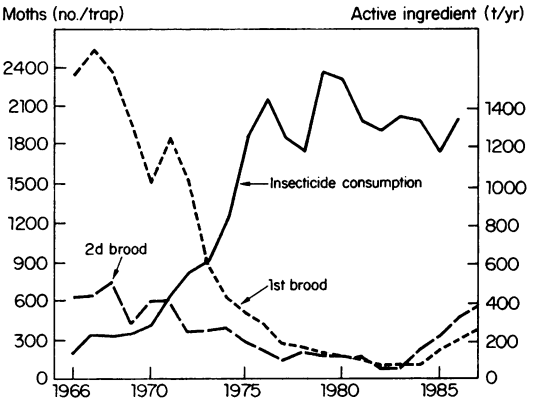
Population trends of striped rice borer in Korea

Y. H. Kim, K. M. Choi, and J. O. Lee, Entomology Department, Agricultural Science Institute, RDA, Suweon, Korea

The striped rice borer *Chilo suppressalis* W. has two generations in Korea. We monitored numbers of moths caught in light traps at 33 sites from 1966 to 1987. Second brood moths showed little fluctuation, but prior to 1985, the first brood progressively decreased. Relative numbers of second brood moths grew from about 20% in the late 1970s to about 60% in 1985. Populations of first brood moths, very high in the late 1960s, began to decrease in the early 1970s.

The fewest moths were captured in 1982, but populations have increased slightly since then.



Relationship between insecticide consumption and annual occurrence of 2 broods of *Chilo suppressalis* moths caught by light trap in 33 areas. Suweon, Korea, 1966-85.

The relationship between number of insects and insecticide consumption was negative before 1979. Catches of moths decreased as much as insecticide consumption increased (see figure). The population increase since 1982 might be a side effect of insecticide use.

In addition, rice transplanting has shifted during the last two decades, from middle Jun to late May. Early transplanting may have initially contributed to low stem borer survival. The slight increase in population may represent a gradual adaptation of the stem borer to the new planting schedule. □

Effect of plant extracts on brown planthopper (BPH) oviposition

G. V. P. Reddy and K. C. D. Urs, Entomology Department, University of Agricultural Sciences, Bangalore 560065, India

We evaluated the effect of six plant extracts on BPH oviposition. Seeds of *Annona squamosa, Sapindus trifoliatus, Acacia concinna, Gynandropsis pentaphylla, Hydrocarpus alpina,* and *Ocimum gratissimum* were powdered and 1,000 g material extracted in petroleum ether (B.P. 40-60 °C) through Soxhlet apparatus. Solvent (5% benzene) was added. Stock at 2% and 5% concentrations were made by adding distilled water, using 0.5% Triton × 100 as the emulsifier.

Effect of 6 plant extracts on BPH oviposition. Karnataka, India.

Treatment	Eggs[a] (no./plant)	
	2% solution	5% solution
A. squamosa	13 a	9 a
S. trifoliatus	68 e	62 e
A. concinna	24 b	18 b
H. alpina	37 c	31 c
G. pentaphylla	49 d	42 d
O. gratissimum	76 f	71 f
Control	154	157
LSD (P = 0.01)	3	3

[a]Mean of 5 replications. In a column, means followed by a common letter are not significantly different at the 1% level.

Ten gravid BPH females were caged for 12 h on 40-d-old rice plants. Eggs laid were counted under a stereoscopic microscope.

All six extracts significantly reduced BPH oviposition (see table). No adult BPH died during the experiment. □

A synthetic diet for rice leaffolder (LF)

S. Parasuraman and A. A. Kareem, Agricultural Entomology Department, Agricultural College and Research Institute, Madurai 625104, India

We successfully reared rice LF *Cnaphalocrocis medinalis* Guenée (Pyraustidae: Lepidoptera) larvae using a synthetic diet. Diet constituents were 800 ml water, 70 g pinto beans, 40 g casein, 10 g agar, 5 g yeast, 5 g ascorbic acid, 2 g choline chloride, 500 mg sorbic acid, 300 mg tryptophan, and 2 ml formaldehyde 40%.

Agar and beans were cooked individually in 500 ml and 200 ml water. All other ingredients except the vitamins were mixed in a blender with 100 ml water, then mixed with the cooked beans and agar in a blender for 4-5 mm. Two drops of Abdec (Parke-Davies) vitamin mixture were added during the last few seconds of blending. The medium, poured in small glass vials, solidified.

Second-instar larvae of LF were reared on the diet; 80% of the reared larvae pupated, from which all moths emerged. Fertility and fecundity were normal. □