

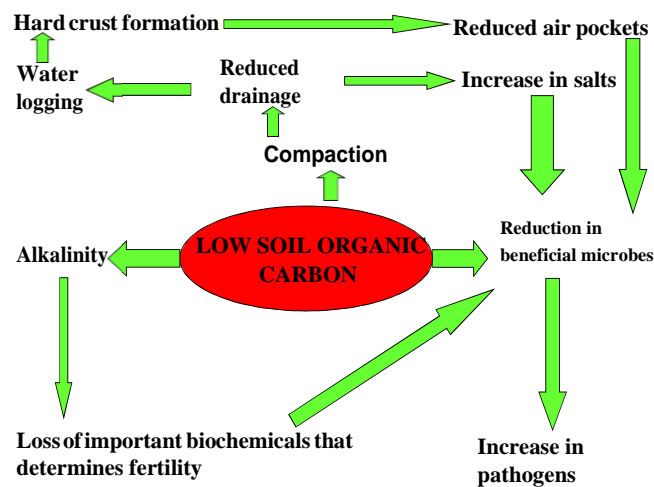
Brief Detail On Soil Kit



SOIL ORGANIC CARBON DETECTION KIT: INSTANT ANALYSING SOIL FERTILITY



Organic carbon plays significant role in improvement of soil fertility. All the soil fertility parameters like crust formation, drainage, salt accumulation, alkalinity, beneficial microbes, pathogens are linked to organic carbon. If organic carbon is low all above parameters get affected badly.



In order to maintain the soil fertility to achieve higher crop yield, improving soil organic carbon is a prerequisite. So periodical monitoring of soil organic carbon is as essential component of soil health management. Then how to know the organic carbon content of your soil?

Technology of soil organic carbon detection kit has been developed at Bhabha Atomic Research Centre, Mumbai for instant analysis of soil organic carbon on the field. This is very quick and reliable method of organic carbon estimation which helps farmers to decide the doses of fertilizers in proper time and their by helps for improvement of crop yield. Timely application of manures and fertilizers plays key role to increase the crop yield. The technology developed at BARC thus helps to the farmers as well as soil testing laboratories for improvement of soil health.



Fig 2: Different kits are available in the market based on BARC technology.

Farmers have become more aware about ill effects of chemical day by day and consumers are also demanding organic foods. This kit is an excellent tool to test the organic nature of soil. As this is quick method and all the farmers can perform it on the field, then farmer doesn't have to rely on other agencies for the results. Organic carbon detection kit has become an important tool in organic agriculture which is going to be agriculture of coming years.



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सिद्धार्थ कंपनीपासून केवळ, ते या कंपनीच्या शेती विभागात

कैठकीरुचे चर्चा करताना 'कोणाचीही उत्पादने शाररा', पण तुमच्या जमिनीचे आरोग्य सुधारा, 'असा आग्रह ते धरतात. 'सिद्धार्थीपासून आतापर्यंत झालेल्या घडामोडींचा अभ्यास केला असता सध्या आरण केवळ रासायनिक खातांच्या आहारी गेल्याचे दिसून येते. उत्पादन वाढ घेण्यासाठी रासायनिक खते, विद्राव्य खते, रासायनिक कीटकनाशके, तणनाशक, बुडीनाशके ह्यां भूतमन झाल्यामुळे शेतीचा खर्च हातावाढीर गेला आहे. आजही जमिनीच्या आरोग्याकडे लक्ष घेलेले नाही. ९५ टक्के भागांत माती परीक्षण गांभीर्याने होत नाही. त्यामुळे भविष्याची शेती ही रासायनिक शेती नव्हे तर सुतीकता, खातांची बसविसनात, दुर्बा, हवा, माती, पाणी आणि पर्यावरणाचे संतुलन राखणारी शेती असावी लागेल. त्यातूनच शाश्वत शेती उभी राहिल आणि त्यासाठी

