



Uploaded to VFC Website

~ October 2012 ~

This Document has been provided to you courtesy of Veterans-For-Change!

Feel free to pass to any veteran who might be able to use this information!

For thousands more files like this and hundreds of links to useful information, and hundreds of "Frequently Asked Questions, please go to:

[Veterans-For-Change](#)

*Veterans-For-Change is a 501(c)(3) Non-Profit Corporation
Tax ID #27-3820181*

If Veteran's don't help Veteran's, who will?

We appreciate all donations to continue to provide information and services to Veterans and their families.

https://www.paypal.com/cgi-bin/webscr?cmd=_s-xclick&hosted_button_id=WGT2M5UTB9A78

Note:

VFC is not liable for source information in this document, it is merely provided as a courtesy to our members.

Item ID Number 03071 ☐ **Not Scanned**

Author

Corporate Author

Report/Article Title ASTM Presentation 17-18 Oct 1978

Journal/Book Title

Year 0000

Month/Day

Color ☐

Number of Images 31

Description Notes Found in folder labelled by Alvin L. Young "ASTM Presentation 17-18 Oct 1978." Includes notes, correspondence, abstracts, and other papers associated with the conference.



**SECTION E-35.21.03
MAMMALIAN AND AVIAN WILDLIFE TOXICOLOGY**

ASTM, 1916 Race St., Philadelphia, PA 19103 (215) 299-5400

Chairperson: E. RIDER, United States Testing Co., Inc., 1415 Park Ave., Hoboken, N.J. 07030 (201-792-2400)

Protocol Development Chairperson: E. KENAGA, Dow Chemical, U.S.A., P.O. Box 1706, Midland, Mich. 48640 (517-636-1572)

Symposium Chairperson: UNASSIGNED

Membership Chairperson: F. SHANHOLTZER, Envirosphere Co., 19 Rector St., New York, N.Y. 10006 (212-786-6065)

November 21, 1978

You have been named by your colleagues as a most appropriate candidate for membership in the ASTM Avian and Mammalian Wildlife Toxicity Section. This section provides a forum for the communication of state-of-the-art research methodologies and resulting data for assessing the effects of toxic substances on wildlife species. These methodologies include all aspects of monitoring and evaluating environmental hazards posed by substances.

Although the Avian and Mammalian Wildlife Toxicity Section is in its infancy, our first symposium, held October 17 in New Orleans, was a resounding success. More than 70 industrial, regulatory, and academic people attended the conference, which served as the first general forum for an exchange of research technology and discussion of regulatory programs and problems relating to wildlife toxicology.

Our section intends to be an active organization. Already a second symposium has been scheduled for next fall, and our protocol task force has been assigned the development of standard practices and methods based on state-of-the-art research.

At this time, we wish to invite your participation and membership in our section. We are a young and evolving part of ASTM. Your involvement will strengthen our group, add direction to our transfer of state-of-the-art knowledge, and influence the evolution of wildlife toxicology and environmental hazard assessment.

To join our organization, please contact Fred Shanholtzer, our membership chairperson. If your interests include participation in our symposium or our protocol task force, please contact the appropriate chairpersons listed on our letterhead.

Yours truly,
E-35.21.03

E. Rider
E. Rider
Chairperson

ER/js

Prog Females - Liver

1973	1974	1975
4	3.6	3
4.1	1.8	3

1978
2.5 → 3.
3.2 →

Means adjusted for Body weight - ~~variance~~ variance Analysis

Females/Prog

N	GP	Year		99%
3	C	1973	929	}
3	C	1974	965	
1	C	1975	934	
2	C	1978	919	
6	T	1973	1247	}
6	T	1974	1019	
4	T	1975	1109	
6	T	1978	1101	

Males

Liver

99%

N	GP	Year	
4	C		710
11	C		604
3	C		753
2	C		666
13	T		832
13	T		693
7	T		790
7	T		734

23 Aug 78

Charlie

I believe we can begin the ASTM manuscript using the attached document. Perhaps you could focus efforts on updating the literature review. I'll start with the statistical data. Roughly we have these animals for comparison (matures, not pregnant):

	M	F	
Control	20	9	
GRID 1	40	24	
Laboratory	20	20	
<hr/>			
TOTAL	80	53	= 113

I'll tabularize these data for Dr. Grump & get ANOV on ① liver wt/body wt (Ratio)

② other ORGANS/body wt

3 way

DATE

SEX

LOCATION

I'll also try to construct table on total number of mice including matures, immatures, and embryos (fetuses).

I'll construct tables of animal species & subsequent road analysis.

See you in the morning!

A2

①

— Young.
— Cairney

Cooper

947 PM

TDY. 10 Sept 78 →

2 mile

Deplane

Depart SAT

Arrive

SLC

1620 Hr TI 992

1802

1850

2006

FR 55

13 Sept -- DEPART SLC to Pullman Wash.

GSA/801-322-2488

(Washington)

WED

1110 AM 28

Spokane

Arrive

1304

1450

1715

306

15 Sept --

Depart Pullman

1055 AM

Seattle

1210

1430

1642

1859

2017

2233

Depart --
Spokane 1210
Spokane 1340
Los Angeles

ATTN: SA.

