

US EPA ARCHIVE DOCUMENT

1/28/78

103.4.0 Chronic Toxicity

103.4.2 Bird

DATA REVIEW NUMBER: ES VI

TEST: Avian Reproduction Upland Gamebird

SPECIES: Bobwhite Quail (Colinus virginianus)

RESULTS: PP557 was fed to mature Bobwhite quail at dietary concentrations of 5 and 25 ppm throughout a One-Generation Reproduction Study; and had no effect on the reproductive success of the birds.

Based on the results of this study; environmental levels of up to 25 ppm of PP557 do not represent a hazard to the Bobwhite Quail.

CHEMICAL: PP557 Technical (92.4% a.i.)

TITLE: One-Generation Reproduction Study Bobwhite Quail PP557 Final Report

ACCESSION NO: 096699

STUDY DATE: December 6, 1976

RESEARCHER: Robert Fink
Wildlife International Ltd.

REGISTRANT: FMC Corp.

VALIDATION CATEGORY: Core

CATEGORY REPAIRABILITY: N.A. - Levels tested are equivalent to those that will occur at application rate of 0.2 lb A.I./Acre with FMC 33297 3.2 EC.

VALIDATOR: Tom O'Brien - 1/28/78

Summary

ADDITIONAL INFORMATION:

Reproductive Data - Bobwhite Quail

	<u>Controls</u>	<u>PP557</u> 5	<u>(ppm)</u> 25
Eggs Laid	566	614	655
Eggs Cracked	70	66	44
Eggs Set*	449	500	565
Viable Embryos	407	430	441
Live Three-Week Embryos	399	422	430
Normal Hatchlings	358	364	395
14-Day-Old Survivors	328	338	360

*Excludes those cracked and those removed for eggshell thickness analysis. The above differences were not statistically significant (<0.05).

	<u>Expected Values</u>	<u>Controls</u>	<u>PP557</u> 5	<u>(ppm)</u> 25
Eggs Laid Per Hen In Eight Weeks	28-38	23.6	25.6	27.3
Eggs Cracked Of Eggs Laid (%)	0.6-2.0%	12.4	10.7	6.7
Viable Embryos Of Eggs Set (%)	75-90%	91	86	78
Live Three-Week Embryos Of Viable Eggs (%)	97-99%	98	98	98
Normal Hatchlings Of Live Three-Week Embryos (%)	50-90%	90	86	92
14-Day-Old Survivors Of Normal Hatchlings (%)	75-90%	92	93	91
14-Day-Old Survivors Per Hen	11-14	13.7	14.1	15.0

Statistical analysis based on data in Table 1a.
The above differences were not statistically
significant ($p < 0.05$).

Eggshell Thickness Data
Bobwhite Quail

	<u>Controls</u>	<u>PP557</u>	<u>(ppm)</u>
		5	25
No. Of Eggs Analyzed	48	48	48
Mean Shell Thickness (mm) 0.20-0.22	0.210	0.209	0.214

The above differences were not statistically
significant ($p < 0.05$).

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC#	CHEMICAL NAME	Validator:		Date:					
Technical		Permethrin	R. Balcomb		Nov. 16, 1977					
92.4%		PP557	Test Type:							
			One generation Reproduction Study: Bobwhite Quail							
			Test ID #		ES-V					

CITATION: Fink, R. "One generation Reproduction Study - Bobwhite Quail" Wildlife International Ltd. No. 123-112, Dec., 1976.

VALIDATION CATEGORY: Supplemental ~~Core~~

RESULTS: PP557 was fed to mature Bobwhite Quail at dietary concentrations of 5 ppm and 25 ppm throughout a one generation study. No effect on the overall reproductive success of the birds was observed. Egg production, shell thickness, shell cracks, embryo viability, chick survival, body weight and food consumption were analyzed. No significant differences between control and test groups were found.

VALIDATION CATEGORY RATIONALE: The test procedure generally follows EPA guidelines. However, insufficient data are presented to verify statistical tests. ~~RS~~

CATEGORY REPAIRABILITY/RATIONALE: Study may be repaired by submission of more complete statistical data. For example, the following data should be supplied with ANOVA F-test: ~~Σx, x, SS, MS, Df, F, Standard Deviations within groups (Sx).~~ ~~RS~~ N.A

Note: See review of this study by T. O'Brien ON FMC product 33297 for more complete abstraction of data.