

The efficiency of nitrogen (N) fertilizer use can be improved by monitoring leaf color at 7 to 10 day intervals with the leaf color chart (LCC) and applying N fertilizer as needed by the crop (see LCC fact sheet). An alternative approach to N fertilizer timing and management is presented here for cases when it is not feasible for farmers to visit their fields on 7 to 10 day intervals.



Leaf colour chart (LCC)

What is the N splitting pattern approach?

The splitting pattern approach provides a recommendation for the total N fertilizer requirement (kg/ha) and a plan for the splitting and timing of applications in accordance with crop growth stage, cropping season, variety used, and crop establishment method.

How to estimate the total fertilizer N requirement?

Establish -F plots in farmers' fields (see Fact Sheet Nutrient Omission Plots). Compare yield from the -F plot, which represents the N-limited yield, to a target yield for the site, based on knowledge of attainable yield with the anticipated crop and fertilizer management. The difference between the target yield and N-limited yield represents the anticipated response of rice to N fertilizer. Depending on varietal distribution, total N can range from 60-120 Kg/ha. Normally, the split doses are recommended for 60N (30+30) under transplanting. The following chart gives value for basal or top dressed N for varieties of rice duration groups.



Fertilizer broadcasting

Nitrogen split application (kg/ha)			
Growth stage	varieties of 80-100 days duration	varieties of 100-130 days duration	varieties of 130-160 days duration
Basal dose	30 Kg	40 Kg	60 Kg
Tillering stage	15 Kg	20 Kg	20 Kg
Lag phase			20 Kg
Panicle initiation	15 Kg	20 Kg	20 Kg
Total:	60 Kg	80 Kg	120 Kg

Varieties of 80-100 days duration are either direct seeded or transplanted depending on topography and availability of water. If DAP is used as P source under DSR, N content in DAP would be enough to support initial growth. The balance N of the basal dose can be applied as urea immediately after applying post-emergence herbicide or first weeding within about 20-25 days of sowing.

How to use the LCC in the splitting pattern approach?

Use the critical LCC values given in the Fact Sheet LCC to adjust the amount of split N rates based on crop demand and plant N status. For example, if 30±10 kg N per ha is recommended for a certain growth stage,

- Apply 40 kg N/ha, if the leaf color is below the critical value.
- Apply the standard rate of 30 kg N/ha if the leaf color is equal to the critical value
- Postpone the fertilizer application and apply a lower rate of 20 kg N/ha if the leaf color is above the critical LCC value.

How to develop a splitting pattern

Use the Nitrogen split application table to look up splitting patterns for fertilizer N for the recommendation domain. Further adaptation to local conditions with farmers' participation may be required.