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Description Notes Appears to be copies from a slide presentation. Duplicate is missing page labeled "Air Force Health Study Mortality Analysis."

SEVESO SCIENTIFIC REVIEW

JUNE 9-16, 1983

A. L. YOUNG

ENVIRONMENTAL CONTAMINATION

TOXICOLOGY

HUMAN HEALTH MONITORING

ENVIRONMENTAL FATE OF TCDD

DECONTAMINATION/RECLAMATION

CLEAN-UP STANDARDS

MONITORING DECONTAMINATION WORKERS

TOXIC IMPACT OF TCDD ON DOMESTIC ANIMALS

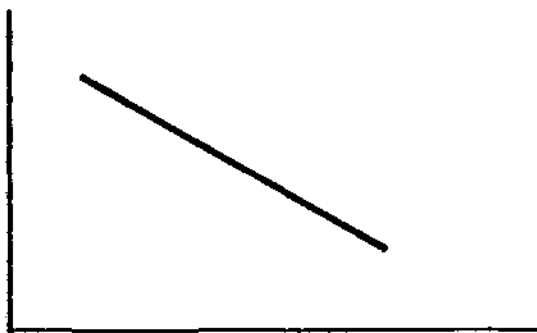
	<u>DIED AFTER ACCIDENT</u>	<u>SLAUGHTERED JUNE 1978</u>
SMALL ANIMALS (RABBITS, FOWL)	3,281	77,078
CATTLE	6	298
HORSES/DONKEYS	2	47
SWINE	3	227
SHEEP/GOATS	<u>1</u>	<u>66</u>
TOTAL	3,293 (4%)	77,716 (96%)

HUMAN HEALTH MONITORING

CHLORACNE FOLLOWING "ACUTE" EXPOSURE

<u>AGE OF SUBJECTS</u>	<u>NUMBER</u>	
0 - 4	19	} 160 "YOUNG" CHILDREN
5 - 9	108	
10 - 14	33	
15 - 21	20	
>21	<u>7</u>	
	187	32,000 CHILDREN SCREENED

AGE OF
SUBJECT



SEVERITY OF CHLORACNE

HUMAN HEALTH MONITORING

ACUTE (SHORT-TERM)

DERMAL

NEUROLOGICAL

INVOLVEMENT OF ORGANS AND SYSTEMS

PREGNANT WOMEN AND NEWBORNS

ABORTIONS

CONGENITAL MALFORMATIONS

NEONATAL GROWTH

EMBRYOMORPHOLOGICAL STUDIES

CYTOGENETIC STUDIES

IMMUNOLOGICAL STUDIES

CHRONIC (LONG-TERM)

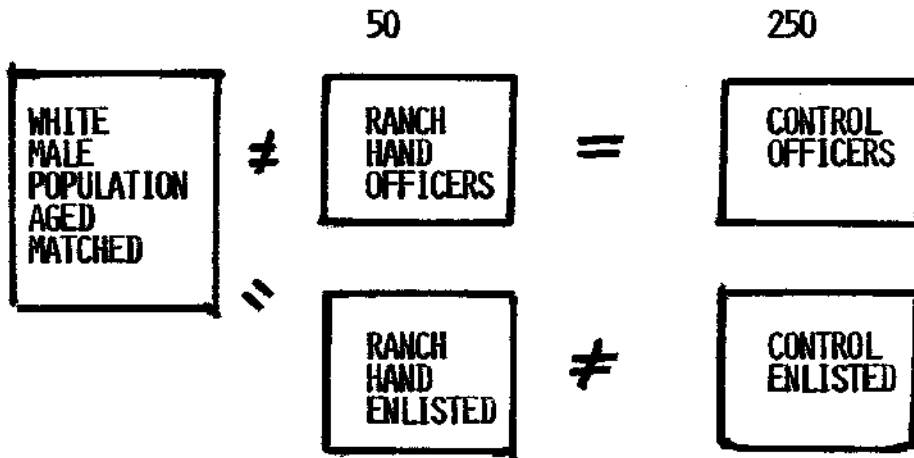
CHLORACNE

CANCER

MORTALITY

AIR FORCE HEALTH STUDY
MORTALITY ANALYSIS

RANCH HAND PERSONNEL EXPOSED TO TCDD IN AGENT ORANGE BETWEEN 1962-1970. EXPOSURE BEST DESCRIBED AS "CHRONIC" (MEAN TCDD OF ORANGE 2 PPM) FOR A ONE (1) YEAR PERIOD. MORTALITY BASED ON 5 CONTROLS: 1 RANCH HAND. MORTALITY DATA EXCLUDES KIA.



NEUROLOGICAL FINDINGS

190 CHILDREN (52 WITH CHLORACNE)

432 ADULTS

SUBJECTED TO CLINICAL AND NEUROPHYSIOLOGICAL
EXAMINATIONS

- 10% DISCLOSED EVIDENCE OF IMPAIRMENT
- QUESTION ETIOLOGIC RELATIONSHIP
- CHILDREN WITH CHLORACNE SHOWED NO IMPAIRMENT OF NERVOUS SYSTEM FUNCTIONS.

TCDD BIOAVAILABILITY

WEATHERED SEVESO TCDD SOIL - 80 PPB

LABORATORY PREPARED SOIL - 40 PPB

SOIL → RABBIT → ACCUMULATION IN LIVER

RESULTS INDICATED THAT "WEATHERED" TCDD SOIL HAS A 30% BIOAVAILABILITY IN THE RABBIT COMPARED TO "SPIKED" SOIL.

PLANT UPTAKE STUDIES

MONITORING OF VEGETATION IN SEVESO ZONE A FOUND THAT CONTAMINATED DUST WAS A MAJOR FACTOR IN POSITIVE FINDINGS FOR FRUITS AND LEAFY CROPS.

UPTAKE STUDIES SUGGEST THAT CONCENTRATIONS IN LEAVES OF CORN AND BEANS WILL BE APPROXIMATELY 1/100TH SOIL LEVEL. NO DETECTIBLE TCDD IN EDIBLE PORTIONS.

ASSESSMENT OF SEVESO ENVIRONMENTAL CONTAMINATION

TOTAL TCDD RELEASED - 165 gm

TOTAL AREA IMPACTED - 1800 HA

(NUMBER OF PEOPLE EVACUATED - 736)

SOIL CONTAMINATION - <5 PPT - 55 PPB

ATMOSPHERIC CONTAMINATION (DUST) - 0.06 - 2.1 PPB

VEGETATION CONTAMINATION - 1.3 - 15.8 PPM (6-13 DAYS)

CLEAN-UP STANDARDS

CONTAMINATED AREAS WERE ESTABLISHED BASED ON
ANALYTIC SENSITIVITY OF 0.01 μg TCDD/KG SOIL.

1977 REGIONAL LAW BARRED AREAS HAVING MORE THAN 50
 $\mu\text{g}/\text{m}^2$ (0.5 PPB) TO HUMAN HABITATION.

"INSIDES" HOMES - 10 NG TCDD/ m^2

AGRICULTURAL SOIL - 5 PPT TCDD