CO 178

2233

② TDY

24 Sept 78 --

Lincoln NE

DEPART

1555

1910

1955

FR 670

26 Sept 78

DEPART

LINCOLN

1612

1741

1935

2220

FR 566

BN 43

③ Johnston Island, PACIFIC OCEAN

15 Oct ----

MATURE ~~Companions~~

YEARS

KIDNEY

Control vs treat NS. 95%

Male vs Female NS.

Year - (1974)

Sign. 79.8%

all organs
wts.

Analysis of
Covariance

Control vs treated
M x F

Control Female heavier Kidney

Preg FEMALES

Liver
Kidney

Control vs treated
~~99%~~ 99%

Year effect

Liver Treated > Control

Males - Liver

Control vs treated
99% Treated > Control

Baby
weights

Mature

Control vs Treat. — Sign

Group vs sex — Sign

BEACH MICE -

TOTAL NUMBERS

FIELD STUDIES - TA G 52A, Eglin AFB, FL

CONTROL

MALE

4

11

3

2

20

FEMALE

3 (3)

8 (3)

3 (1)

2 (2)

16 (9)

$$\frac{31 \text{ mice}}{9} = 3.44$$

IMMATURE:

MALE

1

1

0

0

2

FEMALE

0

2

0

0

2

TEST GRID

MALE

18

14

7

7

46

FEMALE

15 (6)

9 (6)

6 (4)

6 (6)

36 (22)

$$\frac{64 \text{ mice}}{21} = 3.05$$

IMMATURE:

MALE

8

3

7 *

6 *

24

FEMALE

1

4

3 *

3 *

11

TOTALS

50

52

29

26

Pregnant Females: 9

= 9

= 5

= 8

Male

= 31

= 29

= 17

= 15

Female

= 19

= 23

= 12

= 11

$$\frac{157}{149} = 1.05$$

$$\frac{92}{65} = 1.41$$



ASTM, 1916 Race St., Philadelphia, PA 19103 (215) 299-5400

August 25, 1978

To: Authors, Symposium Chairmen, and Presiding Chairmen, of the Symposium on Avian and Mammalian Toxicology

ATTN: Mr. Young

Subject: Committee Week, Grand Hotel, New Orleans, October 17-18, 1978

In preparation for the two pesticide symposiums scheduled for presentation at the October Committee Week, I wish to bring to your attention several items of importance, namely hotel reservations, breakfast meeting for speakers and programs for symposium.

The symposium is as follows and program is enclosed:

Symposium on Avian and Mammalian Wildlife Toxicology (sponsored by Committee E-35 on Pesticides) - October 17, 1978

Hotel Information

You symposium will be held at the Grand Hotel. A housing form is enclosed for your use in making a hotel reservation.

Registration at ASTM Meeting

Symposium Chairmen, Presiding Chairmen, and Authors should register at the regular registration areas since name badges will need to be typed. There is no registration charge.

Speakers Complimentary Breakfast Meeting - 7:30 a.m. each day - Room Assignment will be posted in Registration Area. (Grand Hotel)

The author presenting the paper is cordially invited to attend a breakfast meeting on the day the paper is scheduled for presentation. This will be complimented by ASTM, and each speaker is urged to attend. Both symposium chairmen and presiding chairmen will be on hand to discuss the day's schedule and to answer questions. Please advise if you cannot attend. Otherwise, ASTM will be charged for your breakfast.

Visual Aids

Projection equipment will be furnished for 2 x 2 slides and a Viewgraph will be available.

The professional projectionist will be in the session room well in advance of the starting time for the session. Slides should be turned over to the projectionist 15 minutes before the session starts.

(continued)

1978 Committee Meeting
Page Two

August 25, 1978

Manuscript Deadline

Please check and see if you are meeting the manuscript deadline for receipt of your paper by ASTM. If the date is passed, call me please. Some extensions have been granted, but it is of the utmost importance that Headquarters be advised of the status of overdue manuscripts.

Sincerely yours,


Jane B. Wheeler
Managing Editor

JBW:plr

Enclosures: Hotel Reservation Card in Avian and Mammalian Wildlife Toxicology
1 program

Clearance

Summary

Soil conc. of TCDD 100 times greater than worst case in Vietnam.

Since 1970 we observed ~ 120 different species of vertebrate animals
~ 70 different families of non-vertebrate animals (insects)

OF these we have intensively studied about 20 species for accumulation of TCDD

Examined soil environment & food chain components.

Microbial Studies / Biodegradation

4000 lbs Herbicide
200 ppb TCDD (100 x greater than Florida Study)

Photodegradation

Cressby & Wong (Univ. of Calif at Davis)

→ 10 ppb TCDD in herbicide - degraded in 6 Hrs.

Persistence, ~~and~~ Bioaccumulation ^{and Toxicology} of
TCDD in an Ecosystem treated
with massive quantities of
2,4,5-T Herbicide

A.L. Young, C.E. Thalken, and D.D. Harrison

2530

~~Biological~~

Soil Biodegradation of TCDD as influenced
by the Phenoxy Herbicides - A six year
Field Study.

→ A.L. Young, E.L. Arnold, W.J. Cairney and
Michael Gross

Aerospace Medical Division, Brooks AFB, TX
USAF Academy, CO
ad University of Nebraska, Lincoln NE



ASTM, 1916 Race St., Philadelphia, PA 19103 (215) 299-5400

July 31, 1978

To; Authors of Papers for the Symposium on Avian and Mammalian Wildlife Toxicology, October 17, 1978, New Orleans, Louisiana

Attn: Mr. Young:

I take pleasure in advising you that the ASTM Publications Committee, based on its review of the offers and abstracts for the above symposium, believes that this symposium will make a good special technical publication. You are invited to submit your paper for consideration for publication in this symposium volume. Final acceptance of each paper is contingent upon review of the manuscript.

