

Crew members dip their
fingers into vats of herbicides
and lick them off to prove they
are harmless to people.

Author Gronzaler

Code # 5088

Page (s) 13

5091

"In Nov. [1970], it was revealed that the 90th Chemical Attachment [sic] in Quang Ngai province had, in fact, continued to use Agent Orange and had defoliated thousands of acres in spite of the ban."

in Spring 1970 Agent
Orange use was suspended
after some 60,000 tons
had been dispersed.

Sen. Gaylord A. Nelson of
Wisc reports that "The
U. S. has sprayed [in South
Vietnam] enough chemicals to
amount to six pounds for
every man, woman and child in
that country.

"Technology and firepower have now allowed America to wage a wider war while reducing its own casualties, and thus hardly notice what it is doing."

Discusses study by the
Comm of the National Academy under
Anton Lang.

88% of all live mice for
Debalter, 9% for crop, 3%
other (49)

Damage to inland forests has been
" widespread & serious." (50)

" The committee found no hard
evidence of human illness or of congenital
malformations attributable to the
herbicides ... " (50)

however cites reported stories of
residents of sickness & death following
spraying of hamlets & fields. (50)

"Elsewhere, special warfare men were showing Vietnamese fliers how to spray Communist-held areas with a chemical that turns the rice fields yellow, killing any crop being grown in rebel strongholds."

1962

V-5094, 40

"To minimize the Viet Cong propaganda charge that the aircraft are engaged in 'bacteriological warfare,' the Air Force also often alerts the population of an area well before the spray aircraft arrives so that they can evacuate if they desire.

Unfortunately, the notice also serves to alert the Viet Cong gunners."

(89)

Cecil Brownlow

"Viet Ground Effort Keyed to Airlift Base."

Aviation Week & Space Technology 86 (8 May 1967)

87-96

Resolutions of AAAS Council in
Dec 1966

Author _____

Code # 5097

Page (s) 129

AAAS results from HAC
(Herb Assessment Comm)

but some argue (43)

Dec 1970

Gives members of the
study Comm.

Author

B

Code #

5099

Page (s)

The old USS Constitution, under the
command of Capt John ("Mad Jack") Percival,
was in Asian waters when he learned
that the Vietnamese were about to execute
the French Bishop Dominique LeFebvre in
Hué. Percival put into Da Nang,
the nearest port, on 10 May 1845,
landed a Marine Detachment & captured
several high VN officials. He held
them hostage for 4 days until,
Hué assured him that the Bishop
would not be harmed.

Author TranCode # 5101Page (s) 85 : 755Use for
intro

Gen. J. Franklin Bell "authorized
the status of hostile belligerents,
whether armed or not,"...

in the Batangas campaign
in the phil. insurrection

See Senate Doc No. 331 p. 1044 (approx)

Author TRAN

Code # 5101

Page (s) 754-55

vol 85
no number.

Fairchild proposed the M-541 design for an interim STOL using the basic C-123K, but the engines would be GE T64/P4C turbo props, delivering 3,310shp and improved wide-track gear and brakes.

Author Weiss

Code # 5102

Page (s) 32

The first specially trained
Air Commando crews went to
South VN in the fall of 1961 on
an "advisory mission".

7 separate air arms operated in VN

Royal Australian AF

Air America (CSA)

Army

Navy

Marines

VNAF

7th Air Force

Author Weiss

Code # 5102

Page (s) 30

1961

Getting a request through
channels rarely takes less
than a week & ~~usually~~ can
take 5 to 6 months.

Author Pinder

Code # 5105 5105

Page (s) 1

K

calls the C-123 "surely
the largest, most expensive, and
least maneuverable of all the
world's crop dusters."

Author Pruden

Code # 51055105

Page (s) 1

A

When VC propagandists spread
word that the chemical would
kill the soil and that good
fruit & vegetables wouldn't
grow in the poisoned soil,
the farmers quit planting.

Prop. backfired on VC

Author

Praden

Code #

51055105

Page (s)

1

P

Came to Vietnam on 29 Nov 1961
from Clark.

Began spraying a test section
along Highway 15 between
Bien Hoa and Vung Tau
(old French name, Cap St. Jacques)

Author Pruden

Code # 51055105

Page (s) 1

T
12

Only 60 sorties flown in
Nov & Dec 1961.

