

# AICRP on Long Term Fertilizer Experiments (AICRP-LTFE)

February 10, 2021

## What does AICRP-LTFE say?

- **Investigations carried out under AICRP on Long Term Fertilizer Experiments over five decades at fixed sites have indicated** that continuous use of nitrogenous fertilizer alone had deleterious effects on soil health and crop productivity showing deficiencies of other major and micronutrients.
- Even with recommended doses of NPK and more, deficiency of micro and secondary nutrients has become yield limiting factors over the years.
- Deficient nutrients may also affect plant growth and cause plant physiological disorders.
- There is also possibility of nitrate contamination in groundwater above the permissible limit of 10 mg NO<sub>3</sub>-N /L due to excessive/over-use of nitrogenous fertilizers, particularly in light textured soils that has consequences on human/animal health if used for drinking purposes.

## More about the All India Coordinated Research Project on 'Long Term Fertilizer Experiments

**Origin:** To study the impact of chemical fertilizer on productivity and soil quality, the **Indian Council of Agricultural Research decided to launch the "All India Coordinated Research Project on Long-Term Fertilizer Experiments (AICRP-LTFE)" in September 1970 at 11 centres.**

The work carried out at different centers of LTFE was reviewed by QRT during 1997 and recommended to enlarge the mandate and objectives of the project and changed its title as AICRP on "Long-term fertilizer experiments to study changes in soil

quality, crop productivity and sustainability”.

## **Purpose**

The purpose of conducting long term fertilizer experiments at fixed sites in different agro ecological zones (AEZ) with important cropping systems was not only **to monitor the changes in soil properties and yield responses and soil environment** due to continuous application of plant nutrient inputs through fertilizers and organic sources, but also **to help in synthesizing the strategies and policies for rational use and management of fertilizers to improve soil quality and to minimize environment degradation**. Thus the thrust of AICRP is on productivity, sustainability and environment safety

## **Mission**

Soil Fertility Management through Integrated Plant Nutrient Supply for Enhancing and Sustaining Crop Production and Maintaining Soil Quality

## **Mandate**

- To conduct coordinated long term fertilizer experiments in different soil types under diversified cropping systems
- To collate information on long term soil fertility trials.

## **Objectives**

- To study the effect of continuous application of plant nutrients, singly and in combination, in organic and inorganic forms including secondary and micronutrient elements (as per the need) on crop yield, nutrient composition and uptake in multiple cropping systems
- To work out the amount of nutrient removal by the crops
- To monitor the changes in soil properties as a result of continuous manuring and cropping with respect to the

physical, chemical and microbiological characteristics of the soil in relation to its productivity

- To investigate the effect of intensive use of biocidal chemicals (weedicides and pesticides) on the build up of residues and soil productivity
- To make an assessment of the incidence of soil borne diseases and changes in pests and pathogens under the proposed manuring and cropping programme.