Research Note

STATUS OF BOVINE FASCIOLIASIS IN PUERTO RICO AS DETERMINED BY SLAUGHTERHOUSE STUDIES[1,2]

Investigators in Puerto Rico have been able to obtain information on the status of bovine fascioliasis by reviewing records from different slaughterhouses on the Island. Past slaughterhouse surveys conducted by Rivera Anaya and Martínez de Jesús[3], Chiriboga[4], and Frame and Bendezú[5,6] showed a steady rise in *Fasciola hepatica* infection in cattle from 1948 to 1976.

The present study was conducted to update our previous reports[5,6] by compiling data for 1981 and 1982 from local slaughterhouses. Data showing *F. hepatica* infection in cattle for these periods compared to 1973 through 1976, as well as the periods summarized in reference 5, are found in table 1 and figure 1. The slight decrease in prevalence of fascioliasis observed for 1982 over 1976 (31.76% in 1976 to 29.00% in 1982) does not represent a significant change in the status of this parasitism during the last decade. The observation that is significant to us is the substantial decline in the total number of cattle slaughtered yearly. For example, in 1973 the total number of cattle slaughtered was 109,556[5,6] as compared with 44,871 in 1982.

Regional increases in *F. hepatica* infection over 1976 were observed throughout the Island. As an example, at the Mayagüez slaughterhouse on the west coast, the percent rate of infection was higher in 1981 and 1982 than in 1976, even though the number of cows slaughtered was lower. Other increases were also observed in Cabo Rojo (west) and Humacao (east) as table 1 shows. Data for other years were not available.

The "true" prevalence of bovine fascioliasis in Puerto Rico is at present unclear. The prevalence of this parasitism at the slaughterhouses from 1976 to 1982 was 30%, yet a survey of dairy farms in Puerto Rico in 1978[7] showed an overall prevalence rate of 65%. This difference in

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[2] This research was supported by Grant RR-08159 granted to Inter American University by the National Institutes of Health-Minority Biomedical Research Support.

[3] Rivera Anaya, J. D. and Martínez de Jesús, J. 1952. The extent of liver-fluke infestation of cattle in Puerto Rico (a slaughterhouse survey). Agric. Exp. Stn. Univ. P.R. Bull. *107*: 5–16.

[4] Chiriboga, J. et al., 1973. Unpublished data.

[5] Frame, A. D. and Bendezú, P., 1978. Bovine Fascioliasis in Puerto Rico. J. Parasitol. 64 (1): 136.

[6] ——, Bendezú, P., Mercado, H., Otiniano, H., Frame, S. J. and Flores, W., 1979. Increase of Bovine Fascioliasis in Puerto Rico., J. Agric. Univ. P.R. 63 (1): 27–30.

[7] ——, Bendezú, P., Rivera-Ortiz, C. I., Valentín R., Díaz-Rivera, J., 1980. *Fasciola hepatica* in Dairy Cattle in Puerto Rico in 1978. J. Parasitol. 66 (4): 698–99.

TABLE I.—*Prevalence of* Fasciola hepatica *in various regions of Puerto Rico*

Slaughter-house	1976			1981			1982		
	Animals			Animals			Animals		
	Sacri-ficed	Infected	% in-fected	Sacri-ficed	Infected	% in-fected	Sacri-ficed	Infected	% in-fected
Arecibo	7,066	2,592	37	2,684	881	33	2,969	1,010	34
Cabo Rojo	3,779	801	21	2,326	638	27	1,934	489	25
Canóvanas	—	—	—	3,106	1,957	63	4,444	2,810	63
Cidra	—	—	—	5,662	2,390	42	3,372	852	25
Corozal	2,886	1,483	51	5,051	2,215	44	4,145	1,762	43
Humacao	6,184	1,317	21	9,326	2,520	27	5,500	1,556	28
Juana Díaz	4,481	867	19	4,740	876	19	3,491	663	19
Lares	1,293	542	42	—	—	—	501	216	43
Manatí	3,578	1,571	44	2,485	892	36	1,745	570	33
Mayaguez	7,721	1,402	18	4,251	1,136	27	2,429	834	34
Naguabo	5,155	2,246	44	2,189	696	32	2,519	741	29
Quebradillas	953	208	22	2,843	769	27	3,125	693	22
San Germán	2,152	541	25	1,770	362	20	2,661	481	18
Utuado	775	283	37	772	233	30	249	63	25
Vega Baja	—	—	—	3,908	8	20	4,655	12	25
Vieques	—	—	—	59	4	7	108	0	0
Yauco	—	—	—	1,020	260	25	1,132	184	16
TOTALS	46,023	14,853	30	52,192	15,837	3,034	44,979	12,936	2,900

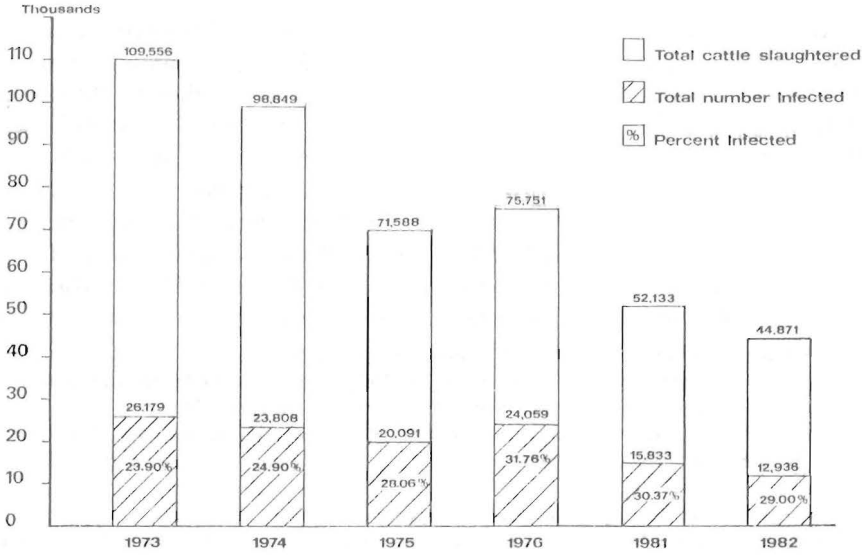

FIG. 1.—Total number of cattle slaughtered and rate of *Fasciola hepatica* in Puerto Rico (1973-76—1981-82).

prevalence may be due to the following undetected conditions. First, cases of cows which have been treated with antihelminthics killing adults but not juvenile worms may be present on farms; second, cases of prepatent infections are undiagnosed; third, cows with light infections are not detected at the slaughterhouse screening level. All of these conditions would explain the lower prevalence seen in the slaughterhouse survey.

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