COMPARISON OF HOUSE FLY AND LITTLE HOUSE FLY SUSCEPTIBILITY TO PLYWOOD PANELS TREATED WITH BAYTHROID 2 AND ECTIBAN WP, 1985: The following treatments were applied to plywood panels to the point of the runoff with a hand-held atomizer: 0.009% and Baythroid 2, 0.018% Baythroid 2, 0.036% Baythroid 2, and 0.1% Ectiban WP. Each treatment was applied to 2 identical panels (ca. 1 ft²) and bioassayed with adult house flies and little house flies. Flies utilized for bioassays were 1-wk old or less and originated from laboratory colonies. Fifty flies of each species were exposed to each of the two panels by confining them under screened jar rings, 3 inches in diam by 1 inch deep. Four rings were placed on each panel in predesignated areas; 25 flies of each species per ring. Mortality counts were taken at 24-h postexposure; panels were bioassayed at 7, 35, 70, and 90 days posttreatment. All panels were exposed to field conditions during the interim period between bioassays.

All the treatments killed 100% of each fly species 7 days posttreatment. The 0.009% Baythroid 2 treatment showed decreased toxicity to house fly and little house fly at 35 days posttreatment, while the other treatments gave essentially 100% kill. The 70-day posttreatment assay showed about the same results as the previous assay. On the 90-day posttreatment assay, all the Baythroid 2 treatments had lost a certain degree of activity against both house and little house fly, while 0.1% Ectiban WP maintained 100% mortality. The .018% and 0.036% Baythroid 2 treatments had essentially identical effects against both fly species during each assay.

<table>
<thead>
<tr>
<th>% Corrected mortality</th>
<th>Baythroid (%AI)</th>
<th>Ectiban WP (%AI)</th>
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<tr>
<td></td>
<td>.009</td>
<td>.018</td>
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<td>Days posttreatment</td>
<td>MD</td>
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<td>7</td>
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</table>

MOUSE: *Mus musculus* (L.)

*Cuterebra fontinella* Clark

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MOUSE-CUTEREBRA ANIMAL SYSTEMIC INSECTICIDE TEST, 1985: White mice are infested ocularly with 5 newly hatched larvae of *Cuterebra fontinella* Clark. Two days later, female mice are weighed and treated orally with candidate insecticides usually formulated in Tween 20; male mice have a plastic collar placed around their necks to prevent grooming, and their bodies are dipped into 80–200 ml of an emulsion of the candidate insecticide usually formulated as an EC (w/v) in xylene (65 parts), Triton X-100 (10 parts), and AI (25 parts). Highest dosages are 100 mg/kg orally and 1% dermally. Four days later, mice are killed and bodies examined carefully for encapsulated larvae usually found in the inguinal region. Effectiveness is determined by comparing numbers of larvae in treated mice with numbers in untreated mice. Probit analysis conducted with corrected percent-kil data.

Of the 9 candidate insecticides tested, 2 were ineffective, 1 was effective dermally, and 6 were effective orally and dermally. Several of the active compounds have been or will be administered to cattle in secondary tests at the U.S. Livestock Insects Laboratory to determine their systemic activity against larvae of the common cattle grub, *Hypoderma lineatum* (Villers).
SHEEP: *Ovis aries* (L.)
Sheep ked; *Melophagus ovinus* (L.)

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SHEEP KED CONTROL WITH T-BAR APPLICATIONS OF ATROBAN, A POUR-ON APPLICATION OF METHOPRENE, AND IVOMEC INJECTABLE, 1985: Experimental sheep were mature ewes of mixed breeds that were naturally infested with sheep keds. Ked density was determined by a whole-body count of adult keds on all animals. Ewes were ranked according to ked density, then groups of similarly infested animals were randomly assigned to treatments. Animals were housed in separate 4.8 X 19.2-m pens of 10 animals each. Ked density was estimated immediately before treatment and 7, 14, 28, and 42 days after treatment. Fleece length was recorded at the time of the pretreatment ked count. Atroban was applied along the topline, from the withers to midback, with a “Wipe-Out T-Bar Applicator” manufactured by N. J. Phillips Pty. Ltd., New Zealand. Methoprene was applied from a calibrated syringe to a single spot in the withers area. Ivomec was administered subcutaneously in the right shoulder. Atroban was applied at 5 and 10 ml per animal on 19 Jun. Each dose was applied to 2 pens of sheep. Methoprene was applied to one pen of sheep 3 Jul, and Ivomec was applied to one pen on 27 Jun.

The ewes demonstrated no discomfort or other obvious adverse reactions immediately following treatment. Two days after treatment with Atroban, an oily stain was observed in the fleece at the site of application. The stain eventually spread to a larger area on animals with a fleece longer than 2 cm, but remained localized near the site of application on shorter fleeced sheep. Dirt accumulated in the stained area, darkening the tips of the wool fibers. Animals with shorter fleece demonstrated skin reactions where insecticide contacted the skin surface. An inflammation of the skin with exudate developed within 2 days of treatment. Scabs appeared within 5 days. Wool fibers in the area of treatment did not appear to be weakened, however they were easily pulled from the skin of 2 animals 15 and 19 days after treatment. A scab was found on the skin of 6 of 10 methoprene-treated ewes 7 days after treatment. The skin of two of these ewes was a slightly different shade at the site of application. There was no apparent effect on wool fiber strength. There were no adverse reactions to the Ivomec treatment. The Atroban mixture at 5 ml per ewe produced 100% ked control within 56 days in replicate 1 and in 42 days in replicate 2. At the 10 ml dose, 100% control was achieved in 42 days in both replicates. Ivomec injection reduced keds 90.9% 7 days after treatment. Populations recovered thereafter, however, until day 42 when the trial was terminated. Methoprene pour-on was ineffective.