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LET'S Eradicate THE SCREW WORM!



THE AGRICULTURAL AND MECHANICAL
COLLEGE OF TEXAS
TEXAS AGRICULTURAL EXTENSION SERVICE
J. E. Hutchison, Director, College Station, Texas

LET'S ERADICATE THE SCREWORM!

LIVESTOCK PRODUCERS estimate that the screwworm costs Texans more than \$100,000,000 annually. Most years, many other states also suffer severe losses.

Recent research efforts have led to discoveries which now will make it practical to eradicate the screwworm from Texas and the Southwest. Screwworm eradication can be accomplished because of the following discoveries: (1) Screwworm flies occur in relatively small numbers in nature. (2) Large numbers of flies can be raised economically. (3) Females mate only once but males mate several times and (4) The flies can be sterilized without drastically affecting the mating behavior or life span. The U. S. Department of Agriculture, the Texas Animal Health Commission, the Southwest Animal Health Research Foundation, State Extension Services and other private and public agencies, are putting these discoveries to work cooperatively in the Southwest Screwworm Eradication Program.

THE PLAN

The plan is to overwhelm the wild screwworm population with sterile male flies until the last female produces sterile eggs.

Eradication of screwworms from the Southeastern states has indicated that the use of sterile screwworm flies, along with complete rancher cooperation in preventing screwworm cases, reporting those found and controlling livestock movements, will provide a feasible approach to eradication of the screwworm from Texas and the Southwest.

As eradication is being accomplished in Texas and New Mexico, an effective barrier of live sterile flies will be established from Brownsville up the Rio Grande to El Paso and west across New Mexico to the Arizona state line.

In addition to the international inspection activities along the Mexican border which have already been established, inspection stations will be located along the New Mexico-Arizona line

to prevent infested animals from entering the screwworm free area.

YOU CAN HELP

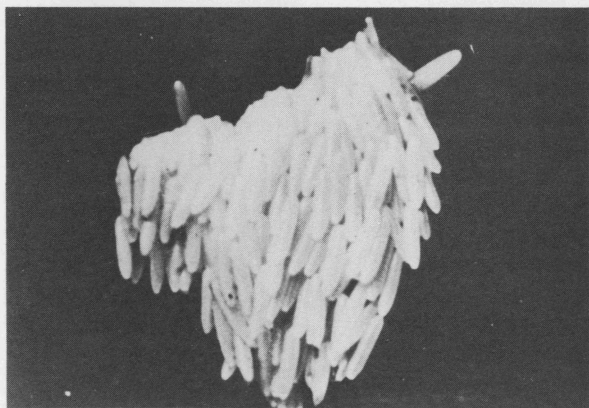
The success of the screwworm program depends greatly on the cooperation of the livestock producers. You can help eradicate the screwworm!

- (1) Inspect your livestock frequently.
- (2) Treat all wounds promptly.
- (3) Collect 10 or more worms from deep in each wound and take them to your county agricultural agent or to your livestock inspector so they can be properly identified.

Carefully examine your livestock for wounds at least twice a week. Any open wound is susceptible to attack. An injury may be as small as a tiny cut, scratch or tick bite. Find every animal; examine carefully; treat every wound or infestation promptly. Infested animals often stray from the herd seeking shelter in dense brush to avoid further attack.

Periodic spraying of livestock every 2 to 3 weeks with Co-Ral or ronnel (Korlan) will aid greatly in the prevention of screwworm infestations. Stockmen are urged to spray their livestock regularly in order to prevent as many screwworm cases as possible. Every screwworm case which is prevented or controlled by chemical treatment will aid greatly the effectiveness of the overall Screwworm Eradication Program.

Although a number of insecticides will effectively control *individual screwworm cases*, sprays



The screwworm fly lays about 250 eggs in a cluster on the wound.

of Co-Ral or ronnel (Korlan) give superior *protection* from screwworm attack. In addition, these sprays will give good control of most other external parasites such as horn flies, lice and ticks.

