

## **BEST PRACTICES 2019 – 20**

### **1. KisanSahay - MACFAST Scheme for soil analysis**

#### **Introduction:**

The yield of any crop is determined by the adequate supply of sixteen different essential nutrients. Soil provides the base for the growth of crops, and acts as the reservoir of the essential nutrients required for them. The yield of crops is mainly dependent on the utilization of soil nutrients by plants and the replenishment of soil with nutrients. Soil analysis will help the farmers to determine the level of major nutrients and pH of the soil. By tracking the exact amount of soil nutrients, a farmer can easily adjust the fertilization and also facilitate crop nutrient management. Soil analysis is crucial because fertile soil is necessary to grow healthy crops.

#### **Objective of the practice:**

Soil analysis is important to improve the nutritional balance of the soil, maintain the pH balance, proper planning of fertilizer application and optimize crop production. MACFAST Scheme for soil analysis focuses on the analysis of soil collected from different localities of Tiruvalla Taluk, Pathanamthitta district.

Major objectives are:

1. To determine the macronutrient profile of the soil sample
2. To estimate the micronutrient status of the soil sample
3. To evaluate pH and electrical conductivity of the soil.
4. To evaluate total organic carbon content in soil.

#### **Context:**

Soil analysis is a set of various chemical processes that determine available plant nutrients, chemical and physical properties of soil, which is important for plant nutrition, or soil health. Chemical analysis of soil estimates the content of basic plant nutrients such as nitrogen, phosphorus, potassium. It also helps to determine the physical parameters important for soil health such as electrical conductivity and pH - value.

In 2018, Kerala was affected by heavy floods which resulted in crop loss as well as loss of fertility of soil due to soil erosion/ soil accumulation. Tiruvalla situated in Pathanamthitta district was also affected badly by the extreme flood. It altered the nutritional status of soil along with pesticide deposition at different places in the soil and water. Pesticide deposition

seems to be harmful to the total microorganisms associated with the soil. Based on this fact, the soil analysis of the corresponding place is very helpful to estimate the nutritional content of the soil by chemical and physical methods. It will be helpful in determining the amount of fertilizer required for adequate crop management.

### **The practice:**

1. A uniform portion of soil sample was collected from different places using a shovel by first making a V-shaped cut into the soil to the depth of sampling. Next, a 1-inch thick vertical slice of soil to the same depth was removed from the smoothest side of the cut and a 1-inch strip of soil with the length of the slice was removed.
2. Before collecting the sample, organic debris, rocks and trash from the soil surface were removed carefully.
3. A clean container (not zinc-coated if determining Zn) was used to collect the soil portions and mixed thoroughly.
4. Then, enough soil was removed to fill a sample box.
5. The sample was air-dried thoroughly for 36 hours when sampling for nitrate-nitrogen analysis.
6. The soil sample was then subjected to analysis for macronutrients, micronutrients, total carbon content, and pH value.





### **Evidence of the success:**

Nine different soil samples from different locations were analyzed for its chemical and physical parameters like major nutrients, micronutrients, total organic carbon content, and pH. All the analyzed samples showed a below-average level of nutrients. The analysis conducted by the institute helped the corresponding farmers to design their fertilizer application pattern and better management of crops.

### **Problem encountered and resources required:**

Problem encountered:

1. Inadequate soil sample for analysis
2. Difficulty in identifying the needy farmer

3. Lack of expertise to provide advice and suggestions

Resources required:

1. Skilled technical assistance for full time soil analysis
2. Field assistant for collecting soil sample directly from the farmers

## **2. HOMECOMING-MACFAST ALUMNI CONNECT**

Objectives of the Practice:

This practice has been started with the following objectives:

- a) To offer a platform where students can connect with Alumni to build a network of professional connections that can offer career advice, opportunities, mentorship, etc.,
- b) To use the expertise and experience of the alumni for the academic activities of the college.
- c) To facilitate access to academics and placement opportunities in the country and abroad

### **Context:**

Maintaining a good relationship with alumni is essential to the success of an institution. To understand the change in technology and equip the students with the skills they require to compete, it is essential to create a platform for alumni interactions. The present students in the college can benefit in their professional lives by learning from alumni, getting to hear the corporate experience, job opportunities, pre-requisites of employment scenario, etc., Through regular interactions students can prepare themselves for the job market. Alumni Interactions in the college will act as a bridge between the college and the outside world.

### **Practice:**

The college organizes continuous alumni interactions and guest lectures to share the professional experience, tips for the present students to excel in the corporate world, changing technology, etc., Such interactions help the students to groom professionally and know the outside world better which enable them to shape their career. The students will gain insight into industries and organizations, get career advice and learn about different opportunities. The Alumni Connect will provide current students with mentors to help them learn about international career opportunities.

### **Evidence of Success:**

This practice provides an opportunity to nurture relationships among alumni and current students. Through these regular interactions, the institution is able to track alumni's progress. Such networks among alumni, students and the college increase the chances of employee referral, industry interactions, career orientation support, etc. The experiences of overseas alumni help the students to find the right path in achieving their goals.

### **Problems encountered and resources required:**

Getting in touch with all the alumni was a challenge as many had changed their contact details, and migrated to different cities/countries. Different time zones and availability were the other challenges faced.



### **Photographs of the programme:**



