

Product Performance Review
By Kevin J. Sweeney, Senior Entomologist, IB

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Reviewer: Kevin Sweeney

PM: George Larocca, PM 13

EPA Reg. No. 100-1232 (100-REGE)

Product Name: Demand EZ

Registrant: Syngenta

Active Ingredient: Lambda-cyhalothrin 2.43%

Application dilution: lowest - 0.006% on page 13

Application rate: varies greatly – see label for all rates.

PC Code: 128897

Dec No. 356280

DP 318112

Product Type: Concentrate

OPPTS Guideline 810.3500

GLP: no

Pests: See label.

Registrant referred to similar product EPA Reg. No. 100-1066, Demand CS containing the exact same label directions. Demand EZ contains $\frac{1}{4}$ of the active ingredient found in Demand CS. Directions for use include changes that result in the exact same end use concentrations for all site/pests.

Entomologist Comments and Recommendations:

1. The efficacy data bridging proposal for the subject product is acceptable because the end use dilutions and rates for all sites and pests are the same as on the 100-

1066 label. Therefore, citing the 100-1066 label and supporting data satisfies the efficacy requirement.

2. The following label changes to the listed calculations are required:
 - a. Page 18 under the column header “300 gals” - Change 32 oz. to 36 oz. and 64 oz. to 60 oz.
 - b. Page 19 – Change 13.8 ml to 13.6 ml
 - c. Optional: 1 oz. = 29.6 ml not 29 ml.
3. Syngenta stated that they were citing the 100-1066 label and using “cite-all” under the selective method. But at the same time they submitted MRID 46530404 to support their product performance bridging argument. The MRID is a compilation of study summaries with lambda-cyhalothrin applied at a variety of dilutions using the Demand CS formulation among others. According to Syngenta (telephone call) the data supporting the Demand products were submitted over time by a variety of registrants and Syngenta had difficulty locating a list of the MRID numbers for the purpose of selective only citation. As a result, they prepared a summary of the data for Demand CS and cited the 100-1066 label as well.

MRID 46530404 Summary of biological efficacy supporting lambda-cyhalothrin 2.5CS (A 126689A)

This volume summarizes 11 studies previously submitted by Syngenta against a variety of public health pests. The list of pests includes: American cockroaches (adults) (residual), German cockroaches (Adult) (residual), cat fleas (residual), paper wasps, fire ants (mound treatment), mosquitoes (*Aedes aegypti* and *Culex quinquefasciatus*) (residual), and indoor apartment studies with 21 day and greater residual claims against cockroaches.

1. American cockroach – plywood treated with a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation provided residual control for 7 weeks after treatment.
2. American cockroach – plywood panels treated with 0.015% or a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation provided 7 weeks of residual control.
3. German cockroaches – ceramic tiles treated with a 0.015% or a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation provided 16 weeks of residual control.
4. German cockroaches – vinyl tile and plywood treated with a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation provided 6 weeks of residual control.
5. Striped-tailed scorpion, *Vejovis spinigerus*, was exposed directly and to surface residues of sand treated with a 0.06% lambda-cyhalothrin dilution prepared from the CS formulation. The application rate was 1 gal/1000 square feet. 100% percent

mortality was observed. Residual effectiveness was not evaluated.

6. Paper wasps, *Polistes* spp., and their field nests were treated with a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation. Only 83% control was achieved at 4 days post-treatment, increasing to 85% at day 11. A second application was required to gain complete treatment by day 21. The formulation demonstrated poor knockdown of the wasps. However, larval wasps were killed.
7. Mounds of the Red Imported fire ant, *Solenopsis invicta*, were sprayed as a mound drench with a 0.03% lambda-cyhalothrin dilution prepared from the CS formulation. One gallon of the dilution was applied to each mound up to 12 inches from the entry hole. Results showed the product to have effective knockdown of fire ants and all but one mound was completely killed after 24 hours.
8. Cat fleas, *Ctenophalides felis*, infesting a lawn and dog pen were treated in a field study at the of 5.7g the CS formulation delivered in two gallons of water to field plots measuring 500 square feet each. 100% control was achieved for 12 weeks post-treatment.
9. Adult mosquitoes, *Aedes aegypti* and *Culex quinquefasciatus*, were exposed to the leaves of ginger plants treated with 0.006%, 0.015% and 0.03% lambda-cyhalothrin in the laboratory. Treated plants were exposed to outdoor conditions and leaves removed at specified time intervals for efficacy evaluations in Petri dishes. Efficacy evaluations were conducted periodically up to 111 days post-treatment. Using one hour exposure times (exceed the customary exposure time of about 5 minutes) the 0.006% treatment provided 14 days of residual control against *Culex quinquefasciatus* and 56 days against *Aedes aegypti*.

4. Therefore, the data submitted in the above MRID combined with the citation of 100-1066 and all supporting data satisfy the product performance requirement for all pests at the rates listed on the product label. Supports reapplication intervals as well.