Deadline for Manuscript

A deadline for receipt of papers for the symposium has been set, namely 15 September, 1978. However, I should appreciate receiving your paper prior to that date if at all possible in order to expedite the review procedure which consists of peer review of each paper for publication by three reviewers selected by the symposium committee.

Manuscript Format, SI Units & Number of Copies Required

See enclosed ASTM Style Manual and pink sheet listing important items to keep in mind in preparing your paper. The use of SI units in ASTM papers is required. See green sheet giving requirements for Metric Conversion. Papers are to be submitted in quintuplicate, typed in double-spaced typing, and prepared in conformance with the attached ASTM Style Manual. All five copies are to be sent to me at ASTM Headquarters.

Size of Manuscript

The optimum size of an ASTM paper is about 12 printed pages including tables and figures (2 double-spaced 8½ x 11 pages equal 1 printed page; 3 figures or tables equal 2 printed pages). Authors are asked to make every effort to stay within this page limitation. Your cooperation in this matter will keep the price and size of the final volume within reasonable limits.

ASTM Publication Rights & Acceptance for Presentation

ASTM reserves the right of first publication of any paper accepted for presentation at one of its meetings. Your paper has been accepted for

Symposium on Avian and Mammalian Wildlife Toxicology
Letter to All Authors, 7/31/78
Page Two

presentation. You must not submit it elsewhere for publication without the consent of ASTM.

Presentation & Visual Aids

A 2 x 2 projector and Viewgraph will be available at the meeting for your visual aids.

A copy of the symposium program is enclosed. Information regarding hotel reservations and breakfast meeting for speakers will be supplied at a later date.

Sincerely yours,

Jane B. Wheeler
Managing Editor

JBW:ddb

Enclosures: ASTM Style Manual
Addenda to Style Manual
Symposium Program

cc: Eugene E. Kenega

Special Technical Publications and
Data Series Books

Metric Conversion

This sheet replaces pages 32 and 33 of the ASTM Style Manual. International System of Units (SI Units) is now requested in all ASTM papers. English equivalents may be given, but these should appear in parentheses after the SI Unit. For the time being, in tables the conversion factors may be given in footnotes at the end of the tables, and in figures, the conversion factors may be given in the figure captions.

The SI Units are divided into three categories, Base, Supplementary, and Derived. A short listing of these units follows.

Base Units

Quantity	Unit	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature*	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

Supplementary Units

Quantity	Unit	Symbol
plane angle	radian	rad
solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol
acceleration	metre per second squared	m/s ²
angular acceleration	radian per second squared	rad/s ²
angular velocity	radian per second	rad/s
area	square metre	m ²
concentration (of amount of substance)	mole per cubic metre	mol/m ³
current density	ampere per square metre	A/m ²
density, mass	kilogram per cubic metre	kg/m ³
electric charge density	coulomb per cubic metre	C/m ³
electric field strength	volt per metre	V/m
electric flux density	coulomb per square metre	C/m ²
energy density	joule per cubic metre	J/m ³
entropy	joule per kelvin	J/K
heat capacity	joule per kelvin	J/K
heat flux density	watt per square metre	W/m ²
irradiance		
luminance	candela per square metre	cd/m ²
magnetic field strength	ampere per metre	A/m
molar energy	joule per mole	J/mol
molar entropy	joule per mole kelvin	J/(mol·K)
molar heat capacity	joule per mole kelvin	J/(mol·K)
moment of force ^a	newton metre	N·m
permeability	henry per metre	H/m
permittivity	farad per metre	F/m
radiance	watt per square metre steradian	W/(m ² ·sr)
radiant intensity	watt per steradian	W/sr
specific heat capacity	joule per kilogram kelvin	J/(kg·K)
specific energy	joule per kilogram	J/kg
specific entropy	joule per kilogram kelvin	J/(kg·K)
specific volume	cubic metre per kilogram	m ³ /kg
surface tension	newton per metre	N/m
thermal conductivity	watt per metre kelvin	W/(m·K)
velocity	metre per second	m/s
viscosity, dynamic	pascal second	Pa·s
viscosity, kinematic	square metre per second	m ² /s
volume	cubic metre	m ³
wavenumber	1 per metre	1/m

These SI Units--base, supplementary, and derived--may be combined with the following prefixes for denoting multiples and submultiples.

Multiple	Prefix	Abbreviation
10 ¹²	tera	T
10 ⁹	giga	G
10 ⁶	mega	M
10 ³	kilo	k
10 ²	hecto	h
10	deka	da
10 ⁻¹	deci	d
10 ⁻²	centi	c
10 ⁻³	milli	m
10 ⁻⁶	micro	μ
10 ⁻⁹	nano	n
10 ⁻¹²	pico	p
10 ⁻¹⁵	femto	f
10 ⁻¹⁸	atto	a

Conversion factors from non-SI to SI Units and a more comprehensive listing of units may be found in the ASTM Metric Practice Guide (E 380-76) which is available upon request from ASTM.

