bank around a monitoring trap containing 100 µg attractant.

Males caught were counted daily from 10 days before application to 15 days after. The ability of male moths to locate the trap source was suppressed at 30 mg for 7-10 days (see table). The pheromone had lost much of its disruptive effect 10 days after application. ■

Soil and crop management

Nitrogen management in flooded rice

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A field experiment on flooded rice in the 1981 monsoon season evaluated urea briquet placement (5 cm below soil surface), margosa seedcake-coated urea, shellac-coated urea, sulfur-coated urea, farmyard manure (FYM) + urea, and urea split application. Experimental field soil was silty clay loam (Mollisol). Each nitrogen source was applied at 60 kg N/ha.

There was no yield advantage in 3 split applications of urea over 2 splits at 60 kg N/ha (see table). Margosa seedcake-coated urea and shellac-coated urea also did not offer any significant improvement in yield over urea applied in three split doses. Urea + FYM was equal to urea alone (3 splits).

Sulfur-coated urea produced significantly higher yields than did ordinary urea applied in three split doses. Urea briquet placement 1 week after transplanting was also significantly superior to ordinary urea (2 or 3 splits), but gave lower yields than placement 3 weeks after transplanting — probably because of the relatively long growth period (144 days) of the rice variety (Jaya) grown. The highest yield was with urea briquet placement 3 weeks after transplanting.

Nitrogen use efficiency with urea briquet was more than 2 times as high as 2 or 3 split applications of ordinary urea. ■

Yield of rough rice at 60 kg N/ha.[a]

Nitrogen source	Method and time of application	Grain yield (t/ha)	N use efficiency (kg grain/kg N)
None	–	3.32	–
Urea	Broadcast, 3 splits	3.98	11
Urea	Broadcast, 2 splits (transplanting and tiller initiation)	4.21	15
Urea	Broadcast, 2 splits (tiller initiation and panicle initiation)	4.24	15
Urea briquet	Placement at 5 cm, 1 wk after transplanting	4.85	25
Urea briquet	Placement at 5 cm, 3 wk after transplanting	5.37	34
Margosa seedcake-coated urea	Broadcast at transplanting	3.98	11
Margosa seedcake-coated urea	Broadcast 2 splits (transplanting and tiller initiation)	3.81	8
Shellac-coated urea	Broadcast at transplanting	4.24	15
Sulfur-coated urea	Broadcast at transplanting	4.43	18
FYM + urea (30 + 30)	Broadcast and mixed in soil before transplanting	3.64	5
FYM + urea (30 + 30)	FYM mixed with soil before transplanting and urea broadcast 3 wk after transplanting	3.99	11
S.Em ±		0.15	–
C.D. 5%		0.45	–

[a]FYM = farmyard manure.

Algae in rice fields of Chingleput District, Tamil Nadu, India

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Samples of algae were collected during October and November 1981 (monsoon season). Rainfall during the period was 370.9 mm, maximum temperature range was 39.0°-25.5° C, and minimum temperature range was 24.5°-16.5° C. Standing water of 1-2 cm was maintained in the fields by lift irrigation from an open well.

Species of algae identified consisted of 11 Cyanophyta, 6 Chlorophyta, 2 Euglenophyta, and 5 Bacillariophyta. Of the 11 Cyanophyta species, 6 are known to be nitrogen-fixing algae (see table). ■

Abundance of nitrogen-fixiing algae (Cyanophyta species). Tamil Nadu, India.

Species	Relative abundance[a]
Gloeocapsa decorticans	x
Anabaena oryzae	xx
Cylindrospermum muscicola	x
Nostoc sphaericum	x
Aulosira prolifica	x
Calothrix sp.	

[a]x = rare, xx = moderate.

Effect of seedling age on susceptibility to aluminum toxicity

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Although aluminum toxicity is rarely a problem in wetland rice, it may impair growth even in flooded soils when soil pH remains low because of strong acidity and low microbial activity. Relatively young seedlings may fail to establish on some acid sulfate soils.

Solution culture technique was used to examine the effect of seedling age on