

2009
Following WWII, the chemical industry further developed a number of compounds for vegetation control. Such chemicals as picloram, bromacil, cacodylic acid, and paraquat enjoyed widespread use. These herbicides were more effective, more selective, and less hazardous than compounds previously in use.

By 1950, the herbicide market was 1.5 million dollars. Before the extensive purchase of certain agents by the military in RVN, the 1965 market exceeded 210 million dollars.

In 1959 alone, 53 million acres of agricultural lands were treated in the US, in addition to the thousands of acres sprayed by government agencies and private interests to control vegetation along highways, powerlines, fire breaks, and water~~way~~ drainages.

see House, 3009.

Howard

Author _____

6007

Code # _____

6007
Yearly operations cost for a squadron of 12 UC-123K a/c
in PACAF was given as 8.4 million \$. Thus the operating
cost per a/c was \$700,000.

Source: Capt. James A. Wallace, USAF, Office of the
Comptroller of the Air Force, Washington, DC

cited in Appendix A, p. 116

Author Howard

Code # 6007

Page (s) 116

2006

6007

HC-123K

Modification Costs:

Installation of Hayes AA-45 system. 51 a/c modified. (116)

hardware...1.4 million \$
installation.....3 million \$
initial spares.....2 million \$
1.9 million \$

Engine modifications. 183 a/c modified ,(116)

\$36.1 million.....hardware
\$11.2 "initial spares
\$ 8.1 "installation
\$55.4 "

Armor plating. 31 a/c modified. (117)

\$400,000.....hardware
\$100,000.....initial spares
\$100,000.....installation
\$600,000

Source: Miss Joyce E. Lucky, USAF Office of the Deputy
Chief of Staff, Systems and Logistics, Washington,
DC.

cited in Appendix A, pp. 116-117.

Author Howard

Code # 6007

Page (s) 116-17

2009

6007

'On 7 October 1970, Public Law 91-441 directed the Secretary of Defense to prepare a study to identify the role of herbicides in support of combat operations and evaluate their utility in RVN. It also required him to contract with the National Academy of Sciences (NAS) for a comprehensive study to determine the ecological and physiological effects of the herbicide program in RVN. By 1 March 1972, the Secretaru of Defense was required to trasmit the DOD findings together with the NAS study to the President and the Congress."

Howard

Author _____

6007

Code # _____

12-13

Page (s)

2000

6007

"Crop destruction targets were subject to special scrutiny so that the most harm would be done to the VC and the least to the local inhabitants. A commission was established to compensate and reimburse those people who had suffered financial loss as a result of herbicides. Although friendly areas were never specifically targeted, some spray did occasionally drift causing damage to rice crops or rubber trees. U.S. authorities attempted to take prompt action on any claims whenever this situation occurred."

(see Gonzales, 5088)

Author Howard

Code # 6007

"To supplement the 12th Special Operations Squadron, some U.S. division commanders were given the authority to conduct local defoliation and crop destruction missions in their area of operations (AO) with U.S. Army helicopters. These operations were usually complementary to the RANCH HAND sorties and employed local aviation assets that were diverted from other lift tasks."

Author Howard

Code # 6007

10-11

2009

The Department of Defense conducted several feasibility studies of herbicide operations after 1958, primarily due to the success of British operations with helicopters in Malaya.

"In 1961, on request of President Diem and the government of RVN, a test program was established to assist in countering that nation's growing Communist-inspired insurgency."

Author Howard

Code # 6007

Page (s) 9

Bkgnd

"The science of chem. warfare is by no means new. The earliest recorded use of gas in military operations was at the siege of Plataea, 428 B.C., during the Peloponnesian War. The Spartans saturated wood with pitch and sulphur, placed it under the city walls and set fire to it. A ~~de~~king, poisonous fume arose. Ironically, it was the flames and not the fumes that were intended to be damaging." (30)

Major Joseph Burns Kelly, "Gas Warfare in International Law," Military Review 41 (Mar 1961), 30.-42. SEE 5100

Author Ehmke

Code # 6012

Page (s) 1-2

Hop Tip I and II, on Chu Pong Mt
was a test operation to gather
data for Pink Rose

Following debriefing, on 11 Nov 66
17 B-52 dropped 17-35 incendiary
bombs, followed by F-4's
and F-100's using napalm along
the edge of the box.

Results were inconclusive.

Author Crochet

6013

Code # 1K239.032-5

Page (s) 8

CLASS FILE

Pink Rose - Crochet

- (2) "It was determined, that if allied offensive operations were to be successful, a method was needed to destroy the enemy's safe havens and expose the guerrillas to aerial observation and attack. The basic counter-measure of denying concealment to the enemy is to destroy the jungle growth and tree canopies within their areas of operation. The three options available of destroying jungle growth are: defoliation, bombing, and fire.

Author Crochet

Code # K 239,032-5 6013

Page (s) 2

CLASS FILE

Pink Rose - 2 areas in
WAR Zone C & one in WZ D

225 herb sours 255,000 gal

30 B-52 drop 42 M-35

Incendiary Cluster Bomb ca.

