



IMPORTANCE OF PETIOLE ANALYSIS IN SUGARCANE

Sugarcane (*Saccharum officinarum* L.) is an important cash crop widely grown for sugar and bioenergy worldwide. It is also one of the major crops in our operational area. However, lack of adequate and timely application of manures & fertilizers leads to various nutritional disorders which not only result in wasteful expenditure but also affect the productivity and quality of produce. Therefore, petiole analysis as an effective tool can provide a clear picture of what is happening in the Sugarcane field in terms of nutrient absorption by the roots.

The following Q&As will provide required details to help Sugarcane growers to take care of this aspect:

What is petiole testing?

Petiole testing, also referred to as plant tissue analysis, is essentially a laboratory analysis to determine / estimate content of nutrients in the plant part/s.

What are the benefits of petiole analysis?

- It helps in determining whether nutrient uptake is adequate/sufficient at a given crop growth stage.
- This helps in diagnosing hidden nutrient deficiency status.
- It indicates bioavailability of nutrients from the soil/ medium.
- It guides in taking up immediate corrective measures to address the deficiency status.

What is the recommended procedure to take petiole sample in Sugarcane crop?

The recommendation for time of sampling and the petiole to be sampled in Sugarcane crop is 3rd leaf from top, 3-5 months after planting.

Does petiole testing help in fertilizer recommendations?

Petiole analysis generally provides more current plant-based information and is therefore more suited for correcting nutrient deficiencies in standing Sugarcane crop and the growers will get following benefit,

- a) Grower will realise if the uptake of nutrients is adequate in the standing crop.
- b) As the leaf sample is drawn during tillering & start of the grand growth period, we can ensure complete & balanced nutrition to the crop when it needs the most.

What are the parameters recommended for analysis?

The samples should be analysed for total contents of N, P, K, Ca, Mg, S, Zn, Mn, Fe, Cu, B and Mo. In addition, if any other parameters are recommended by the advisor/s, they will have to be analysed.

How petioles should be packed and sent to laboratory for analysis?

- The sample must be packed in clean unused paper bags to avoid contamination, appropriately labelled, and accompanied by the contract agreement form duly filled.
- Samples should be sent to the lab such that they reach the laboratory at the earliest, preferably within 3 days of sampling.