

Researches into Dips and Dipping.

C. Miscellaneous.

The Effect of Dosing Aloes to Tick-Infected Cattle.

By

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For a number of years it has been a common belief amongst farmers in South Africa that cattle and other domestic animals, also poultry, can be kept free from ticks by giving them a daily ration of aloes. Tests were therefore carried out in order to confirm or negative this belief, although it must be admitted that keeping animals free from ticks by making them obnoxious to these parasites would not be of any great practical assistance to farmers in controlling tick-life on their farms, except in exceptional circumstances, owing to the fact that ticks can live for long periods without food, and tick-life would continue to increase owing to the opportunities these parasites have of getting on to wild animals and birds on the veld. This, however, would not apply to permanent parasites, such as the sheep ked, which are entirely dependent upon their hosts for their existence and cannot live off them for any length of time.

The only practical method of dealing with the majority of cattle ticks in South Africa is therefore to use animals as bait for attracting the ticks, and then to kill the ticks by means of regular dipping.

DOSING ALOES TO TICK-INFECTED SHEEP.

EXPERIMENT S. 4948.

Test No. 1.—Five cattle were sent to a tick-infested farm where they remained until they were sufficiently badly infested. They were then brought to the Laboratory and kept in a tick-free stable. The ticks attached beneath their tails were counted daily and three of the animals were dosed with aloes, which were given in the form of aloetic balls *per os* on the day they were brought in, the remaining two animals acting as controls. The result of this test is shown in the following table:—

Cattle.	Ticks.	9/1/33.	10/1/33.	11/1/33.	12/1/33.	13/1/33.
No. 2994..... Weight: 1,045 lb.. Dose: 8 dr. aloes..	<i>R. evertsi</i> <i>H. aegyptium</i>	25 } 45 } 70	25 } 43+2 } 70	23+1 } 40+3 } 67	18 } 34+3 } 55	16 } 31+3 } 50
No. 3684..... Weight: 770 lb.... Dose: 12 dr. aloes.	<i>R. evertsi</i> <i>R. appendiculatus</i> ... <i>H. aegyptium</i> <i>A. hebraeum</i>	32 } 4 } 34 } 77 7 }	32 } 4 } 34 } 77 7 }	32 } 2 } 27+3 } 71 7 }	32 } 2 } 22+2 } 65 7 }	29 } 1 } 20+1 } 57 6 }
No. 2765..... Weight: 1,200 lb.. Dose: 15 dr. aloes.	<i>R. evertsi</i> <i>R. appendiculatus</i> ... <i>H. aegyptium</i> <i>A. hebraeum</i>	15 } 14 } 39 } 71 3 }	12 } 10 } 35+1 } 61 3 }	12 } 9+1 } 32+3 } 59 2 }	11 } 8 } 32 } 53 2 }	11 } 5 } 30+2 } 50 2 }
No. 2714..... Weight: 1,200 lb.. Control.....	<i>R. evertsi</i> <i>R. appendiculatus</i> ... <i>H. aegyptium</i>	13 } 2 } 21 } 36	10 } 2 } 20 } 32	10 } 2 } 17 } 29	9 } 1 } 16 } 26	9 } 1 } 14 } 24
No. 2805..... Weight: 1,195 lb.. Control.....	<i>R. evertsi</i> <i>R. appendiculatus</i> ... <i>H. aegyptium</i> <i>A. hebraeum</i>	11 } 3 } 18 } 38 6 }	11 } 3 } 17+1 } 38 6 }	6 } 2 } 15+1 } 30 6 }	6 } 1 } 13 } 26 6 }	6 } 1 } 11 } 24 6 }

23+1 means that there were 24 ticks present, including one engorged female which was removed.

The daily decrease in the number of ticks was due, if not entirely, in a very large measure to the fact that engorged females were continually dropping off.

Result: This test demonstrated that single doses of from 8 to 15 dr. aloes to cattle do not cause the ticks to leave their hosts, and no dead ticks were found on the animals.

Test No. 2.—After the animals had been sent back to the farm for re-infection a second test was commenced on January 23rd, 1933, which differed from the first test in that the cattle were dosed daily with Cape aloes enclosed in gelatine capsules for five days, No. 2994 receiving 30 gm. aloes, No. 3684 received 45 gm. aloes and No. 2765 received 60 gm. aloes daily from January 23rd to the 27th. Furthermore, the ticks were not counted, but a rough estimate was made daily of the numbers present on various parts of the bodies. The same two control animals as were used in the first test were also used for this test. It may also be noted that this regular dosing of the animals produced marked purgation.

Result: Up to two weeks after the test was commenced the ticks appeared to be as numerous on the dosed animals as on the control animals, and when the test was concluded they appeared to be almost as numerous as they were at the commencement of the test, although all the females, which were considerably less numerous than the males, had fed and dropped off.

SUMMARY AND CONCLUSIONS.

The tests demonstrated that single doses of from 8 to 15 dr. aloes and daily doses for five days of from 30 to 60 gm. aloes to cattle do not cause ticks to leave their hosts, and no dead ticks were found on the animals.

Apart from the negative effect on the ticks, the disadvantageous effect on the animals in producing marked purgation makes this treatment most undesirable.