

desiccation and predation. Larvae that were able to enter the boot fed on the lemma and palea to cause white, partly wrinkled, and unfilled spikelets.

We caged IR1917-3-17 rice plants at the booting stage in the greenhouse and infested them with varying numbers of RWM flies. The flies were allowed to oviposit on the leaves for 3-4 d. Unfilled grains were counted after all panicles had become fully exserted.

The number of unfilled grains increased with fly density (see table), RWM damage is indistinguishable from that caused by high temperature or drought. □

Unfilled IR1917-3-17 grains at different RWM densities. IRRI greenhouse, Oct-Nov 1986.^a

RWM (no. adult pairs/plant)	Unfilled grains (no./plant)
0 (control)	1a
1	4 a
5	7 ab
10	10 b
20	19 c

^aAv of 4 replications with one plant/cage. In a column, means followed by a common letter are not significantly different at 5% level by DMRT.

The rice whitebacked planthopper (WBPH) in Karnataka

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In recent years, low populations of WBPH *Sogatella furcifera* Horv. were noticed in association with the brown planthopper (BPH) in most rice growing areas. WBPH had been considered a minor pest of rice in Karnataka. The population was active during tillering, declining at heading. Later BPH populations multiplied enormously, causing hopperburn.

During 1986 kharif, WBPH was recorded in small patches in Visveswaraya Canal Tract of Mandya

on variety Mandya Vijaya 50 d after transplanting. Each hill had an average of 15-20 2nd-instar nymphs. Initially the crop exhibited yellowish leaf margins, which later turned reddish, in circular patches in the middle of the field.

High N fertilization (130 kg/ha) with frequent heavy rain in Sep-Oct might have favored WBPH buildup.

Effect of vegetable oil on rice leaffolder (LF) feeding behavior

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We evaluated the antifeeding effect of neem *Azadirachta indica*, mahua *Bassia latifolia*, maravetty *Hydrocarpus wightiana*, and pinnai *Calophyllum inophyllum* oils on rice LF *Cnaphalocrocis medinalis* larvae. The oils were applied as 5% formulations in water containing 1% Teepol.

Forty-day-old TN1 rice plants were sprayed with emulsified oils in a completely randomized block design replicated 5 times; 1% Teepol was the control. Three hours after spraying,

Low numbers of predatory bugs *Cyrtorhinus lividipennis* and *Microvelia atrolineata* were found in association with WBPH. WBPH populations (3-5/hill) also were found on IR20, IET7575, Jaya, and Madhu. This is the first time WBPH occurrence was reported in Karnataka. □

Inhibition of LF larvae feeding by vegetable oils. Coimbatore, India.

Treatment	Leaf damage (%)
Neem oil (5%)	5.6 a
Mahua oil (5%)	19.8 b
Maravetty oil (5%)	6.0 a
Pinnai oil (5%)	20.8 b
Control (Teepol 1%)	52.6 c

^a Means of 5 replications each. Mean followed by a common letter are not significantly different at 5% level.

five second-instar larvae were released on each plant and covered with a mylar cage. Percent leaf damage was measured 5 d after release of larvae.

Damage was significantly less with all oil treatments (see table). Neem oil and maravetty oil effectively inhibited larval feeding; leaf damage was only 5.5-6.0% against 52.6% for control. □

A larval parasite of swarming Caterpillar and common cutworm in the Philippines

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Many natural enemies regulate highly localized populations of the swarming caterpillar *Spodoptera mauritia acronyctoides* Guenée and the common cutworm *Spodoptera litura* (Fabricius). A tachinid *Peribaea orbata* (Wiedemann) [Diptera: Tachinidae] was the most common parasite reared from larvae collected from three habitats — rice, sugarcane, and grassy areas — in Laguna,

Batangas, and Cagayan Provinces.

Larvae were held in 45- × 45- × 20-mm disposable plastic dishes and provided with fresh leaves. To avoid fungal or bacterial infection, the larvae were treated with 1% benzalkonium chloride (mixed with alkyldimethylbenzylammonium chloride) solution.

Parasitized 4th- to 5th-instar larvae ceased to feed and were sluggish until the parasite maggots emerged from their bodies. Two to eight maggots emerged from each larval host. The creamy white parasite maggots pupated beside the host cadavers; adult flies emerged after 7-8 d in the laboratory.