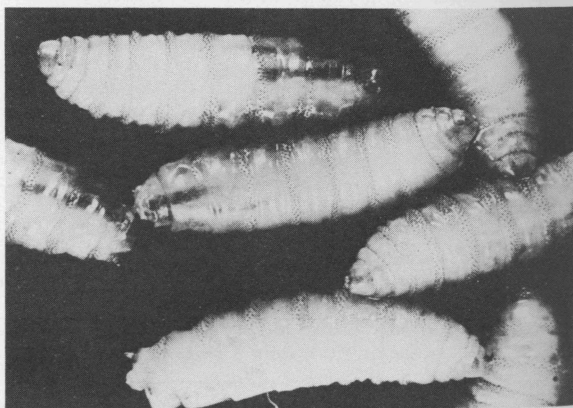
Apply approved insecticides as sprays, smears or dusts to all wounds according to recommendations as they appear in the table. Follow all instructions that appear on the label.

Collect worms from any screwworm case you suspect in livestock, pets or wildlife. Make a record of the infestation and save samples of the eggs and maggots from the wounds. Put the maggots and eggs in a bottle or other small container filled with water or alcohol and take them to your county agricultural agent or your local livestock inspector.

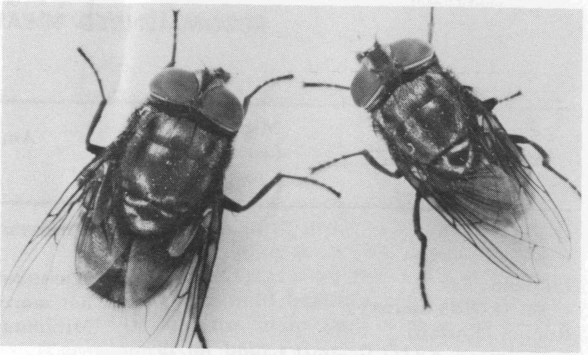
Carefully examine animals being loaded or unloaded at your ranch and treat all wounds. You and your neighbors will have fewer screwworms if you make sure that the animals you buy are free from screwworms when they are loaded at point of origin.

Manage your livestock so as to avoid injuries. Schedule breeding so that birth of animals will take place during cool weather when screwworms are least active. Treat the navels of newborn animals and repeat the treatment as needed until healed.

Use bloodless emasculators to castrate cattle, sheep, and goats. Treat other surgical operations with screwworm remedies. Closely watch all wounds until healed.



Thousands of maggots may work in a single wound.



The plan is to overwhelm the wild screwworm fly population until the last female produces sterile eggs.

Treat wounds made by branding, earmarking, eartagging, and dehorning.

Keep fences, pens and chutes in good repair to prevent injuries from protruding snags, nails, wire and splinters.

Control ticks and insects by spraying the animals with recommended insecticides.

Encourage your neighbors to use these precautions. Screwworm eradication will be much easier if community efforts are made to reduce screwworms.

THE SCREWWORM

The true screwworm is only one of a large group of flies most of which are referred to as common blow flies. The screwworm maggot is a true parasite that infests only wounds of warm-blooded animals. Some of the maggots infesting these wounds may be maggots which breed primarily in carcasses. When they are found on or in living animals, carcass-breeding maggots are usually found feeding on soiled wool or in wounds containing decaying blood or tissue.

The screwworm is distinguished from common blow fly maggots by the presence of two dark parallel air tubes. These tubes are readily visible in full grown maggots of other blow flies. Most common blow fly maggots have white, yellow or gray colors. Screwworms have a pinkish tinge when they have completed feeding and are about ready to leave the wound. The only sure way to identify a screwworm case, however, is to collect maggots for microscopic examination by a specialist.

RECOMMENDED TREATMENTS FOR SCREWORM CONTROL

Beef Animals

Treatment/Strength	Min. days from last application to slaughter	Amount of formulation per animal	Remarks
Smear 62	0	Minimum amount to treat wound.	If smear is used, brush or smear on wound and surrounding area. Do not use excessive amounts. Treat twice first week and weekly thereafter until healed.
Lindane 3% (EQ335 Smear)	0	Minimum amount to treat wound, not more than 3 tsp.	
Ronnel (Korlan) 5% smear or 2.5% livestock bomb	21	Minimum amount to treat wound.	Do not use more than 1 tbsp. of ronnel smear on baby calves.
Ronnel (Korlan) 0.5% spray	56	1 to 4 qt. depending on animal size.	Spray wounds thoroughly and wet entire body. Repeat after 2 weeks if needed. Treat thoroughly all wounds and injuries.
Co-Ral 0.5% spray or 0.25% spray	7 0		
Co-Ral 5.0% dust	0		Apply locally in ears and adjacent head areas, in and around wounds, cuts, scratches, etc.

