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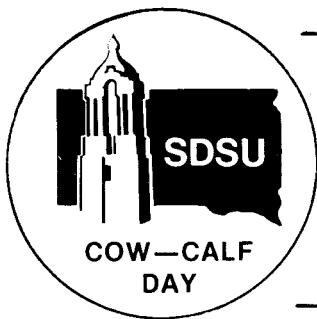
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CURRENT METHODS USED FOR THE CONTROL OF FLIES
ON BEEF CATTLE IN SOUTH DAKOTA

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A survey of pesticide use conducted in 1982 involving 230 livestock producers in eastern South Dakota has revealed that flies and lice are considered the most important external pests of livestock. Data from the survey are currently being processed and results will be available in early 1983. According to our preliminary results, the horn fly is the object of many of the currently used control strategies in South Dakota. Control technologies in use include the use of the Insect Growth Regulator altosid (available through MoorMan's), Rabon® oral larvacide in mineral mixes from cooperatives and various methods of applying conventional insecticides such as the use of sprays, back rubbers, rubbing devices such as the Dr. Scratch and the Sittner® oilers, dust bags and the employment of insecticide impregnated ear tags. Due to the current trend in which modern tagging devices associated with insecticides have received widespread acceptance among producers, further information regarding their availability and use is appropriate. Several tags that are currently registered for use in South Dakota are included in table 1. Rabon as formulated in the white tag is of less value than the others, since research by Paul Kohler of SDSU has shown these tags to be effective for only up to 3 months. The Ectrin® (yellow) and Atroban® (red) tags have shown effectiveness for up to 4 months under South Dakota conditions and in 1982 were more popular. The Diamond Shamrock Company is the manufacturer for Ectrin tags. However, this material is also sold commercially under the brand names Insecti-Shield® and Ear Tag Plus. The Y-Tex Guard Star tags are sold in South Dakota as well as the neighboring states of Nebraska and Wyoming under agreement from the Burroughs Wellcome Company.

The Ectiban tape® is a new development (table 1) that will be commercially available to livestock producers in 1983. This tape appears like a large band-aid and contains insecticide in a pad. After the tape is attached to some type of ear tag or to the tail of the cow just above the tuft or twist, a small ampule is crushed with the fingers releasing the insecticide permethrin onto the tag or to the tail. In Idaho when the tapes were applied to the ear tag, horn fly control was about the same as with the insecticidal ear tags. The tape should be cheaper and it is easier to apply to the animal than the insecticidal ear tags.

Insecticide strips consisting of 10% permethrin incorporated into polyvinyl chloride are currently being evaluated in many states. The strip should be available for use in 1983. This strip (figure 1) can be attached to a "spent" insecticidal ear tag or wired to the front or back of identification tags without obscuring their numbers. They may also be fastened to halters or bridles and will be approved for use on horses, swine, sheep, dry and lactating dairy as well as beef cattle and calves.

Table 1. Insecticide Impregnated Cattle Ear Tags
Approved for Use in South Dakota

| Brand name | Insecticide | Percent active ingredient | Manufacturer |
|------------------|-------------|---------------------------|----------------------------|
| Rabon | Stirofos | 13.7 | Diamond Shamrock |
| Ectrin | Fenvalerate | 8 | Diamond Shamrock |
| Insecti-Shield | Fenvalerate | 8 | Ralston Purina |
| Ear Tag Plus | Fenvalerate | 8 | MoorMan's |
| Y-TEX Guard Star | Permethrin | 10.0 | Y-TEX, Cody, Wyoming |
| Atroban Cattle | Permethrin | 10.0 | Burroughs Wellcome Company |
| Ectiban Tape | Permethrin | .9 g | ICI Americas Inc. |

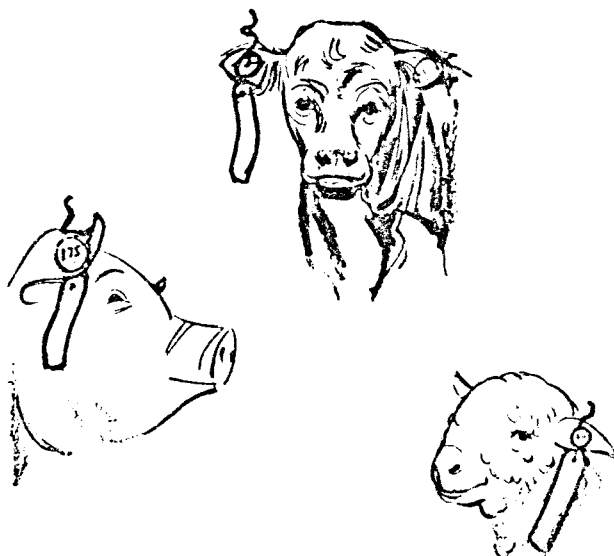


Figure 1. Insecticide impregnated strips attached to ears of livestock.

Cattlemen should remember that, even though tests conducted at South Dakota State University indicate that good horn fly control is obtained with the above technologies, there are other flies on the animal that are not controlled as effectively.

Stable flies, for example, that feed on the lower legs of animals under a feedlot situation will not be controlled with ear tags nor will the house fly that affects feedlot animals near farm buildings. Manure management is the key for control of stable and house flies around the farm.

South Dakota State University test results indicate that with two pyrethroid impregnated tags per animal (one in each ear) face fly reduction will occur (50 to 75%). However, excellent control of the face fly has yet to be obtained through the use of insecticidal tags or through other means of control. Nevertheless, the ear tags are the best control method currently available for horn or face flies. Cattle grubs, of course, will not be controlled with these tags, so ranchers, particularly in western South Dakota, that have problems with this will need to continue to use pour-on insecticide applications.

Another pest species, the horse fly, cannot be controlled by any of the technologies discussed so far. Research in South Dakota farm ponds (namely on the Cottonwood Range and Livestock Research Station) over several years has shown that control of horse flies (Tabanidae) can be achieved when emergent vegetation around the dugout or farm pond is kept low by cutting. Often when cattle have complete access to the water source, their tramping prevents the growth of aquatic plants on which horse flies lay their eggs. Removal of the vegetation then disrupts the life cycle of this fly.