

EVALUATION of PNR342 IMIDACLOPRID FLY BAIT for CONTROLLING the HOUSE FLY, *MUSCA DOMESTICA* L. (DIPTERA: MUSCIDAE)

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Evaluations were made of Bayer Compound PNR342 imidacloprid granular bait at 0.5% a.i., as compared to methomyl (Golden Malrin) granular bait for control of the house fly, *Musca domestica* L. Studies conducted included a laboratory caged study, bait trap evaluations in a commercial egglayer poultry facility, and whole house-evaluations in a commercial egglayer poultry operation.

The cage study consisted of evaluating these baits in 2.4m x 1.8m x 2.4m high wood-framed boxes in an environmentally controlled laboratory. For each of 5 replicate tests, 100 field-collected *M. domestica* were exposed to each bait. Accumulative fly mortality was measured for 24 hr. Imidacloprid bait provided quicker mortality than methomyl bait in each replicate. Both baits provided near total mortality at 24 hr.

Bait trap evaluations were made comparing 1-gal plastic water jugs and two commercial granular bait stations. These bait stations were placed in a commercial caged egglayer facility with an established *M. domestica* infestation. Five replicates of five bait stations each were used with each bait station/insecticide combination. Tests were conducted for 24 hr. In these comparisons the imidacloprid bait killed an average of 3.8 times more *M. domestica* than the methomyl bait.

In whole poultry-house evaluations, a commercial caged egglayer facility was used. Six individual houses, each containing 190,000 hens and measuring 200m long x 21m wide, were used, two for each bait and two as untreated controls. In each treated house 3.6kg of bait was placed on the walkways scattered the length of the house. *Musca domestica* populations were assessed using white file cards (to count fly specks) and walking sticky fly ribbons the length of each house (to count flies stuck on the tape). This sampling was done daily for 7 days post-treatment. Imidacloprid bait-treated houses provided significantly more fly mortality than the methomyl bait-treated houses.

In a second study at this same commercial egglayer facility, comparison was made of these bait formulations (imidacloprid and methomyl) applied twice per week for 4 weeks. Three houses were used, one for each bait and one serving as an untreated control. *Musca domestica* populations were assessed as before with the white file cards replaced weekly and the sticky fly ribbons used twice a week. Similar results were obtained as in the single treatment study with the imidacloprid bait-treated house providing more fly mortality than the methomyl bait-treated house.

From the results obtained in these studies, imidacloprid bait was quicker acting and provided better control than did methomyl bait.