

differed in different rice varieties, but interaction between mulching and variety was not significant (Table 2). Less weed weight was associated with Pusa 33, which may be because it produces more tillers and forms a more complete canopy than the two tall varieties. Mulching did not significantly increase yield. The following weed species, in order of frequency, were observed: *Echinochloa colona* (L.) Link, *Ludwigia octovalvis* (Jacq., Raven), *Cyperus iria* L., *Eclipta prostrata* (L.) L., *Cynodon dactylon* (L.) Pers., *Fimbristylis miliacea*

Table 2. Rice yield in different treatments of sawdust mulching.

Variety	Rice yield (t/ha)			
	0	2-cm mulch	4-cm mulch	Mean
Pusa 33	3.4	4.8	4.6	4.3
Mairang	1.9	2.2	2.1	2.1
Ngoba	3.0	3.4	3.2	3.2
Mean	2.8	3.5	3.3	

(L.) Vahl, *Eleusine indica* (L.) Gaertn., *Digitaria longiflora* (Retz.) Pers., *Commelina benghalensis* L., *Vernonia cinerea* (L.) Less., *Cyperus pilosus* Vahl, *Dactyloctenium aegyptium* (L.) Beauv., and *Cyperus rotundus* L. □

Effect of azolla inoculation on weed growth in wetland rice

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Azolla has been reported to suppress weed growth in rice. A field experiment to determine the effect of azolla on growth of *Echinochloa* spp. in flooded rice was conducted in a randomized block design with three replications during 1981-82 samba. Co 43 (TNAU17005) was grown. One week after transplanting, *Azolla pinnata* was inoculated at 100, 150, 200, 250, 300, 350, 400, 450, and 500 g/m². A basal amount of 50 kg P/ha and 50 kg K/ha in 3 splits were applied. Growth of *Echinochloa glabrescens*, *E. stagnina*, *E. crus-galli*, and *E. colona* was observed. Weeds were allowed to grow for 40 days, then fields were

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	Fresh weed weight ^a (kg/7.5-m ² plot)	% reduction over control	Grain yield (t/ha)
Azolla inoculation (g/m ²)			
100	2.9	47	6.1
150	2.6	51	6.3
200	1.8	67	6.2
250	2.1	62	6.0
300	2.2	60	6.2
350	1.9	66	6.1
400	1.4	74	6.0
450	1.0	81	6.5
500	1.3	76	6.6
30 kg N/ha	5.7	—	6.4
Uninoculated control	5.4	—	3.6
LSD = 1.2		LSD = 1.3	
Significant at 1% level.			

^a *Echinochloa glabrescens*, *E. colona*, *E. stagnina*, *E. crus-galli*.

weeded and weed fresh weight was re-
corded (see table). Azolla was incor-
porated 41 days after planting, with 2
more incorporations at 21-day intervals.
Grain yield was recorded.
Weed growth was significantly reduced

in azolla-inoculated plots, especially in
those with higher inoculation levels (see
table). The rapid growth and multiplica-
tion of azolla limited weed growth and
probably altered gas exchange, light
penetration, and temperature. □

Pest management and control

NEMATODES

Dissemination of rice root nematode through rice seedlings

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Rice root nematode *Hirschmanniella*
oryzae causes up to 25% yield losses in
flooded rice. This migratory endoparasite
embeds itself in and feeds on root tissue.

We studied the movement of root
nematode from the nursery to the field
by seedlings on farmer fields on the
Cauvery Delta in Tamil Nadu.
Random samples of ADT31 rice
seedlings and soil from 24 flooded wet
season nurseries untreated with pesticides
were collected from Cauvery Delta
village. Ten 23- to 25-day-old seedlings
were pulled from each nursery bed and a
core soil sample was taken. Number of

nematodes was estimated by Baermann
pan technique using 250 g soil and 5 g
rice root.
All but one nursery were infested by
H. oryzae. Population ranged from 6 to
86 (mean 10.74) nematodes/250 g soil
and 3 to 148 (mean 30.42) nematodes/5
g of root. Mean (wet) weight of the roots
was 1.2 g/seedling and the mean number
of nematodes per infested seedling at
planting ranged from 0.60 to 29.60
(mean 7.03). These data indicate the
importance of using chemicals to con-
trol nematodes in the nursery or a root
dip before planting rice seedlings. □