Only 107 sorties in all of 1962

Detol. canals & rivers in
Mekong Delta and a
Mountain Pass near
Qui Nhon.

Author

Pruden

Code #

51055105

Page (s)

1

1961

1962

61

62

Pruden, Wesley, Jr.

5105

"Defoliating the Jungles in Vietnam."

National Observer, 5 (28 February 1966), 1, 10.

1:2-5, 10:1-3

N/307

notes - Copy in 7165, ind 4

309th Special Spray Flight. 5105

Cdr Maj Ralph C. Dresser

has 18 pilots under him.

"None, apparently, was grounded
for the job. Major Dresser's pilots
include a former B-47 jet pilot, a
couple of men who flew the four-engine
Constellation passenger plane; one
pilot's last job was teaching
English at the Air Force Academy
in Colorado Springs."

Author

Praeger

Code #

5105 5105

Page (s)

1

B
65

309 Spry FH HQ "is a fast-
5105
stained Quonset hut at the edge
of Saigon's hurly-burly TAN Son Nhut
Airport, tucked away in the
midst of Prime Minister Nguyen
Cao Ky's "coup squadron"

Author Pruden, Wesley, Jr.

Code # 51055 105

Page (s) 1

recent mission

5105

"spray job on a patch of dense
junglelike growth along the national
rail line above Qui Nhon."

4 plane mission led by Presser

3 silver, 1 with new color
scheme of brown & green.

dozen or so guerrillas pop out
& open fire — too late they
see the 3 A-1 Skyraiders

Author

Prader

Code #

5105

Page (s)

10

M
65

" Tiny red patches speckle the
309's planes ... give the
planes the look of a bearded
whale all speckled with mackerel.
Each patch covers a bullet hole:
within 18 months, these same
planes have taken more than
900 hits, and nobody in Vietnam
doubts the fact that the 309's
is far and away the most
shot-at squadron in the war."

Author Pruden

Code # 5105 5105

Page (s) 10

28 Feb 66

L

65

War Zone C

Tay Ninh Prov.

War Zone D

Long Khanh Prov

Author W

Code # 5106

Page (s) 57

Considers that the AAAS study has "unequivocally" settled the question of chemical defoliants.

Says study shows "catastrophic ecological effect" in VN.

Proves "the great influence...on war policy" which can be exerted by the intellectual community.

Author defo
Code # 5107 5107
Page (s) 363

Winchester, James

H.

5110

"Cargo Planes in the Vietnam War."

NATO's Fifteen Nations 11 (Aug-Sep 1966), 50-53.

(Holland)

Ordered
13 Sat
Unfilled: Cost
22 July

STACKS

notes

" They are members of the Special Aerial Spray Flight of the 309th A - C - S - , who claim the distinction of being the most shot at aircraft operating over South Vietnam. As they lumber over targets, they're sitting ducks for ground fire as they follow a precise, unwavering track that prevents any evasive tactics. One of their planes has been hit 290 times in the last six months alone. "

Author Winchester

Collection # 5140

Page (s) 53

VC propagandists insist that we
highly poisonous. "Frequently their
troops refuse to go into an area that
has been sprayed. And they tend
to attribute any sudden illnesses to
exposure to the "toxic" chemicals."

"One report has it that the V-
C are so serious about their
poison spray propaganda that they
prescribe rather harsh treatment,
involving regurgitants and stomach
pumps, for those who are exposed."

The treatment will definitely make
the patient sick.

Author Becker

Code # 5111

Page (s) 6

" government propagandists
are said to wash their
faces in the defoliant to
prove [to villagers] its
harmlessness. "

Author Becker

Co: # 5111

Page (s) 6

5111
Although initial defol was not too
encouraging, improved procedures
cause more requests for defol.

"Now it is not uncommon to hear
U.S. officers just returned from the
battle complain that not enough
defoliant was available in China area,
or that it took too long to get
clearance to use herbicide even if
it was available."

