —0.32 kg.

Superphosphate	... 2 kg.
or	
Bonemeal	... 2 kg.

Potash — K_2O = 1.2 kg.

Muriate of potash	... 2 kg.
Organic matter or green leaves	... 50 kg.
Dolomite	... 2 kg.

Red sandy loam

Nitrogen – N = 0.5 kg.

Calcium ammonium nitrate	... 2.5 kg.
or	
Urea	... 1.1 kg.

Phosphoric acid – P_2O_5 = 0.32 kg.

Bonemeal	... 2 kg.
or	
Ultraphos	... 1 kg.

Potash – K_2O = 1.2 kg.

Muriate of potash	... 2 kg.
Organic matter or green leaves	... 50 kg.
Dolomite	... 2 kg.

Reclaimed Soil

Nitrogen – N = 0.5 kg.

Urea	... 1.1 kg.
or	
Calcium ammonium nitrate	... 2.5 kg.

Phosphoric acid – P_2O_5 = 0.32 kg.

Ultraphos	... 1 kg.
or	
Superphosphate	... 1 kg.

Potash – K_2O = 1.2 kg.

Muriate of potash	... 2 kg.
Organic matter or green leaves	... 25 kg.
Dolomite	... 3 kg.

The above doses are meant for the ordinary West Coast Tall coconut. For hybrids 1½ to 2 times of above doses will have to be applied. The fertilizers may be applied in two split doses, one in August-September and the other in April-May after the receipt of first monsoon rains. If irrigation facilities are there the fertilizers can be applied in four split doses. In low-lying areas like Kuttanad where it floods during rainy season, the manuring may be done after the north-east monsoon rains in December or January.

If the cultivators are not able to get the fertilizers and if they are having some other manures they can apply them taking into account their nutrient contents. The manurial constituents of some of the important manures are given below.

Material	N%	P_2O_5%	K_2O%	Ca 0%
1. Cattle manure	1.2	0.6	1.2	....
2. Goat manure	2.4	0.9	2.0	....
3. Fowl manure	0.9	1.9	0.6	....
4. Fish guano	6.8	7.1	....	....
5. Prawn dust	6.4	3.5	....	....
6. Bloodmeal	11.5	1.2	....	....
7. Groundnut cake	7.6	1.3	1.2	....
8. Castor oil cake	5.3	1.6	1.0	....
9. Laurel or Punnai oil cake	2.7	1.1	1.6	....
10. Marotti oil cake	3.0	1.0	1.0	....
11. Wood ash	...	1.5	4.0	22.0
12. Sea weed	1.1	0.4	0.3	....
13. Silt	0.3	0.3	0.3	....

y soils addition of four or five ıon salt in addition to the fertinures will be beneficial to the : important point to be borne .ile manuring is that the manue applied when there is adequ- in the soil. Further, the nures should be incorporated into the soil properly and not allowed to be washed away by rain water running through the gardens. Necessary precautions should be taken against soil erosion by terracing or by providing proper bunds etc. Manures may be applied in shallow basins of 1. 8 meters radius around the base of the trees.