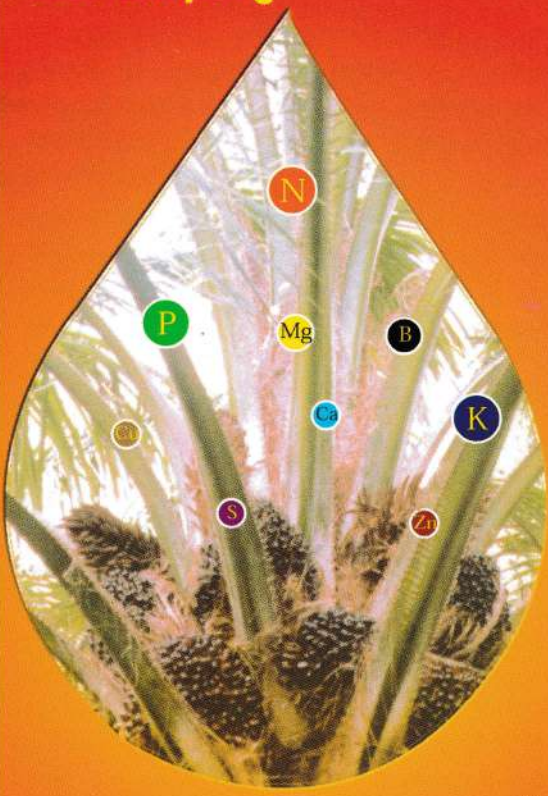
# Importance of leaf nutrient analysis in Oil Palm and method of leaf sampling

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Survey conducted by Directorate of Oil Palm Research, revealed that fifty percent of the oil palm growers are not applying recommended doses of fertilizers. Research findings of oil palm leaf nutrient analysis indicated imbalance use of nitrogen, use of lower doses of phosphorous, potassium, magnesium and boron fertilizers. During the scientists visit to oil palm plantations, observed the symptoms of nutrient imbalance. By application of higher doses of nitrogen, leaves are becoming longer and heavy. Fronds in the crown region are becoming prone to crown bending / breaking due to high temperature and less humidity during summer, accompanied by winds. Due to higher doses of potassium, magnesium deficiency was observed. Due to lack of awareness and non adoption of recommended dose of fertilizers, plants are showing deficiency symptoms.

To know the nutrient status in oil palm one has to do Leaf Nutrient Analysis. The quantity of nutrient status, how much to apply and hidden hunger symptoms can be known and rectified before appearance of visual symptoms. Fifty per cent of the cost of cultivation is expenditure on fertilizer and their application. Indiscriminate use of fertilizers leads to more expenditure as well as soil and water pollution. To avoid this use fertilizers very judiciously based on recommendation of leaf nutrient analysis.

## Method of sampling

The results of the leaf nutrient analysis depends on time of sampling, sample leaf parts and leaf number. In oil palm one unopened spear leaf will be visible in the crown. Below the spear, one partially opened leaf and a completely opened leaf will be seen. The completely opened leaf will be counted as first leaf (Fig.1), leaf below this whorl will be the 9th leaf (if age of the plant is below 3 years, select this leaf as a sample) and leaf below this whorl will be 17th leaf (if age of the plant is above 3 years, select this leaf as a sample) and the middle pinnate of this leaf can be selected as sample (Fig. 2) for analysis.

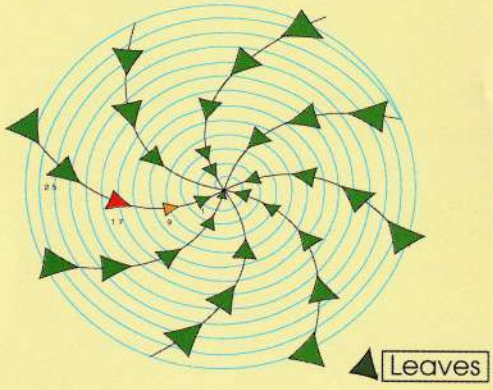


Fig.1: Leaf arrangement in oil palm: Identification of 9th and 17th leaf for analysis.

## Important steps in leaf sampling

The sampling can be done before application of fertilizers. The disease, disorder and deficiency leaf sample should be avoided. Avoid sampling during hot summer and rainy days. The sampling should be done in between 6 a.m. to 12 noon only. Every year after harvesting or 2 to3 months after fertilizer application, sampling can be done. Every year collect the sample in the same method.

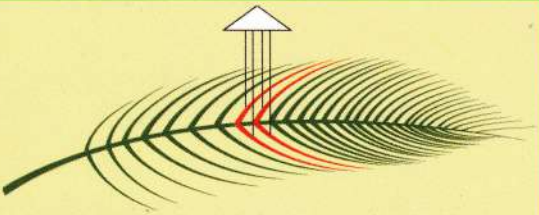

Fig. 2 : Collection of leaf sample (leaflets) as shown in figure for leaf analysis.

## Sampling frequency

In 50 acres plantation take 2 to 3 samples. Sampling can be done depending on soils, yield, drainage facility, age of plantation etc,.

Keeping in view of the importance of leaf nutrient analysis in oil palm farmers are requested to collect the samples at right time, in right method and send the sample to the laboratory.

Farmers are requested to apply the recommended dose of fertilizers, based on leaf nutrient analysis results. There by farmers can avoid soil and water pollution, can get higher production in oil palm.

**Information to be enclosed with the sample is**

(1)Farmers name, (2)Address, (3)Variety and year of planting, (4)Date of sample collection, (5)Soil type, (6) Leaf sample position (number), (7)Fertilizers applied previously, (8)Crops grown, (9)Number of samples collected per unit area, (10)Yielding ability per acre for previous 3 seasons, insects, diseases affected etc, (11)Deficiency symptoms if any, and (12)Date of recent fertilizer application.

NOTE: Please send the sample TO LABORATOY IMMEDIATELY AFTER SAMPLE COLLECTION


**For more details please contact the following address**

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