Dairy Animals

Smear 62	0	Minimum amount to treat wound.	Brush or smear on wound and surrounding area, twice first week and then weekly until healed. Do not use more than one tbsp. EQ335 on baby calves.
Lindane 3% smear (EQ335)	0	Minimum amount to treat wound, not more than 3 tsp.	

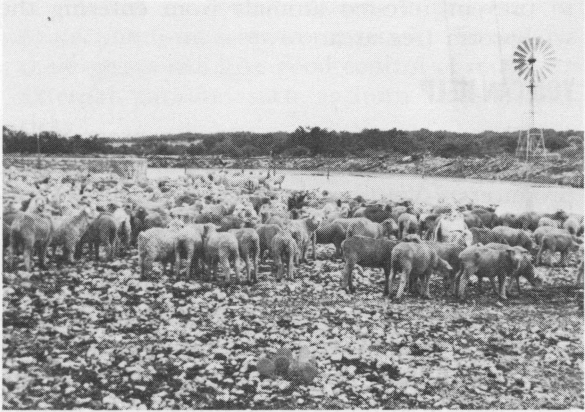
Sheep and Goats

Smear 62	0	Use minimum amount necessary to treat wound.	Brush or smear on and around wound twice first week and then weekly until healed.
Lindane 3% (EQ335 smear)	0		
Ronnel (Korlan) 5% smear or 2.5% livestock bomb	21		Spray wounds thoroughly and wet entire body.
Ronnel (Korlan) 0.5% spray	84		
Co-Ral 0.25% spray	15		

Swine

Smear 62	0	Minimum amount to treat wound.	If smear is used, brush or smear on wound and surrounding area. Do not use excessive amount. Treat twice first week and weekly thereafter until healed.
Lindane 3% (EQ335 Smear)	0	Minimum amount to treat wound, not more than 3 tsp.	
Ronnel (Korlan) 5% smear or 2.5% livestock bomb	21	Minimum amount to treat wound.	Do not use more than 1 tbsp. of ronnel smear on baby pigs.
Ronnel (Korlan) 0.5% spray	42	1 to 4 qt. depending on animal size.	
Co-Ral 0.5% spray	45		
Co-Ral 0.25% spray	0		Treat thoroughly all wounds and injuries. Spray entire body for screwworm protection.
Co-Ral 5.0% dust	7		Apply locally in ears and adjacent head areas, in and around wounds, cuts, scratches.

This leaflet was prepared by R. L. Ridgway and C. F. Garner, associate extension entomologists, The A&M College of Texas, with assistance from the Animal Disease Eradication Division, Agricultural Research Service, USDA, in support of The Southwest Screw-worm Eradication Program, Mission, Texas.



With your help, sheep and goats, as well as cattle, swine and wildlife can be free of screwworms.

The female fly lays about 250 eggs to the cluster on a wound. The egg cluster is about the size of the end of a cigarette. When females are numerous, they lay egg clusters overlapping each other. Freshly laid egg clusters are white, but they change to a dull gray after about 12 hours. The tiny, newly hatched maggots burrow into the flesh of the animal and begin feeding. Wounds infested with screwworms have a distinctive, foul odor. A characteristic bloody or brownish discharge drains from the wound and stains the hair below. Feeding maggots usually are covered by this fluid. The maggots feed in closely packed groups, continually rasping away at living flesh.

Screwworms feeding in a wound gouge out a deep pocket—often the maggots feed so deeply that they cannot easily be recognized, but close observation will reveal the rear ends projecting just above the surface of the bloody discharge. An infested wound attracts other screwworm flies; consequently, thousands of maggots may be at work within a few days in a single wound.

Screwworm maggots normally mature in 5 or 6 days, then fall to the ground to pupate and develop into flies.

An infestation can kill an untreated, full-grown animal in 10 days or less, depending on the location of the wound.

Cooperative Extension Work in Agriculture and Home Economics, The Texas A&M College System and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.

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