

Integrated nutrient management with In-situ green manure in cotton

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Incorporation of short growing and low water requiring green manure (GM) crop like sunn hemp was found to sustain both soil fertility and crop productivity in winter irrigated cotton. The green manure seed is sown @ 15 kg/ha and grown simultaneously with cotton for a period of 45 days and buried *in situ* (before flowering) in the furrows and the cotton is grown up to maturity. In this process, GM meets one third of N requirement of the cotton crop.

In a four years trial at Coimbatore, combined application of Farmyard Manure @ 5 t/ha and in situ green manure of sunn hemp produced highest seed cotton yield (mean of 4 years yield, 1739 kg/ha) and was significantly higher than that in control. Although the former was on par with recommended dose of NPK (60:13:25 kg/ha) in respect of yield and associated traits but soil fertility status under the former has been considerably improved in comparison to control or recommended NPK.

The merits of green manure *in situ* depict the following advantages observed under the field condition.

- ❖ Higher growth and fibre yield as steady availability of N
- ❖ Efficient utilization of interspaces before crop competition starts
- ❖ Weed suppression as covering the top soil and lesser pest & diseases
- ❖ Moisture conservation and its efficient utilization of through burying near the root zone
- ❖ Restoration of soil fertility and higher efficiency in nutrient use



Cotton with sunn hemp at 45 DAS before



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