CHECKLIST FOR ASTM MANUSCRIPT REQUIREMENTS

Before submitting your manuscript, go over the following checklist to make sure that your manuscript fulfills all of the requirements. This will help us expedite the publication of your manuscript. The page numbers refer to the pages in the ASTM Style Manual where a more detailed explanation is given. When in doubt, consult the ASTM Style Manual.

KEY WORDS and an ABSTRACT are included, p. 4

DOUBLE SPACED, TYPED manuscript and copy is CLEAN and

READABLE, p. 3

ORIGINAL FIGURES or GLOSSY PRINTS are included, pp. 6, 22

TABLES are placed on separate sheets, pp. 8, 30

ABBREVIATIONS are spelled out the first time that they appear

(for example, crack opening displacement (COD)), p. 10

EQUATIONS are typewritten and readable, p. 20

REFERENCES are complete (author, title, publisher, date, pages), p. 27

STANDARDS and TENTATIVES are given completely the first time that

they appear in the text (for example, ASTM Test for Bitumen

D 4-70). Standards are not references and should not be

included in the list of references p. 29

FIGURES, TABLES, and REFERENCES appear in NUMERICAL ORDER

in the text.

A LONG-TERM FIELD STUDY OF VEGETATIVE SUCCESSION
FOLLOWING REPETITIVE APPLICATION OF PHENOXY HERBICIDES*

Alvin L. Young
Department of Chemistry and Biological Sciences
USAF Academy, Colorado

John H. Hunter
Dow Chemical USA
Atlanta, Georgia

A vegetative succession study was conducted on a 2.59 km² military test area (Test Area C-52A, Eglin Air Force Base, Florida) that received 72,993 kg 2,4,5-T and 76,776 kg 2,4-D herbicide during the period 1962-1970. Nine months (June 1971) after the last defoliant-equipment test mission, a detailed survey of the vegetation was initiated. The area was divided into a grid of 169 sections (each 122 by 122 m), and within each section the percentage vegetative coverage was visually ranked as Class 0, 0-5%; I, 5-20%; II, 20-40%; III, 40-60%; IV, 60-80%; and V, 80-100%. Three sections within each class were selected at random and surveyed for dicotyledonous plants. An unsprayed area 0.32 km northwest of the test area was also surveyed. In June 1973, each of these areas was again surveyed, but in addition, a square-foot (0.093m²) analysis technique was performed in 15 additional sections. These sections were randomly selected and within each section, nine areas, each 0.093m², were analyzed for species composition and ground cover density. Both methods of vegetative survey were repeated in June 1976. The number of dicotyledonous species increased from 74 in 1971 to 107 in 1973, and to 123 in 1976. In 1971, 20% of the test area had less than 20% vegetative cover, while 26% of the test area had more than 60% vegetative cover. In 1976, no sections had less than 20% vegetative cover, but over 73% of the test area had a cover of more than 60%. The major grass species were Panicum virgatum L. and Panicum lanuginosum Ell. The major dicotyledon was Diodia teres Walt. in 1971, but was replaced by Chrysopsis graminifolia Small in 1976.

(The data demonstrate the rapid invasion of dicotyledonous species despite the unusually heavy applications of phenoxy herbicides.)

*Abstract for the Weed Science Society of America Meetings, 8-10 February 1977, St. Louis, Missouri, Abstract Number 18.

May 1 deadline

AMERICAN SOCIETY FOR TESTING AND MATERIALS
1916 Race St., Philadelphia, Pa. 19103



OFFER OF PAPER TO ASTM

(Presentation and/or Publication)

Persistence, Bioaccumulation and Toxicology of TCDD in an Ecosystem

Title of Paper Treated with Massive Quantities of 2,4,5-T Herbicide

Author(s) A.L. Young, C.E. Thalke and D.D. Harrison

Is the paper being offered for: Publication ☒ Presentation ☒

PRESENTATION at ASTM Meeting:

a. Meeting for which offer is submitted . October 17-18, 1978.

b. Symposium title Avian and Mammalian Wildlife Toxicology

c. DEADLINE for submission of this offer is 6 months prior to presentation.

PUBLICATION:

a. An ABSTRACT of your paper must accompany this form if it is offered for publication.
See reverse side of this sheet for instructions.

b. Reference any previous publication of the substance of your paper AF Technical Reports
AFATL-TR-75-49, AFATL-TR-75-142, AF Armament Laboratory, Eglin AFB, FL

c. Estimated size of manuscript: Pages text 8 No. of Figs 6

d. Date manuscript will be submitted . 1. September, 1978.

e. Instructions concerning manuscript preparation and transmittal will be furnished to
authors by ASTM Headquarters upon acceptance of this offer form.

AUTHOR OBLIGATION TO ASTM: ASTM reserves the right of first publication of any papers
accepted for presentation. If an author has a paper accepted for presentation he must
not submit it elsewhere for publication without the consent of the Society. If published
by ASTM the paper becomes the copyright property of ASTM.

ACCEPTANCE OF PAPERS FOR PUBLICATION: The acceptance of this offer does not constitute
an acceptance of your paper for publication. Acceptance for publication is the responsi-
bility of the ASTM Publications Committee and is possible only after review of the manu-
script by the Committee in accordance with the Regulations Governing the Publication of
ASTM Papers. Pertinent excerpts from these appear on the reverse side of this sheet.

