**EFFICACY REVIEW**
by Mark Suarez, Entomologist - IB

Mark F. Suarez
13 JANUARY 2005

| | |
|---|---|
| **DATE:** | 12 January 2005 |
| **EPA REG. NUMBER:** | 75802-1 |
| **PRODUCT NAME:** | Serene Fly Control Pellets |
| **REGISTRANT:** | Triad Specialty Products LLC |
| **PM:** | George LaRocca |
| **REVIEWER:** | Linda Deluise |
| **DECISION #.:** | 345834 |
| **DP BARCODE:** | 305373 |
| **ACTION:** | R34 |
| **ACTIVE INGREDIENT(S):** | 121301, Cyromazine.....2.12% |
| **TYPE:** | Feed Through |
| **OPPTS GUIDELINE(S):** | 810.1000<br>810.3000<br>810.3200 |
| **MRID:** | 46307801<br>46307802 |
| **GLP ?:** | No. |
| **SITES:** | Horses |
| **PESTS:** | House Flies, Stable Flies |
| **STUDY APPLICATION RATE:** | 300 mg/day |
| **LABEL APPLICATION RATE:** | 300 mg/day |

**STUDY SUMMARIES:**

The registrant submitted two studies testing the efficacy of the product, a feed-through, against house flies and stable flies. The data were submitted in support of an amendment to change the dosing from 600 mg (AI) every other day to 300 mg (AI) per day.

1. MRID 46307801. Donahue, W. 2004. Evaluation of Cromazine on the Development of the House fly, *Musca domestica*, in manure from horses after an oral dosing regime. Project Number: PMP04/1A. Unpublished study prepared by Sierra Research Labs. 32 p.

Horses were fed a diet that was supplemented with either pelletized product (n=5) or placebo (n=2) daily. The pellets were identical in constituents, with the exception of active ingredient. Manure samples were acquired 10 and 20 days following the initiation of the experiment. Sub-samples were allocated to be inoculated with house fly eggs and placed into an environmental chamber for 3 weeks (27 °C, 80% RH and 14:10 (L:D) photoperiod) or placed outside for two weeks to weather, inoculated with eggs, and then placed into an environmental chamber under the conditions listed above.

The results of both larval hatch and adult fly emergence indicated that the manure was an acceptable substrate for larval hatch, but that the active ingredient inhibited adult fly emergence (See Table 1.). The larval hatch rate was greater than 90% for control and treatment manure. The suppression of adult fly emergence was 100% for both fresh samples and weathered samples. Controls exhibited adult emergence of 15.9 to 98.8%.

| | **Unweathered Manure** | | | | **Weathered (14 Days)** | | | |
|---|---|---|---|---|---|---|---|---|
| | 10 Day | | 20 Day | | 10 Day | | 20 Day | |
| **Test Group** | % Hatch | % Emergence | % Hatch | % Emergence | % Hatch | % Emergence | % Hatch | % Emergence |
| Treated | 92.6 | 0 | 88.6 | 0 | 96.5 | 0 | 94.4 | 0 |
| * | | 100 | | 100 | | 100 | | 100 |
| Control | 90.5 | 66.8 | 93.0 | 73.0 | 98.0 | 15.9 | 98.8 | 81.8 |

**TABLE 1.** Comparison of treatment and control larval hatch and adult fly emergence. The row preceded by an asterisk (*) shows the mean percent inhibition corrected using Abbot's formula.

2. MRID 46307802. Donahue, W. 2004. Evaluation of Cromazine on the Development of the Stable fly, *Stomoxys calcitrans*, in manure from horses after an oral dosing regime. Project Number: PMP04/1B. Unpublished study prepared by Sierra Research Labs. 31 p.

Horses were fed a diet that was supplemented with either pelletized product (n=5) or placebo (n=2) daily. The pellets were identical in constituents, with the

exception of active ingredient. Manure samples were acquired 10 and 20 days following the initiation of the experiment. Sub-samples were allocated to be inoculated with stable fly, *Stomoxys calcitrans*, eggs and placed into an environmental chamber for 3 weeks (27 °C, 80% RH and 14:10 (L:D) photoperiod) or placed outside for two weeks to weather, inoculated with eggs, and then placed into an environmental chamber under the conditions listed above.

The results for adult fly emergence that the active ingredient inhibited adult fly emergence (See Table 2.). The suppression of adult fly emergence was ≥99.5% for both fresh samples and weathered samples. Controls exhibited adult emergence rates of 40.5 to 77.5%.

| | **Unweathered Manure** | | **Weathered (14 Days)** | |
|---|---|---|---|---|
| | 10 Days | 20 Days | 10 + 14 Days | 20+ 14 Days |
| **Test Group** | % Emergence | % Emergence | % Emergence | % Emergence |
| Treated | 0 | 0 | 0.4 | 0 |
| * | 100 | 100 | 99.5 | 100 |
| Control | 60.5 | 40.5 | 77.5 | 67.0 |

**TABLE 2.** Comparison of treatment and control adult fly emergence. The row preceded by an asterisk (*) shows the mean percent inhibition corrected using Abbot's formula.

## ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

The inhibition of adult house and stable fly emergence observed for the product when used as a daily supplement at a dosage of 300 mg was greater than 90% for both "fresh" and 14 day weathered manure. Although the number of adult flies emerging in some control groups was insufficient in some instances, the preponderance of data indicate efficacy of the proposed dosage regime. The suppression of adult fly emergence reported for this application and the claims being made on the product label is adequate.

**Recommendations:**

- The experiment exhibited satisfactory control of the flies tested to permit the amendment of the label from a dose of 600 mg every other day to 300 mg daily.

Enclosure
075802-00001-ER

Efficacy Study Review
by Kevin Sweeney, Entomologist, IB

Date: June 22, 2004

Reviewer: Linda DeLuise

EPA Reg. No. 75802-1

Product Name: Sierra (Serene Feed-Thru Fly Control Pellet)

PM: George LaRocca, PM 13

Dec # 338516

DP 298644

OPPTS Guideline: 810.3200

Chemical: cyromazine 2.12% Feed-thru to kill stable flies

Action requested: review submitted protocol

Submission: Triad submitted a protocol to evaluate the feed-thru product against stable flies. The major change from previously reviewed studies was to administer the product to horses daily compared to the previously accepted every other day. As a result, only ½ the dose would be provided daily in keeping with the Animal Safety Data and the efficacy of this new regime tested. I reviewed and accepted this protocol on January 5, 2004 via e-mail so these studies could begin. The hard copy is confirmatory and for the product file.