

Buprofezin Evaluation Methodology (Dipping Method)

Preparation of test insects:

1. A known population was reared up to its second generation. 3rd instar nymphs were used for the testing. Rearing procedures were done using the protocol for rearing BPH.

Preparation of insecticide solution:

1. The protocol for the preparation of insecticide stock solutions and dilutions was followed using a 0.05% dilute aqueous detergent (Tween 20) solution as solvent.
2. Since Buprofezin is insoluble in water, the active ingredient, after weighing accurately to at least to one decimal point of a milligram, was first dissolved in a small quantity of acetone in a 2 ml volumetric flask, and then, more acetone was added to the mark for 2 ml.



Buprofezin dissolved inside a volumetric flask

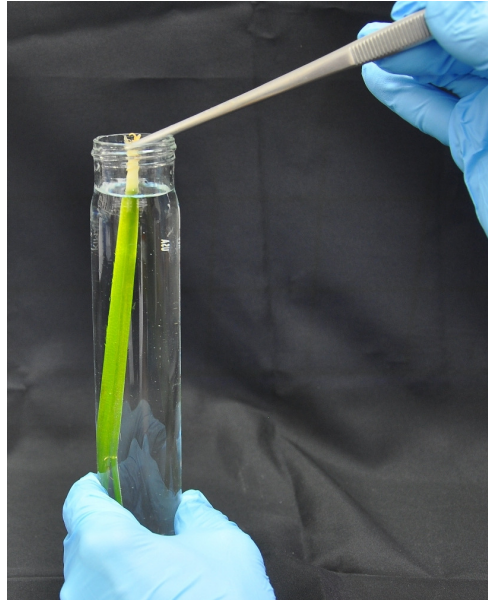
3. 6 concentrations were prepared.



Erlenmeyer flasks with insecticide dilutions

Insecticide treatment

1. 30-day old TN1 plants were used for the dipping method.
2. The secondary tillers were removed, the leaves were then cut and were dipped in the insecticide solutions for 30 seconds and were allowed to dry for ca 30 min under a shaded area.

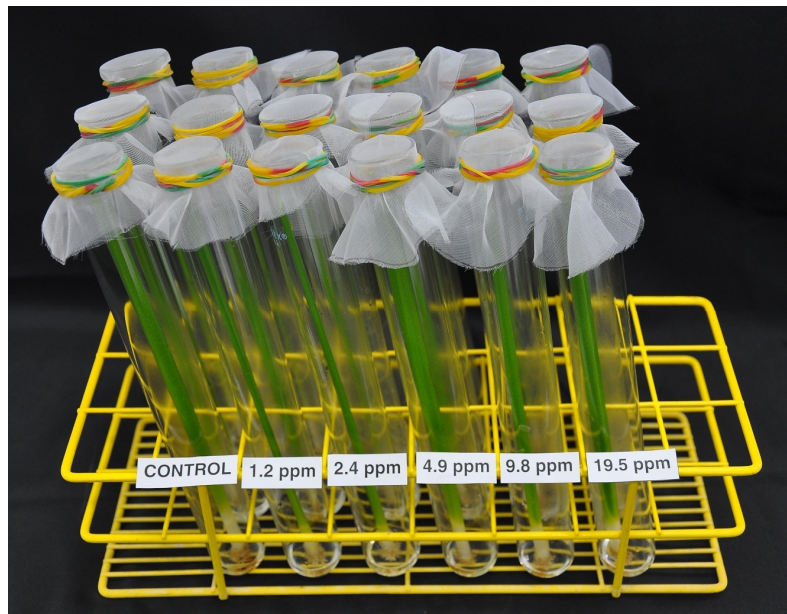


Rice plant dipped in a large test tube with insecticide solution



Rice plants dried on top of a mylar cage

3. The treated tillers were placed in a large test tube containing 2mL rice nutrient solution.
4. 10 3rd instar nymphs were introduced in to each tube and then covered with a meshed cloth. Three replicates (from different cohorts of BPH) for each concentration were conducted.



Experimental set-up

5. The mortalities and physical abnormalities (as determined by external deformed appearance) were observed and recorded daily between 10-11 am for 5 days.



Sample of physical abnormalities