Signed Alvin L. Young
Alvin L. Young, Ph.D.
Title. Environmental Consultant.
USAF Occupational and Environmental
Organization Health Laboratory
Address. Brooks AFB.
City, State. San Antonio TX 78235.
Phone No. 512-536-3668

Authors address - type on reverse side

15 May 1978

Special Instructions to Authors Offering Papers
for Presentation at an ASTM National Meeting

1. Submit three copies each of this form and ABSTRACT to ASTM Headquarters six months in advance of the meeting.
2. A SUMMARY should be of sufficient length to be informative as to the content and main conclusions of the paper. In effect the SUMMARY should be a short condensation of the paper and be organized in the following categories:
 - a. Object of the research and its significance. ✓
 - b. Brief description of procedures. ✓
 - c. Results and their significance. ✓

Excerpts from ASTM Regulations Governing
Publication of Papers

The acceptance of papers is the responsibility of the ASTM Publications Committee. All papers are subjected to technical review and may also be edited to bring them into conformance with ASTM style and format. In judging the acceptability of a paper for publication, the Publications Committee will give attention to the following ground rules:

- A. The paper must either contribute to the permanent literature or be of immediate interest to ASTM membership.
- B. The contents of the paper must not include material of an advertising nature.
- C. The subject matter must not be of an superficially speculative nature.
- D. The paper must not be seriously defective as to literary form and structure, continuity of thought, clarity of expression, etc.
- E. The substance of the paper should not have been published previously in the open literature.

ADDRESS OF CO-AUTHORS

Dr Charles E. Thalken

USAF Occupational and Environmental
Health Laboratory

Brooks AFB TX 78235

Mr Don D. Harrison

Environics and Human Factors Office
Air Force Armament Laboratory

Edlin AFB FI 32542

Absence of TCDD Toxicity to a Rodent Population

Following Massive Field Application of

2,4,5-T Herbicide*

Charles E. Thalken, DVM, MS; William E. Ward, PhD

Alvin L. Young, PhD

USAF Academy, Colorado

Field investigations were conducted on populations of beach mice, Peromyscus polionotus, and hispid cotton rats, Sigmodon hispidus from a unique 1 square mile military test site (Test Area C-52A, Eglin AFB, Florida) that was sprayed with 160,948 pounds of active ingredient 2,4,5-trichlorophenoxyacetic acid herbicide (2,4,5-T). Significant levels (10-710 parts per trillion - ppt) of the contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) were found within the top 6 inches of test site soils although 10 years had elapsed since the last aerial application of 2,4,5-T. Liver tissue from rodents inhabiting the test site contained 210-1,300 ppt TCDD. However, no gross or histological evidence of teratogenesis or toxicity was found in 122 adults and 87 fetuses. An analysis of variance of liver and spleen weights for the beach mouse indicated significant differences between control and TCDD-exposed animals. Analysis of plant seeds revealed no detectable levels of TCDD (minimum detection limit of 1 ppt TCDD). TCDD accumulation in liver tissue was thought to be associated with pelt contamination from burrowing and subsequent ingestion of soil particles via grooming.

* Presentation to the American Veterinary Medical Association, 112th Annual Meeting, Anaheim, California, 16 July 1975, Abstract Number 81.

RELATED ASTM PUBLICATIONS

Surface Analysis Techniques for Metallurgical Applications, STP 596 (1976), \$15.00 (04-596000-28)

Metallography—A Practical Tool for Correlating the Structure and Properties of Materials, STP 557 (1974), \$24.25 (04-557000-28)

ORDER FORM

Please send:

_____ copies STP 643 Quantitative Surface Analysis of Materials
Publication Code No.: 04-643000-39

_____ copies STP 596 Surface Analysis Techniques for Metallurgical Applications
Publication Code No.: 04-596000-28

_____ copies STP 557 Metallography—A Practical Tool for Correlating the Structure and Properties of Materials
Publication Code No.: 04-557000-28

☐ Bill Me ☐ Bill Organization

All orders under \$6.00 must be prepaid. All foreign orders except those originating from the following countries must be prepaid: Canada, Ireland, Great Britain, France, West Germany, Belgium, Netherlands, Norway, Sweden, Denmark, Finland, Austria, Switzerland, Italy and Japan.

3% shipping will be added for U.S., Mexico and Canada. 5% foreign shipping will be added. Sales tax of 6% in Pa. 4% in Md., and 6% in California will be added.

Member prices are only on orders billed and shipped to member address of record.

Returns are accepted for only damaged books or orders improperly filled.

Please check if you would like more information on ☐ how to keep up-to-date with the latest
ASTM standards actions and activities

Y

☐ ASTM Membership, and membership benefits.

NOTE: If using company purchase order, attach this form and order by publication code number.

Quantity discounts are available for bulk purchase, inquire by calling or writing to M. Holst, Sales Service Department, ASTM, 1916 Race St., Phila., Pa. 19103, 215-299-5446.

Your order is expeditiously handled if you use this form with label attached.

RETURN TO:

American Society for Testing and Materials
1916 Race Street
Philadelphia, Pennsylvania 19103
ATTN: Sales Service Department

Moved?

