US EPA ARCHIVE DOCUMENT

00124477

4/23/79

VALIDATION SHEET CRF #_____PAGE_____OF_____

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Larry Turner					Date: 4/23/79		
94%		brodifacoum	Test Type: Avian 40-day dietary LC_{50} bobwhite quail							
			Test ID.# ES-D1 MRID 00124477							

CITATION: Beavers, Joann B. and Robert Fink. 1978. Forty-day dietary LC_{50} - bobwhite quail; technical brodifacoum; final report. 19 p. Study conducted by Wildlife International, project 123-127. Submitted by ICI Americas, 10182-26; Acc. #237703 report 171; 2/27/79.

RESULTS: Bobwhite quail 40-day dietary LC_{50} = 0.8 ppm (95% c.i. 0.1-4.7 ppm). Mortality was somewhat erratic, with 20% mortality at the lowest level of 1 ppm, 80% mortality at the next lowest level of 1.78 ppm, and 60-100% mortality at doses from 3.16 - 100 ppm. Control mortality was 12% and was attributed to toe and nostril picking. Toxic symptoms included depression, wing droop, loss of coordination, prostration, and hemorrhage. Toe and nostril picking also occurred in treated birds, and in combination with the auticoagulant properties of the test material, may have been a partial cause for erratic mortality.

VALIDATION CATEGORY: Core

CATEGORY RATIONALE: Even though the chi square value was somewhat high (18.464 as compared with acceptable of 14.067), it is felt that the results are reasonable and that the chi square was as, or more, likely due to physiological differences than experimental variation. It is felt that further testing would serve no regulatory purpose. The 12% control mortality is not unreasonable, considering the length of the study.

CATEGORY REPAIRABILITY: N/A

2053638

ABSTRACT: Fourteen day old bobwhite quail were exposed for five days to diets containing technical brodifacoum in concentrations of 0 (control), 1, 1.78, 3.16, 5.62, 10, 17.8, 31.6, 56.2, and 100 ppm. A thirty-five day observation period followed the dietary exposure. Ten birds were tested at each dose level, along with 50 control birds. Procedures closely followed the guidelines except for the prolonged observation period which included extra weighings and food consumption determinations.

Mortality was statistically analyzed according to Finney probit. When checked on the EEB calculator, a very similar LC_{50} of 0.853 ppm was obtained, but the chi square value was somewhat high at 18.464.

malland 40-day dietary LC_{50}
brodifacoum tech 94%
Finney probit

L. Turner
4/23/79

1.	
3.	
10.	
1.78	
4.	
10.	
3.16	
5.	
10.	
5.62	
6.	
10.	
10.	
7.	
10.	
17.8	
9.	
10.	
31.6	
8.	
10.	
56.2	
8.	
10.	
100.	
6.	
10.	
0.590	M
4.740	YINT
49.546	LW M
6.518	CHI^2
2.760	LD50
0.716	LDCL
10.643	UPCL
0.019	LD10
0.000	LDCL
1.850	UPCL
411.062	LD90
20.618	LDCL
8195.284	UPCL

E2

bobwhite 40-day dietary LC_{50}
brodifacoum tech 94%
Finney probit

L. Turner
4/23/79

1.	
2.	
10.	
1.78	
8.	
10.	
3.16	
6.	
10.	
5.62	
9.	
10.	
10.	
9.	
10.	
17.8	
10.	
10.	
31.6	
7.	
10.	
56.2	
7.	
10.	
100.	
10.	
10.	
0.710	M
5.049	YINT
25.591	LW M
18.464	CHI^2
0.853	LD50
0.154	LDCL
4.729	UPCL
0.013	LD10
0.000	LDCL
1.027	UPCL
54.457	LD90
10.041	LDCL
295.347	UPCL

D1