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## Insecticide-impregnated ear tags for range cattle

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## Insecticide-impregnated ear tags for range cattle

### Abstract

When both cows and calves were double-tagged (one tag per ear) with ear tags impregnated with fenvalerate (Ectrin) or permethrin (Atroban), the calves gained faster ( $P < .01$ ) than when neither cows nor calves were tagged. Double-tagged yearling heifers gained faster ( $P < .05$ ) than did heifers without tags. When all cows had been double-tagged, tagging the calves did not increase calf weight gain.

### Keywords

Cattlemen's Day, 1982; Report of progress (Kansas State University. Agricultural Experiment Station); 413; Beef; Insecticide-impregnated ear tags; Heifers; Gain

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## Insecticide-impregnated Ear Tags for Range Cattle

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and Jack G. Riley**U**

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Summary

When both cows and calves were double-tagged (one tag per ear) with ear tags impregnated with fenvalerate<sup>1</sup> (Ectrin<sup>R</sup>) or permethrin<sup>2</sup> (Atroban<sup>R</sup>), the calves gained faster ( $P < .01$ ) than when neither cows nor calves were tagged. Double-tagged yearling heifers gained faster ( $P < .05$ ) than did heifers without tags. When all cows had been double-tagged, tagging the calves did not increase calf weight gain.

Introduction

Insecticide-impregnated ear tags effectively eliminate horn flies and reduce face flies. We measured the effect of tags on cattle weight gain and on fly population in a large geographical area in which most cattle were tagged.

Procedure

Ear tags impregnated with fenvalerate (Ectrin<sup>R</sup>) or permethrin (Atroban<sup>R</sup>) were attached to all cows (one tag per ear) and most calves and yearlings (one tag per ear) in a 28-section block in Butler County, Kansas. Cattle of similar type and breed outside the block were left untagged to serve as controls. Tagging was in the spring (April to early June). Horn flies and face flies were counted regularly all summer. Fly emergence was recorded from 1- to 2-day-old cow pats collected along transects inside and outside of the experimental block to determine fly dispersal into the test area. Average daily gains and weight per day of age were determined for calves and yearlings in and out of the test area.

Results and Discussion

Both types of tags completely controlled horn flies, counts of which in the experimental area were zero. Outside the experimental area, cattle had 50-400 flies/head. Although low throughout the season (0.75 flies/head in

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<sup>1</sup><sub>R</sub> Ectrin is a registered trademark name for fenvalerate, produced by Diamond Shamrock. Ectrin tags were in part provided by Diamond Shamrock Co., Cleveland, OH.

<sup>2</sup><sub>R</sub> Atroban is a registered trademark name for permethrin, produced by Burroughs Wellcome. Atroban tags were in part provided by Burroughs Wellcome Co., Kansas City, MO.

Mention of products and companies is made with the understanding that no discrimination is intended and no endorsement implied.

control pastures), face flies were reduced by 92, 50, and 16% in early, mid, and late summer, respectively, in pastures with tagged cattle.

When both cows and calves were double-tagged, the calves gained 0.41 lb a day more ( $P < .01$ ) than when neither cows nor calves were tagged (Table 17.1). Double-tagged yearling heifers gained 0.14 lb a day more than did untagged heifers (Table 17.1). In two herds, one with fenvalerate tags and one with permethrin tags, there was no significant difference in calf weight per day of age when both cow and calf were double-tagged, compared with when only the cow was double-tagged (Table 17.1).

Table 17.1. Effect of insecticide-impregnated ear tags on weight gain of beef calves and grazing heifers

Comparison 1. Effect of double tagging (of both cows and calves) on weight gain of calves

|                      | <u>Tagged</u> | <u>Not tagged</u> |           |
|----------------------|---------------|-------------------|-----------|
| No. calves           | 47            | 21                |           |
| ADG, lb <sup>a</sup> | 2.35          | 1.94              | $P < .01$ |

Comparison 2. Effect of double tagging on weight gain of grazing heifers

|                      | <u>Tagged</u> | <u>Not tagged</u> |           |
|----------------------|---------------|-------------------|-----------|
| No. heifers          | 26            | 18                |           |
| ADG, lb <sup>a</sup> | 1.34          | 1.20              | $P < .05$ |

Comparison 3. Effect of double tagging or not tagging of calves -- with all cows double tagged -- on calf weight<sup>b</sup>

|                    | <u>Herd No. 1</u>     |                   |           |
|--------------------|-----------------------|-------------------|-----------|
|                    | <u>Atroban tagged</u> | <u>Not tagged</u> |           |
| No. calves         | 24                    | 15                |           |
| Trial length, days | 122                   | 122               |           |
| Wt/day of age      | 2.42                  | 2.39              | $P < .75$ |

|                    | <u>Herd No. 2</u>    |                   |           |
|--------------------|----------------------|-------------------|-----------|
|                    | <u>Ectrin tagged</u> | <u>Not tagged</u> |           |
| No. calves         | 24                   | 16                |           |
| Trial length, days | 164                  | 164               |           |
| Wt/day of age      | 2.31                 | 2.20              | $P < .20$ |

<sup>a</sup>ADG = Average daily gain.

<sup>b</sup>A direct comparison between Atroban and Ectrin should not be attempted because two distinctly different herds were involved.