

# Fly Strike in Sheep

## quick-acting contact poisons tested

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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, Gammexane, 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 trials 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 5/64 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.

The 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.

In the period March 21 to April 9, the rainfall was 5.25 inches and it is assumed that the effectiveness of the original treatments was nullified by the time the second application was made.

### Second Test Ranch

At the second ranch, south of Ukiah, 97 ewes and 79 lambs were sprayed March 22 with a mixture containing 0.1% of the gamma isomer of BHC wettable—seven pounds 6% gamma isomer/50 gallons.

On the same date, 33 ewes and 31 lambs were sprayed with 0.5% wettable DDT.

An unsprayed control group comprised about 350 ewes and lambs.

No strikes occurred in either the treated or the untreated test groups up to April 10.

On April 10, 130 ewes and 110 lambs—previously sprayed March 22—were sprayed with 0.5% wettable DDT, leaving the same group of controls as in the earlier application. Thirteen days later, on April 23, 12 strikes were noted in the unsprayed group. On May 19, 39 days after spraying, three strikes occurred in the treated group.

### Conclusions

From these results it is tentatively concluded that under these conditions the application of 0.5% wettable DDT afforded about 39 days' protection from fly strike. No conclusions can be drawn concerning the effectiveness of DDT emulsion of BHC since during the entire trial period no strikes occurred in any of the control groups.

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Results of Treating Sheep to Protect Against Fly Strike

	Material	Date of Application	Number Animals	Number Strikes	Date of First Strike	Apparent Days of Protection
Laytonville	.5% DDT wettable	3/21	83	0	-	-
	.5% DDT emulsion	3/21	285	0	-	-
	Untreated	3/21	1150	0	-	-
Ukiah	.5% DDT wettable	3/22	64	0	-	-
	.1% BHC wettable	3/22	176	0	-	-
	Untreated	3/22	350	0	-	-
Laytonville	.5% DDT wettable	4/9	83	0	-	35*
	Untreated	4/9	1435	26	4/20	11
Ukiah	.5% DDT wettable	4/10	240	3	5/19	39
	Untreated	4/10	350	12	4/23	13

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