Fly Strike in Sheep

quick-acting contact poisons tested

J. R. Douglas and J. F. Wilson

Fly strike has always been a serious problem in the north coast area of California.

Any practical measures which may reduce the incidence of strike would be of great value to sheep men. Recently reports have been received from South Africa and Great Britain indicating that DDT and BHC—also called benzene hexachloride, Gammaexan, and 666—show considerable promise in protecting sheep from fly strike. It was desirable therefore to try these materials under the conditions prevailing in the north coast counties of California.

Not a Recommendation

This progress report is based on the first season’s results and presented for its informational value—not as a recommendation. From the data presented it is obvious that the trails must be repeated on a wider scale and under many conditions before recommendations can be made.

Quick-Acting Poisons

DDT and BHC are both extremely poisonous to flies; only a few seconds’ contact with a treated surface is necessary to kill these insects. After coming in contact with such a surface a fly may not actually die for an hour or more; however, within a matter of minutes it will be visibly affected and react abnormally, as shown by the inability of the female to lay eggs normally. It is this immediate disturbing effect which is relied upon to prevent flies from striking treated sheep.

Application

In these trials the insecticides were applied with a standard power sprayer set to develop 100 pounds pressure and equipped with a single nozzle and 5'/4 inch disk.

The spray was applied only to the surface of the wool, no attempt was made to saturate the fleece. Since most strikes occur on the breech and back, only those areas were treated. This required approximately 1.6 quarts of material for mature animals and 0.8 of one quart for lambs. Spraying was done in the cutting chute.

Experiments were conducted on two ranches in Mendocino County; one, west of Laytonville and the other, south of Ukiah.

On March 21, 1947, at the ranch west of Laytonville, 47 ewes and 36 lambs were sprayed with 0.5% wettable DDT—eight pounds 50% DDT/100 gallons.

On the same date at this ranch, another group consisting of 153 ewes and 132 lambs were sprayed with 0.5% DDT emulsion—2.5 gallons 25% DDT concentrate/100 gallons. The unsprayed control group had 1150 ewes, lambs, and yearlings.

Results

No strikes occurred in either the treated or control groups up to April 9, at which time the group consisting of 47 ewes and 36 lambs was resprayed with 0.5% wettable DDT as before. Following this application there were no strikes in the group before shorn in mid-May.

In the group of 153 ewes and 132 lambs which had been sprayed on March 21, two strikes occurred April 20, one April 25, and six on April 26.

During this period in late April and early May, 17 strikes occurred in the untreated control animals.

It is apparent that fly strike was not an acute problem on this ranch during the experiment.

It is significant, perhaps, that the animals treated with wettable DDT were not struck during a 30-day period in which 26 strikes occurred in the control group and the groups sprayed with DDT emulsion March 21.

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Results of Treating Sheep to Protect Against Fly Strike

<table>
<thead>
<tr>
<th>Material</th>
<th>Date of Application</th>
<th>Number of Animals</th>
<th>Number of Strikes</th>
<th>Date of First Strike</th>
<th>Apparent Days of Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laytonville—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% DDT wettable</td>
<td>3/21</td>
<td>83</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5% DDT emulsion</td>
<td>3/21</td>
<td>285</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Untreated</td>
<td>3/21</td>
<td>1150</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Ukiah—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% DDT wettable</td>
<td>3/22</td>
<td>64</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1% BHC wettable</td>
<td>3/22</td>
<td>176</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Untreated</td>
<td>3/22</td>
<td>850</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Laytonville—</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% DDT wettable</td>
<td>4/9</td>
<td>83</td>
<td>0</td>
<td>—</td>
<td>35*</td>
</tr>
<tr>
<td>Untreated</td>
<td>4/9</td>
<td>1435</td>
<td>26</td>
<td>4.20</td>
<td>11</td>
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<tr>
<td>Ukiah—</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5% DDT wettable</td>
<td>4/10</td>
<td>240</td>
<td>3</td>
<td>5/19</td>
<td>39</td>
</tr>
<tr>
<td>Untreated</td>
<td>4/10</td>
<td>850</td>
<td>12</td>
<td>4/23</td>
<td>13</td>
</tr>
</tbody>
</table>

*Since no strikes occurred in this group, the apparent period of protection is assumed to be from the treatment date to shearing time.