Author Beecher

Corle # 5111

Page (s) 6

" Since 1675, in fact, many of the World's leading powers have attempted to outlaw chemical and biological warfare in a series of treaties and protocols. Germany, France, Russia, Austria-Hungary and Great Britain all had announced they would adhere to such a ban agreed to in the Hague Treaty of 1899; the U.S. refused to go along, on the theory that such an international agreement would not stand up in time of war. As it turned out, all the above-named countries used poison gas in World War I before the U.S. entered the war. "

Author

Boeder

Code #

5111

Page(s)

5

L-19 of 4 Int Div 4th Quartermaster
Co. spraying chemical agents
from 2 wing mounted dispensers
in the picture at top of page

1966

Author BeecherCo'se # 5111Page (s) 5

Cites George W. Merck's speech to the George Westinghouse Educational Foundation Forum, 16-18 May 1946,

"more than 1000 different chemical agents were tested on living plants." (663)

Although the work promised great benefit to agriculture, "the work was initiated to find destructive agents against various crops and was successful. Only the rapid ending of hostilities prevented field trials in an active theater of war." (663)

Author "Science..."

Code # 5113

Page (s) 663

Although public announcement of 2,4-D wasn't until 1944, by 1946 more than 30 preparations in various forms were available on the market.

Author Hildebrand

Code # 5114

Page (s) 467-68

5115

5115

Notes that a study of the persistence of growth regulators in the soil found that "2,4-D did not persist in soil for more than 80 days ..."

Author US Dept. of Army

Code # 5115

Page (s) 469

Production of dioxin
contaminant due to
high temps for making
2,4,5-T which is
due to push to
up production

Author

W

Code #

5111

Page (s)

9-10

" refutes claims of human birth defects from TCDD even under high concentrations of the dioxin. Reggiani reported no derangement of the gestation, no foetal lethality and loss, no gross malformations, no growth retardation at term and no cytogenetic abnormalities resulting from the Seveso [Italy] accident. "

(cited in Conrad typescript, pp 6-7)

see Reggiani, Journal of Toxicology and Environmental Health 6 (Jan 1980) p 27-43.

Author G. Reggiani

Paper delivered to the 20th Congress of the
Code # European Society of Toxicology in 1978

5119

Page (s) _____

OF 204 persons ^{examined who were.} exposed to 2,4,5-T
during manufacture during 1950-1971

the study found "no adverse
effects ... with respect to
occupational exposure to 2,4,5-T."

[cited in "Agent Orange Bulletin," 1
(Dec 1980), 2]

exposure ranged from less than
1 year to approx. 10 years.

Author OTT

Code # 5118

Page (s) 47-50

Study of 121 exposed workers who developed chloracne as a result of the 8 Mar 1949 Nitro, WV Monsanto accident shows

"no apparent excess in total mortality or in deaths from malignant neoplasms or diseases of the circulatory system."

Study covers period of almost 30 years from exposure.

Small sample makes results to not be considered conclusive.

cited in Agent Orange Bulletin 1 (Dec 1980), 2.

Author Zack

Code # 5117

Page (s) 11-14

picture shows a malaria
eradication team in Vietnam
loading insecticide spraying
equipment on elephants in a
remote area north of Saigon.

Author Hinterhoff, E.

Code # 5122
"The Five Options in Vietnam"

NATO & Fifteen Nations II (Apr-May 1966), 21-26

Page (s)

25

November 1963

USAF C-123 aircraft eliminated a devastating plague of "Bombay" locusts in Lopburi, Thailand. More than 80,000 acres of farm crops were saved from destruction by thousands of gallons of air-sprayed insecticide, preventing a possible national disaster.

Author "The Pacific Air Forces"
Air Force and Space Digest 47 (Sept 64) 100-3.
Code # _____
Page (s) 103

51283

Geoffrey Warner "The United
States and Vietnam 1945-65, Part II:
1954-65 International Affairs 48 (1972):
593-615

Kennedy reportedly had something
of an obsession with counter-
insurgency warfare.

Author Warner

Code # 5136

Page (s) 599 n. 32

Bernard B. Fall "This isn't
Munich, it's Spain: A Vietnam Album."

Ben Cat almost completely
destroyed by accident

3000 acres transformed into the
tropical equivalent of a winter
forest.