DR A L YOUNG/CONSULT 25505
U S AIR FORCE
WHL/SW
BROOKS AFB TX 78235

QUANTITATIVE SURFACE ANALYSIS OF MATERIALS

SPECIAL TECHNICAL PUBLICATION 643

Edited by: N. S. McINTYRE
Atomic Energy of Canada Limited

217 Pages—6 x 9—Hard Cover—Price: \$21.50; less 20% to ASTM Members
Available: February 1978 Publication Code No.: 04-643000-39

In the past ten years, techniques have become available which make possible the elemental analysis of the first few atomic layers of a solid surface. Detection sensitivities of better than one tenth a monolayer are possible with Auger electron spectroscopy (AES), X-ray photoelectron spectroscopy (XPS), and ion scattering spectroscopy (ISS). Even higher sensitivities are often obtainable using surface ionization mass spectrometry (SIMS). STP 643 attempts to define the present state of knowledge in the use of these four surface techniques for quantitative analysis.

Theoretical and experimental studies of quantitation are given equal prominence in this book. It is unlikely that surface analysis standards will be capable of exactly reproducing the surface complexities of most real specimens. Intensity data for known surface complexities will have to be modified using a theoretical approach. Theoretical models are developed for quantitative analysis using these techniques and the results obtained are compared with the experiment. Many experimental papers deal with materials such as alloys, semiconductors, and glasses, commonly encountered specimens in most problems involving surface analysis.

It is believed that this book is the first collective treatment of the problems of quantitation in surface analysis, and will provide a good introduction and source of further references to those interested in quantitation.

CONTENTS

Introduction

Quantitative Analysis Using Electron Spectroscopic Methods

The Physical Basis for Quantitative Surface Analysis by Auger Electron Spectroscopy and X-Ray Photoelectron Spectroscopy—C. J. Powell
Discussion

How Quantitative is Electron Spectroscopy for Chemical Analysis? An Evaluation of the Significant Factors—C. D. Wagner
Discussion

Some Aspects of Quantitative Surface Analysis by Electron Spectroscopy for Chemical Analysis—L. V. Phillips, Lawrence Salvati, W. J. Carter, and D. M. Hercules
Discussion

Quantitative Comparison of the Doubly Integrated KLL Auger Spectra of Magnesium, Aluminum, and Silicon with Their Oxides—R. W. Springer, T. W. Haas, and J. T. Grant

In Situ Auger Electron Spectroscopy Tensile Fracture Study of Nickel Alloys—J. M. Walsh, K. P. Gumz, and N. P. Anderson

Electron Spectroscopy for Chemical Analysis Examination of Rare Earth and Near Rare Earth Species—T. L. Barr

The Use of Soft X-Ray Photoemission Spectroscopy to Study the Adsorption of Oxygen on the (110) Surface of Gallium Arsenide and Gallium Antimonide—Piero Pianetta, I. Lindau, and W. E. Spicer

Quantitative Analysis Using Ion Induced Methods

Quantitative Analysis by Secondary Ion Mass Spectrometry—D. E. Newbury
Discussion

Quantitative Analysis of Alloys and Thin Films Using Ion Scattering Spectroscopy—W. L. Baun

Surface Analysis of Polymer and Glass—G. R. Sparrow and H. E. Mishmash

Secondary Ion Mass Spectrometry and Auger Electron Spectroscopy Semiquantitative Analysis of Metal Alloys—L. E. Davis and R. L. Gerlach

X-Ray Photoelectron Spectroscopy and Secondary Ion Mass Spectrometry: A Multitechnique Approach to Surface Analysis—A. Shepard, R. W. Hewitt, W. E. Baitinger, G. J. Slusser, Nicholas Winograd, G. L. Ott, and W. N. Delgass

Summary

Index

TITLE SUBMISSION FORM FOR 1979 WSSA MEETING

SECTION: _____ (1st choice) _____ (2nd choice)

TITLE AND AUTHORS (Follow examples shown in Newsletter):

CUT HERE

CORRESPONDING AUTHOR:

Name:

Address:

Telephone:

☐ Check for
Poster Session

CUT HERE

TITLE SUBMISSION FORM FOR 1979 WSSA MEETING

SECTION: _____ (1st choice) _____ (2nd choice)

TITLE AND AUTHORS (Follow examples shown in Newsletter):

CUT HERE

CORRESPONDING AUTHOR:

Name:

Address:

Telephone:

☐ Check for
Poster Session

TITLE SUBMISSION FORM FOR 1979 WSSA MEETING

SECTION: _____ (1st choice) _____ (2nd choice)

TITLE AND AUTHORS (Follow examples shown in Newsletter):

CUT HERE

CORRESPONDING AUTHOR:

Name:

Address:

Telephone:

☐ Check for
Poster Session

CUT HERE

TITLE SUBMISSION FORM FOR 1979 WSSA MEETING

SECTION: _____ (1st choice) _____ (2nd choice)

TITLE AND AUTHORS (Follow examples shown in Newsletter):

CUT HERE

CORRESPONDING AUTHOR:

Name:

Address:

Telephone:

☐ Check for
Poster Session

SECOND AND FINAL CALL FOR PAPERS 1979 MEETING

You are invited to submit a title for a paper at the 1979 WSSA meeting to be held in San Francisco, CA. The call for papers will be made only in April and July issues of the WSSA NEWSLETTER. You will not receive a separate mailing.

PROCEDURE FOR SUBMITTING TITLES

If you plan to present either a volunteer or invited paper at the 1979 WSSA meeting, please use the forms on the next page and distribute them as follows:

2 copies to General Program Chairman (**J. R. Hay**);

1 copy to sectional chairman of your first choice; 1 copy to retain for your file.

