

Nitrogen Management in Rice using Leaf Colour Chart (LCC)



Usage of LCC in Rice crop



Leaf colour chart

THE METHOD OF USING LCC IN RICE FIELD

- At 14 days after transplanting (DAT) or 21 days after direct wet seeding (DAS), randomly select 10 healthy plants in the paddy field where distribution of plants are uniform.
- Select only representative plants and match the colour of the leaves with the LCC under the shade of your body. Compare the topmost, fully expanded, and healthy leaf of each of the 10 plants with the LCC.
- Place the middle part of the leaf on top of the LCC's colour strips for comparison. Do not detach the leaf. The average of 6 out of 10 leaves is decided as the value of the N fertilizer level of the crop.
- Take readings at the same time of the day (8-10 AM) or in the afternoon (3-5 PM). Do not expose the LCC to direct sunlight during taking readings. The same person should take the first reading up to the last reading.
- In paddy, urea should be applied as top dressing only when LCC reading is less than 4. Repeat LCC reading every 7 days for 110-130 days rice crop and every 10 days for more than 130 days crop until the heading stage.



BENEFITS OF LCC

- Use of LCC saves 20-30 Kg of nitrogen per hectare in rice.
- Increase in yield upto 15%
- Reducing the risk of greenhouse gas emission
- Conserving the soil health

SIGNIFICANCE OF NITROGEN IN RICE CROP

Nitrogen (N) fertilizer is one of the most important and costly input in rice production. 'N' fertilizer is applied several times during the growing season to ensure that the crop's nitrogen need is supplied, particularly at critical growth stages. Excessive, injudicious, blanket and untimely application of fertilizer nitrogen has become a common practice among farmers. A Real-Time N management technology will help the farmers in application of nitrogenous fertilizer in rice field.

WHAT IS LEAF COLOUR CHART

Leaf Colour Chart (LCC) is a real-Time, low-cost, eco-friendly nitrogen (N) management technology to determine the exact requirements of N fertilizer in paddy crop, by checking the greenness of plant leaf. LCC improves the N use efficiency (NUE) of crop. The purpose of using LCC is to apply an adequate amount of N in right time and to avoid application of fertilizer more than required.

UNDERSTANDING THE LEAF COLOUR CHART

The panels of the LCC are designed to indicate whether plants are hungry or over-fed by N fertilizer. A LCC is a tool used to assess the nitrogen levels in plants, particularly rice crops, by visually comparing the leaf colour to a standardized set of colour panels. These charts typically have a range of green shades, from yellowish to dark green, corresponding to different N-levels in the plant. By matching the colour of the Paddy leaf to the colour on the LCC, farmers can visually assess and decide proper time and amount of N fertilizer to be applied. LCCs manufactured in 4 Panel, 5 Panel and 6 Panel for different Crops.