

New Technologies Developed for Inclusion in Package of Practices

➤ Crop Improvement

- ✓ Priming the paddy seeds with *Trichoderma harzianum* @ 15g/Kg and drying for 30 minute before sowing has increased the seed yield.

➤ Crop production

- ✓ Under delayed rainfall situation, nursery sowings of rice varieties viz., IR 64, MTU 1010 and Jyothi can be extended upto 30 days while it can be extended upto 15 days for rice varieties viz., Raksha, Hamsa, Rasi and KMP-175 as compared to their normal dates of sowing.
- ✓ In transplanted rice, application of microbial consortium (*Azospirillum* + *Bacillus* + *Pseudomonas* + *Trichoderma*) @ 5kg/ha by mixing with 25kg FYM at 10 days after transplanting recorded higher grain yield and B:C Ratio.
- ✓ Post-emergence application of Topramezone 33.6% SC @ 100 ml/ha recorded significantly lower total weed population during 30 and 45 days after application.
- ✓ Foliar application of micronutrient mixture along with recommended fertilizers at 50 days after sowing recorded significantly higher maize yield
- ✓ Post-emergent application of triafamone + ethoxysulfuron 30 WG (RM) at 80 gram per acre in 200 litres of water applied at 15 days after sowing effectively reduces the weed population in direct seeded rice
- ✓ Soil application of liquid biofertilizer consortia @ 6.25 liter mixed with 500 kg FYM/ha and applied in furrows at sowing along with RDF enhanced ragi grain and straw yield
- ✓ Guni method of cultivation (transplanting finger millet in guni(pit)) of ragi with 30 cm x 30 cm spacing by applying farmyard manure @ 12.5 t/ha equally distributed among all pits followed by planking operation at 20 and 40 days after transplantation recorded higher grain and straw yield.
- ✓ Foliar application of water soluble 19:19:19 fertilizer @ 10 g/l during flowering and pod filling stage along with recommended dose of fertilizer enhanced the cowpea yield.
- ✓ Intercropping of CO-5 Napier fodder grass under teak based agroforestry system with spacing of 12m x 3m, recorded higher fodder yield, gross returns, net returns and B:C ratio.
- ✓ Hedge lucerne intercropping with B x N hybrid in paired row system (2:5) enhanced green fodder, dry matter and crude protein yield with higher net monetary returns and B:C ratio as compared to sole B x N hybrid Napier crop.

➤ Crop protection

Entomology

- ✓ In natural / organic farming, when the rodent population exceeds the threshold level (50 LBC/ha), spraying of botanical product (500g of neem leaves, 500g of gliricidia leaves, 500g of vitex leaves, 250g of garlic bulbs are boiled in 10 L of water for 30 min and filtered, to this 250g chilli powder and 2 L of cow urine is added and kept for 3 days and the mixture is diluted to 20 per cent and sprayed) in the vegetative stage and peg formation stage and placing the snap traps @50 per hectare for 3 nights continuously, significantly reduced the rodent population.
- ✓ Spraying of Spinoteram 11.7 S. C at boll development stage reduced the number of Pink bollworm larvae, green boll damage, open boll damage and locule damage in cotton.
- ✓ Treating paddy seeds with Azadirachtin 10000 ppm @7.50 ml/kg seeds and later dried for 4 hours then stored in gunny bags, protect seeds from rice weevil infestation up to 6 months of storage by retaining the germination percentage.

Plant Pathology

- ✓ Application of Azoxystrobin 18.2% + Difenconazole 11.4% SC w/w reduced the Maydis leaf blight in Maize.

➤ Apiculture

- ✓ Placing 4 bee colonies/ hectare during flowering period enhances the pomegranate yield.
- ✓ Providing *Phyllanthus niruri* (2 g) + Tulsi (0.5 g) + Turmeric (0.5 g) dissolved in 250 ml of sugar solution, twice a week reduces the infection of Thai Sac Brood disease.

➤ Agricultural Engineering

- ✓ Manually operated Ragi seed cum fertilizer drill (Drum type) is very much suitable to small farmers with fragmented land holdings. Two farmers can sow 1.5 acres of land per day with 30cm spacing. This reduces human drudgery and labour dependency.
- ✓ Multi-Crop Processing machine is operated with 1hp, single phase electric motor. The machine is compact and easy to operate with minimum skill and 98% efficiency. The machine is used for separation of pods from groundnut crop (groundnut stripping), separation of seeds from groundnut pods (groundnut decortication), separation of seeds from sunflower ear head (Sunflower threshing) and separation of seeds from maize cobs. Separated seeds had recorded lesser seed breakage with higher germination. Machine is suitable for small to medium scale farmers/processors, startup entrepreneurs and cottage industry.