Indicate your first and second choice sections on the form.

Type title, authors, organization and location exactly the way they are to appear in the printed program. If more than one author is listed, place asterisk (*) after the name of the author who is to present the paper.

EXAMPLES FOR PAPER TITLES

Influence of No-Tillage Corn on Soil Characteristics, R. L. Blevins and C. E. Rieck*, University of Kentucky, Lexington.

Control of Weeds by Insects. L. A. Andres, Agri. Res. Serv., U.S. Dept. of Agri., Albany, CA

Movement and Absorption of Bentazon in 12 Illinois Soils. J. R. Abernathy*, Velsicol Chemical Corp., Chicago, Ill., and Loyd M. Wax, Agri. Res. Serv., U.S. Dept. of Agr., Urbana, IL

Metabolism of the Experimental Herbicide 2,5-Dimethyl-1-pyrrolidine Carboxanilide in Corn and Weeds. R. E. Holm*, D. E. Stallard and A. L. Wolfe, Diamond Shamrock Corp., Painesville, OH, and S. S. Szabo, Boyce Thompson Inst., Yonkers, NY

PROGRAM CHAIRMEN FOR 1979 WSSA MEETING

General Program Chairman

J. R. Hay, Weed Research Station, Box 440, Regina, Sask.

I. Agronomic Crops

L. R. Rogers, LSU Northeast Exp. Station, St. Joseph, LA 71366.

II. Horticultural Crops

C. L. Elmore, Department of Botany, University of California, Davis, CA 95616

III. Turf & Ornamentals

J. F. Ahrens, Connecticut Agricultural Experiment Station, Box 248, Windsor, CT. 06095.

IV. Pastures, Rangelands, Rights-of-way & Industrial Sites

J. B. Grumbles, Dow Chemical Co., 12700 Park Central Place, Suite 600, Dallas, TX 75251.

V. Aquatic & Marginal Weeds

D. L. Sutton, University of Florida, 3205 S.W. 70th Ave., Fort Lauderdale, FL 33314.

VI. Regulatory Aspects

J. D. Coley, Division of Plant Industry, Mississippi Dept. of Agriculture, Box 5207, Mississippi State, MS 39762.

VII Teaching and Extension

J. O. Evans, Plant Science Department, Utah State University, Logan, UT. 84321.

VIII. Equipment & Machinery

M. R. Gebhardt, U.S.D.A. 102 B, Bldg. T-12, University of Missouri, Columbia, MO 65201.

IX Ecology

S. R. Radosevich, Botany Department, University of California, Davis, CA. 95616.

X. Physiology

B. Truelove, Botany Department, Auburn University, Auburn, AL 36830.

XI. Soil Aspects

C. S. Helling, Pesticide Degradation Laboratory, U.S.D.A. Agricultural Environmental Quality Institute, Beltsville, MD 20705.

XII New Developments from Industry

J. D. Riggleman, Biochemicals Dept., E. I. DuPont de Nemours & Co., Wilmington, DE 19898.

TIME SCHEDULE FOR PAPERS

August 1 - Deadline for receipt of titles from authors

August 15 - Request for abstract, instructions and forms to all corresponding authors

September 15 - Abstract due to General Chairman

October 15 - Speaker notification cards sent to speaker

November 15 - Printed program and preregistration forms mailed to members and speakers

DEADLINE FOR SUBMISSION: August 1, 1978

Resistance, Bioaccumulation and Toxicology of
TCDD in an Ecosystem Treated with
Massive Quantities of 2,4,5-T Herbicide

A.L. Young, C.E. Thalken and J.D. Harrison

Publication X Presentation X

October 17, 18, 1978

AVIAN AND MAMMALIAN WILDLIFE TOXICOLOGY

5b. Air Force Technical Reports AFATL-TR-78-49, AFATL-TR-78-142,
Air Force Armament Laboratory, Eglin AFB, Florida.

5c

8

6

5d. 1 September 1978

7

Environmental Sciences Consultant

512-536-3668

ON BACK

Dr. Charles E. Thalken
USAF Occupational and
Environmental Health Laboratory
Barks AFB TX 78235

Mr. Don D. Harrison
Environics and Human
Factors Office
Air Force Armament
Laboratory
Eglin AFB FL 32542

Seeds } (3)
leaves
roots

Deer, Opossum, Rabbit, Raccoon, Rat
Meadowlark, Dove, Sparrows

(5)
(3)

Dragon Beetles
Grasshoppers
Crickets
Insect larvae

} Insects

(4) species
insects

~~Goatsuckers~~ Water moccasins
, Raccoons

- reptiles, 1

(3)

Tadpoles, Toads, Frogs,

amphibians, tadpoles

(3)

Fish

Catfish

Crayfish

Oysters

Bass

Sunfish

Pickeral

Spotted Sucker

Mosquitofish

Sailfin Shiner

Snails }
Oysters

(2)

Observed
collected / analyzed
Positive

29 species of
Animals

Meeting of the
Abstract, American Society for Testing Materials,
New Orleans, LA, 18-19 OCTOBER 1978.

Persistence, Bioaccumulation and Toxicology of TCDD
IN AN ECOSYSTEM TREATED WITH MASSIVE
QUANTITIES OF 2,4,5-T HERBICIDE.