RAMPARTS 4 (^{September} 1965), 23-29

Author Fall

Code # 5137

Climbing the stairway of war escalation the American aggressors disregard morality, conscience and international law. (92)

"Neo Lao Hak Sat, a representative of the Party Central Committee, informed the world public that at the end of March and the beginning of April of this year American aviation sprayed toxic chemicals over a number of regions in Lower Laos. . . . approximately 200 people died." (92)

"The expenditure of chemical agents in South Vietnam is increasing continuously. The losses from these agents are also increasing. Whereas in 1965 the number of victims of toxic chemicals amounted to 150,000 people, in 1966 the number of people poisoned increased to several hundred thousand." (92)

"Dinitroorthocresol (Russian abbreviation: DNOK) - is a yellow powder which is a derivative of nitrophenol." (This was under the heading of "The toxic characteristics of some of the weed and pest killers being used in Vietnam are described in the following data.") (90)

Maj. Gen. S. Azar'yev, "Employment of Chemical

Author Weapons in South Vietnam by the American Interventionists, Foreign Press Digest [

Code # translations from Voyennaya Mysl' (Military Thought) 8 (August 1968)], 88-92. 0019/70 -

Page (s) 30 Mar 1970 (Monthly organ of the USSR

Ministry of Defense.

Herbicide costs (includes shipment and storage costs)

<u>AGENT</u>	<u>COST/GALLON</u>
WHITE	\$7.78
ORANGE	\$7.24
BLUE	\$2.31

Source: Conversation June 1971:

Mr. Carlton W. Carter, USAF Deputy Chief of
Staff, Systems and Logistics, Washington, DC.

cited in:

Howard

Author _____

6007

Code # _____

44

Page (s) _____

Table II-1: Composition and Use of Selected Agents²

<u>AGENT</u>	<u>COMPOSITION</u>	<u>USES</u>
ORANGE	50% 2,4-D(n-butyl,2-4 dichlorophenoxyacetate) 50% 2,4,5-T(n-butyl,2,4,5-trichlorophenoxyacetate)	General defoliation: mangrove, jungle, and low-land scrub trees.
WHITE	20% Picloram (4-amino-3,5,6-trichloropicoline acid) 80% 2,4-D (trisopropanolamine)	General defoliation: Slower acting but more persistent than ORANGE
BLUE	3 pounds per gallon of water of: 65% cacoclylic acid 35% inert ingredients: sodium chloride, sodium sulfate, calcium sulfate and water.	Crop destruction: Most effective against grassy plants, rice, manioc, corn, and banana trees.

² DA TC 3-16, Employment of Riot Control Agents, Flame Smoke, Antiplant Agents, and Personnel Detectors in Counter-Guerrilla Operations, p. 80-81, April 1969.

Table II-2: Herbicide Dissemination Rates

<u>Mission Type</u>	<u>Rate</u>
Defoliation	Three gallons/acre
Crop Destruction	One and one-half to three gallons/acre

(DA TC 3-16, 1969)

Author Howard

Code # 6007

2006

6007

Other methods of delivery of herbicides:

3-gallon hand-pump sprayer (14)

M-106 riot control dispenser (14)

boat-mounted spray systems (14)

AGAVENCO agricultural sprayer mounted on UH-1
has 200 gallon capacity tank, but the addition of
2 door gunners, a systems operator, and a second
pilot cut the Huey's lift capability to such an extent
that the normal herbicide load was only 100 gallons. (16)

Lt Col. Derry

Roma Plow (21-26)

Slash and Burn (using indigenous personnel) (28-30)

Firebombing

uses thickened fuel (napalm)

Army uses M-4 fuel thickener, and gasoline delivered
in slings below a CH-47 Chinook in 55 gal drums (30-32)

Author Howard

6007

Code # 14-16

2009
Following the successful tests of inorganic defoliants in aerosol form in the Florida Everglades during 1945, the Army recommended that ammonium thiocyanate be used in the Pacific theater as a substitute for explosives to deny the Japanese the concealment offered by tropical rainforests on some Pacific islands. The recommendation was not acted upon due to the fear of possible repercussions arising from this agent's association with chemicals of the cyanide family. The war ended before a more suitable agent could be tested adequately.

Author Howard

6007

Code #

2000
C Although defoliation helicopters were supposed to be supported by two Cobras (AH-1G), on many occasions they were not available. "...this lack of security did not curtail the missions."

cite conversations with:

LTC Manuel L. Sanches and LTC Robert G. Rudrow, USA,
Office of the Assistant Chief of Staff for Force
Development, Washington, D.C.

Author Howard

Code # 6007

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