मधुकरराव शेतकऱ्यांशी चर्चा करताना सेंद्रिय कर्मवादींची हमबिखील देतात. जमिनीची योग्य काळजी घेतल्यास तीन वर्षांत कर्बं दुप्पट होतो. सस्य आणि खर्च कमी होतो. उत्पादन वाढते. माव, त्यासाठी शेतकऱ्यांना आर्घं माती परीक्षण करणे लागेल. अनामस्यक खर्च टाळणे लागतील. शेणखत ही योग्य संकल्पना असली तरी सस्यच्या शेणखतानु खरोखर आपल्या जमिनीला काय मिळते, किती मिळते हे तपासणे लागेल. शेणखताला पर्यायी उत्पादनांचा खार वाहत्या लागेल. मोबाईल आपल्यामुळे बंदी, पड्याळ, टेलिफोन डावरी, कॅम्ब्रियुटेअर्स आपल्याला सोडवणे लागले. त्यांचि शेतीमधील काही चुनट संकल्पना सोडून आधुनिक तंत्राने सुतीक शेती करायी लागेल, असा शब्दात मधुकरराव शेतकऱ्यांना प्रोत्साहन देतात.

मधुकररावांचे म्हणणे आं किती दिवस शेती करणाग वेळ आली आहे, ३० वर्षे राष्ट्रदेखील आणण वर; असू तर शेती करायी नस जमिन सेंद्रिय कर्बुअभाष विकारास हवे असलेले ७८ लागणे हवे माहित नसत्या त्यामुळे शेतकऱ्यांनी आर शिकवे, असा सरलत न् असतात.

मधुकर शेगडे,

This kit has following features:

- i) It is user friendly as any farmer himself can perform this on the field.
- ii) It gives quick and reliable (comparative to standard methods) results.
- iii) Evaluates the impact of organic carbon amendments supplemented periodically.
- iv) It gives idea of amount of organic manure additions necessary for better yield.
- v) Highly economical as compared with other standard methods.

The technology has been included as a technology package for implementation of AKRUTI programme of DAE. Under this programme use of soil organic carbon detection kit has been used by farmers on large scale. Farmers are checking their soils regularly and found it very useful. Under this programme this technology has been transferred to about 40 institutes/individuals and they have come up with the products useful for the farmers.

Technology to commercialize the kit has also been transferred to several entrepreneurs and different products are available in the market (Fig 2). This technology has been also included for Start-up programme of Government of India.

There was another major milestone of this technology when the kits were exported for training to farmers of Senegal (Africa) by United Nations based NGO called CIFAL located at Scotland. Mr Paddy Atkinson, Programme coordinator mentioned great help of this kit to give hands on training to the farmers on the field.

International Atomic Energy Agency (IAEA) has undergoing project on improvement of soil productivity by minimizing land erosion. The presentation about the technology was given to IAEA officials and members from South-East Asian countries and was very much appreciated. It has been decided to spread the technology for farmers of different countries.

Movement of water conservation and soil improvement in Maharashtra

Panni Foundation (an NGO by Mr Amir Khan) has started an initiative for conservation of water in Maharashtra state for last 4-5 years. Under this programme different villages are taking part for water conservation in the soil by building check dams, terrace and contour bunding, tree plantation etc. It is obvious that in order to conserve water, it is equally important to improve the organic carbon content of soil. So testing soils from entire state has been planned under this activity and thousands of samples are tested every year. Soil carbon improvement has become a movement in entire state and included in all the training programme of this purpose.

Glimpses of using the technology is given below...



Government of India has launched a concept of Soil Health Card where soil samples are tested by soil testing laboratories and farmers are given the inputs for the application of different fertilizers to improve soil health. Soil organic carbon detection kit can be very useful component for this programme where farmers can analyse the soil by him quickly and on the field. Understanding soil organic carbon is sufficient for the farmers to check the fertility of soil. These technology plays significant role in understanding the health of soil for improvement of soil quality and ultimately the crop yield.

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