A. L. Young, C. E. Thacker AND D. D. Harrison

(1973-1978)

Field investigations were conducted on a 2.59 km² military test area (Test Area C-52A, Eglin Air Force Base, Florida) that received 72,483 kg 2,4,5-T herbicide during the period 1962-1970. Significant levels (<10 to 1,500 parts per trillion - ppt) of the contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) were found within the top 15 cm of test site soils, although ^{during the first year of study} 10 years had elapsed since the last aerial application of 2,4,5-T. Levels of TCDD in the soils ^{five} ~~five~~ years later ⁽¹⁹⁷⁸⁾ varied from <10 to 980 ppt.

1970 - 1978

Dec. 1970

1970 - 8.7 ppb 2,4,5-T
 < 1 to 750 ppb ~~bio~~ bioassay
 and < 0.1 to 8.7 ppb chemical
 analyses

In ~~Feb~~ ~~1973~~ 1973/74 the first
Analysis of the TCDD in 1973/74

TCDD in Air and Biological Samples: IAS 728

Sample No.	AFATL - 101	Beer Juice	102	Beer Juice	103	Beer Juice	101 & 103	Foot & Mouth to run	n.d.	4	X-Axis 1000	745-761	Proteinase Inhibitor	740-763	Beer Juice	50	7	V-2	H-S-7 Juice	9	67	n.d.	9	10	V-5	"	V-5.5	"	12	V-4	"	13	W-4	"	14	X-3	"	15	X-5	"	16	103	Beer Juice	17	R-S-6	At 21	"	18	PQ-9	"	19	100'E, PQ-9	"	20	QR-7	"	21	PQ-7	"	22	Q-7-8	"	23	PQ-8	"	24	50'S 0P78	"	25	P-52	"	26	n.d.	4	38
1	AFATL - 101	Beer Juice	102	Beer Juice	103	Beer Juice	101 & 103	Foot & Mouth to run	n.d.	4	X-Axis 1000	745-761	Proteinase Inhibitor	740-763	Beer Juice	50	7	V-2	H-S-7 Juice	9	67	n.d.	9	10	V-5	"	V-5.5	"	12	V-4	"	13	W-4	"	14	X-3	"	15	X-5	"	16	103	Beer Juice	17	R-S-6	At 21	"	18	PQ-9	"	19	100'E, PQ-9	"	20	QR-7	"	21	PQ-7	"	22	Q-7-8	"	23	PQ-8	"	24	50'S 0P78	"	25	P-52	"	26	n.d.	4	38

Table Cont.

Sample No.		TCDD ppt	Limit of Detection, ppt
26	Opossum liver	n.d.	10
27	Opossum fat and mammary tissue	n.d.	10
28	V-4, 50'W HS-7	22	
29	V-4, 75'NW HS-7	66	
30	X-4, 100'S HS-7	1300	
31	U-5.5, 100'NE HS-7	n.d.*	15
32	X-4, 25'W HS-7	170000**	

TCDD - 2,3,7,8-Tetrachlorodibenzo-p-dioxin

ppt - parts per trillion

n.d. - Not detected. Limit of detection calculated as 2.5 times noise is reported for these samples.

* - Samples 17 and 31 gave a peak just before the TCDD retention time which reduced the sensitivity for TCDD. The interference in 17 and 31 was not due to the same compound.

** - 0.17 ppm



ASTM, 1916 Race St., Philadelphia, PA 19103 (215) 299-5400

17 November 1978

Mr. Alvin L. Young
USAF
5226 Prince Valiant
USAF Occupational & Environmental
Health Lab.
Brooks AFB, TX 78325

Thank you for attending the recent Symposium on Aquatic Toxicology sponsored by ASTM held in New Orleans.

I would like to extend an invitation to you to consider membership in ASTM. An application form and a pamphlet "Questions Most Frequently Asked About ASTM" are enclosed. If I somehow misread your registration slip and you are already a member, or have recently applied for membership, please accept my apologies and help me extend a real service by passing this application on to one of your colleagues.

The Society has two classes of membership. An individual membership at \$35.00 per year; an organizational membership at \$300.00 per year. An individual member receives one free part of the ASTM Book of Standards, and may purchase up to 5 parts at a 20% discount. An organizational membership also receives the free part benefit and may purchase up to 47 parts at a 20% discount.

In addition to the above, there are many other tangible benefits of membership--the monthly magazine, Standardization News, affiliation with technical committees of your choice, reduced rates on ASTM journals and Special Technical Publications.

There are also significant intangible advantages of membership--the professional contacts with others in your fields of interest. As a member, such contacts can be almost everyday occurrences through new member acquaintances, committee work, and other participation in the Society and its activities--even life and health insurance at attractive group rates.

The next meeting of Committee D-19 will be held 28 January - 2 February 1979 in Ft. Lauderdale, Florida at the Galt Ocean Mile Hotel.

The next meeting of Committee E-35 will be held 2-5 April 1979 during April Committee Week in Philadelphia, Pennsylvania at the Sheraton Hotel.

I look forward to your completing the committee application and becoming a participant in the Society's activities.

A handwritten signature in cursive script, reading "Roberta J. Kilmartin", is positioned above the typed name.

(Mrs.) Roberta J. Kilmartin, Manager
Member, Committee, and Sales Services

RJK/dmr
Enclosures: Committee Application
"questions most frequently asked about astm"