

Grains were air-dried and weighed, and yield calculated, leaving a 30-cm border around each plot.

Disease incidence and yield at different seed rates are given in the table. The expected yield increase with higher

plant densities was not found. Higher disease incidence affected yield. □

Pest Control and Management

INSECTS

Persistent toxicity of three modified formulations of carbofuran to brown planthopper (BPH) in India

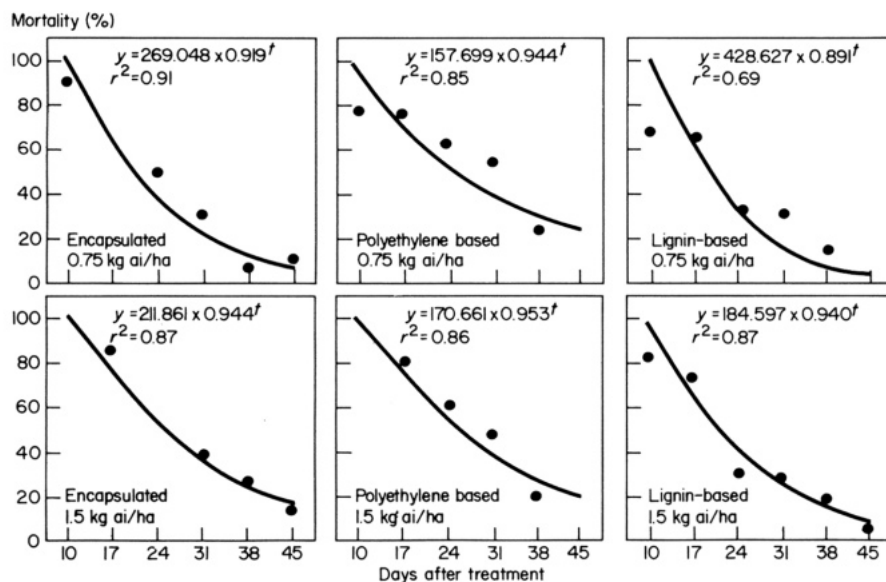
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The Regional Research Laboratory (Hyderabad, India) supplied polyethylene-based and lignin-based formulations of carbofuran reported to be slow releasing in nature. We studied their persistent toxicity to BPH compared to that of commercially available encapsulated granules of carbofuran in a confined cage experiment Jun-Jul 1985.

The treatments were in a factorial combination of 3 formulations of carbofuran (polyethylene-based, lignin-based, and encapsulated) and 2 application rates (0.75 and 1.50 kg ai/ha).

The formulations were broadcast into the floodwater at 0.75 and 1.5 kg ai/ha 5 d after transplanting (DT). Starting 3 d after treatment, toxicity was monitored weekly using the BPH bioassay technique.

Toxicity of polyethylene-based and



Mortality of BPH adults, at various days after treatment, on rice plants in fields that received modified formulations of carbofuran at 2 rates. Trivandrum, India, 1985.

encapsulated preparations persisted at a higher level and longer than did toxicity of the lignin-based granule (see figure). Mortality remained consistently higher with 1.5 kg ai/ha to 50 DT.

The persistent toxicity differed with rate of application, with a significant interaction between formulation and rate of application.

Mortality decline (4.7% /d) was lowest with the polyethylene-based formulation at 1.5 kg ai/ha, closely followed by polyethylene-based formulation at 0.75 kg ai/ha and encapsulated formulation at 1.5 kg ai/ha. Mortality declined at a faster rate in the lignin-based formulation. Release of the active ingredient appeared to differ with formulation. □

Epidemiology of rice tungro virus (RTV) in 1984-85 kharif, Chingleput District, Tamil Nadu

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During 1984-85 kharif (May-Aug) the rice crop in Chingleput District was completely devastated by an unprecedented outbreak of RTV. Crops planted early the next season

(samba, Sep-Jan) were also severely affected.

We studied the epidemiology of the disease in a field experiment, laid out in a randomized block design with three replications. Nine plantings of 25-d-old CO 43 seedlings were staggered at 10-d intervals starting 10 Aug 1984. Seedlings were transplanted in 3- × 3-m plots at 20- × 10-cm spacing. Recommended agronomic practices were followed and 100-50-50

kg NPK/ha applied. All the P₂O₅ and K₂O were applied basally along with 50% N. The remaining N was topdressed in 2 equal splits at 15 and 30 d after transplanting (DT).

RTV incidence was assessed at 45 DT. The number of green leafhoppers collected in light traps Aug-Nov was recorded by month.

RTV incidence in the field correlated positively with the field population of the vector *Nephotettix*