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Year 1972

Month/Day February

Color ☐

Number of Images 9

Descripton Notes Handwritten notes. 1972 Program Weed Science Society of America Twelfth Meeting brochure included.

WSSA GROUP DISCUSSION ON ARSENICAL HERBICIDES

Attendence

10 FEB 1972
ST LOUIS, MISSOURI

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ART LANGE
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Parlier 93648 Calif

1. Review current studies on arsenicals.

2. NEED FOR:

A. NEW methodology for determination of arsenic

B. Techniques to differentiate forms of arsenic

C. Bioassay data & a list (composite of susceptible & resistant species).

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MIKE NEWTON

From the rates applied (Hunter), it was obvious that TAC-52 A offered a unique opportunity to study persistence and soil leaching

C.R. Swanson

How Bioassay?

College Park

MSMA * 10 - 200 16 a.i./A

.5 ppm AS

CA DISPOSAL

KEARNEY Phi
YOUNG, A.L.
SWANSON - USDA
~~[illegible]~~ - USDA-HOLSTUN.
WEDGE - ANSUL
LANG ~~[illegible]~~ CAL
ANASTASIA - REG
COLLINS - ANSUL
WOOLSON - USDA
HUNTER
ELMORE - CAL-DAVIS

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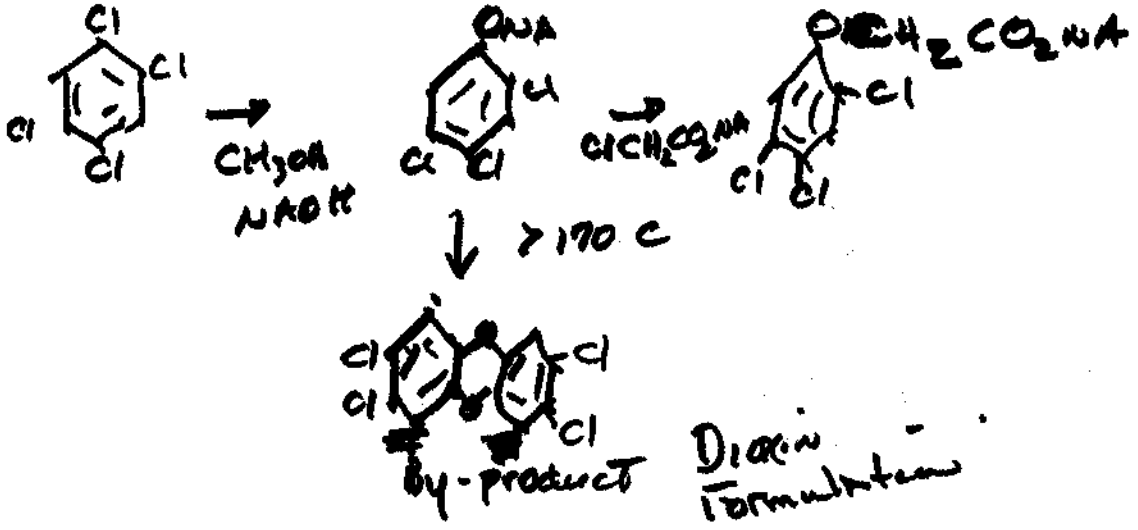
TIME OF DAY PUBLICATION *

ARSENICAL BIOASSAY.

Chamber Contamination

SOIL-FIXATION?

DIOXIN PAPER



LD_{50} = [redacted] .6 mg/kg.. Guinea Pig.

Species Differences. ♂ RAT - 44 mg/kg

dog - 30-300 mg/kg

Hydropericardium Factor in chicks (isolated from fats)

1,2,3,7,8,9 - Hexachlorodibenzo-p-dioxin

Toxicity of TCDD

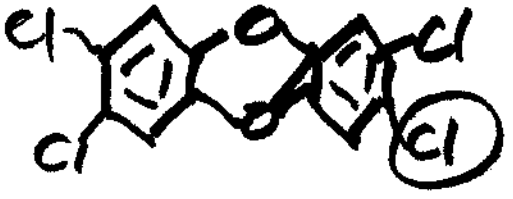
Environmental Aspects

	Samples analyzed	Concentration Ranges <.1	.1-1.0	1-10	>10 ppm
Phenoxy	71	53	5	9	12

42 samples 2,4,5-T

2,4,5-7 2 lb/ai/A 1.0 ppm -

Dioxin Photolysis



→ METHANOL
UV LIGHT →

TUESDAY - AQUATIC SYMPOSIUM

WARBURG

2,4-D UPTAKE

BRET - TEMPERATURE INFLUENCED UPTAKE

2,4-D TOXICITY

Bluegills - LD_{50}

Dimethylamine 20 ppm Formulation
40 ppm Pure Cpd.

} Role of formulation

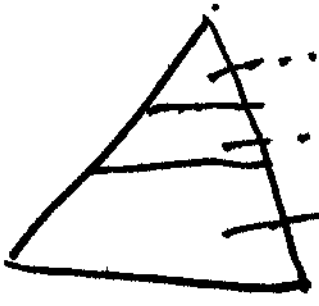
Butyl ester 3 ppm Formulation
Pure " 1 ppm

* FRY NO MORE SUSCEPTIBLE THAN MATURE FISH
ABSTRACT #26

* DIOT DIRECT TOXICITY OF BUTYL ESTERS TO CRUSTACEANS OR ROTIFERS

1# / 10x10 400 sqft

FRANKS



.. Degradation of 2,4-D by aquatic fauna

.. Degradation of 2,4-D by aquatic plants

Degradation of 2,4-D by bacteria & fungi

SETTING OUT EFFECT OF SILVER

4 HRS 15 µg/cm²
72 25 µg/cm

Hydrolysis of Silver in water

$$2,4\text{-}D \xrightarrow{O_2} CO_2 + H_2O + HCL$$

Complete oxidation of 3,4-D

$\frac{1}{2}$ 28 Lbs 9 4 lb/acre

$\frac{1}{2}$ 24 Lbs 9 4 lb/acre

$\frac{1}{2}$ 2 X Times

Application used - Soft

D. Klingman - 2,4,5-T & USDA Scientist -

Press & Effects on Agriculture.

" on Military use of herbicides ??] Humane vs -

Documents on Classifying Pesticides -

Restricted:

Unrestricted.

Crop Protection Specialist - broad training

Integrated Systems approach to Crop Protection

For our presentations -

Field observation vs TOXICOLOGY

We drew on the experience

of many men - -- mostly young

---

20 Carcinogens in natural foods.

— Bio transformation to [redacted] "Activation"

vs "inactivation"

"TRANS SCIENTIFIC" dose/response relationships
Underlying studies of human exposure
vs chemical toxicology.

FACTS CANNOT BE TAKEN AT FACE VALUE -

Carcinogen - Onions, Garlic

Carcinogenesis

1. Other source of Dioxin
2. Birth Defects vs Requirements.
3. Possible that Dioxin may be more potent in Humans than in rats.

Chemical MUST BE assumed guilty until proven innocent.

To few
wrong strains
lack of positive strain
to few animals
to few survival
animals sacrificed to early
" " to late

Inadequate levels of administration!
" routes of administration!