~~Last box~~ a

45 NE of Saigon Pink Rose I 18 Jan. 67

12 SW of An Loc " II 28 Jan 67

86 NW of Tay Ninh " III 4 Apr 67

only 15 B-52

Created a towering cumulus cloud
to estimated 50,000' & dropped
in excess of $\frac{1}{2}$ of rain

Author Crocket

Code # 1K239.032-5 6013

Page (s) _____

CLASS FILE

7 10 4
"We lost one up in the Pineapple Forrest. Paul Cranton and Steve Eigner and Junior Winstead were operating out of Danang one morning and Paul was the IP...both pilots were real short stature, small kind of guys. Paul was...he was a first lieutenant...one of our IPs...and they took a hit in the right engine in the prop and they lost the ability to feather the prop and Paul held the airplane level, but it turned some 180 to 270 degrees and Paul saw that he wasn't going to be able to hold it wings-level and keep it from stalling and so he just...he saw a little clearing right ahead of him and he pulled the good engine back and crash landed it straight ahead. And tore up the right ~~fuselage~~ side of the fuselage pretty badly and the airplane caught on fire and Steve Eigner and Jr couldn't get...couldn't get Paul out of the cockpit, they had to go outside and pull him out through the open side of the fuselage. It had been broken open and Paul was in pretty bad shape. And lo and behold they had crash-landed right at the foot of a base-camp. And our other bird....I wasn't in that flight...I was down at Saigon at that time....but our other bird stayed with them and started putting out May Day calls and the fighters expended all their ammo and the guys on the ground were about to use up all their ammo, or what they had, and as luck had it, there were seven Marine helicopters...they weren't too far from Chu Lai, the Marine base...seven helicopters from Chu Lai were coming over after a fruitless search and destroy mission and they were all loaded for bear and all hacked-off. So they heard the mayday call and they just went right in the big middle of all that shooting match down there and landed and jumped out like a going on

John Wayne movie, you know, and grabbed these three guys off the ground and put them in a helicopter...they were on the ground less than five minutes as I recall...just a, you I think

know, a beautiful stroke of fate, and they took them over to Chu Lai in the Hospital and they finally took Paul down to Camron and then they air-evaced him back to the states out of there. So that was the one airplane that we lost. That was the only one that I can recall right off-hand. We lost a couple just after I left. We had our first fatality

Author Ralph Dresser Interview

Code # 7104

Side 1: 40-55

Page (s) 7 10 4

6
0
0
6
8

8006

says "doses over 3 pounds per acre (3.36 kilos per hectare) of the standard mixture of 2,4-D and 2,4,5-T are nonselective . . . "

calls DOD program "biocide"

says DOD "commandeered the entire U.S. production of 2,4,5-T for 1967 and 1968 [some 13 to 14 million pounds (6.36 million kilos) according to U.S. Tariff Commission reports.]"

Agent Orange - Public presentation - post war publicity
ABC-TV

8002

In the 5 March 1981 episode of the TV series, "Barney Miller," one character was portrayed as an AF veteran of the "Ranch Hand." This character claimed to have rashes, liver damage, cancer, etc. as a result of exposure to "Agent Orange." He further claimed that other veterans had been exposed without knowledge of the danger, which got Sgt Wojciechowski disturbed, ~~and~~ becoming the central theme of the episode. It was implied that 2,4,5-T exposure could be a contributing factor in the characters criminal activities.

(OVER)

The characters discussed future tests & studies — making the point that until the testing is complete, no one knows (AF, VA, chemical company) exactly what damage has been done to individuals exposed to herbicides.

8007

In the letters section of the mag., Galston and Signer were criticised by three different writers for their apparent acceptance of NVN propaganda efforts during their visit to NVN (see Science, 22 Oct 1971, p. 379). Galston and Signer deny this and defend their article as straight reporting without "editorial comment."

Ethan Signer is Dept of Biology, MIT

Arthur W. Galston is Dept of Biology, Yale

8015
Spray tug in us was over
flatland with light loads.

They practiced high sweeping
turns at the end of the
simulated runs.

In VN they discovered that
the terrain wasn't always flat,
aircraft were overloaded, and
the beautiful high sweeping
turns were a VC gunners
dream. Uncoordinated, tight,
low level turns with wings as
parallel to ground as could get
them were the real world
answer.

Author H. 665

Code # 8015

Page (s) 20

MJ

PARTIES

Started early

shot up or troop wounded

"shot up" party or "purple heart"
party

if fighters did extra good
job, have a "top cover" party

if average mission, have
'hum-drum' party

Author Hubbs

Code # 8015

Page (s) 41

B

Tents were described as "would have delighted a commercial mold grower" with 100° temp and 100% humidity.

Vietnamese mosquitos were described as "slightly smaller than a fighter plane, had the bite of a medium sized alligator and drained blood faster than a maximum sized vampire."

Author Hubbs

Code # 8015

Page (s) 29

B

AF buccannery —

Survival Trg at Steel in
winter unless you are going
to a jungle environment.

Learn to use snowshoes
& survived in -15 weather.

Author Hubbs

Code # 8015

Page (s) 21

J

8015

8015

original call sign was
"Cowboy"

C-123 originally designed as
a glider

Author

Hubbs

Detail on 1/c

Code #

8015

Page (s)

4

B

8015
On transfer from Saigon
to Benton — made low
level passes with smoke
grenades & overland fighter
pitched at BH.

Author Hubbs

Code # 8015

Page (s) 18-19

B 66

Headquarters types who don't
fly much are called
"seagulls" because:

"They just sit around, eat
a lot, make lots of unnecessary
noise $\times$ and will not fly unless
you throw rocks at them."

Author Hubbs

Code # 8015

Page (s) 46

Misc.

When RH were ordered to
take off the purple scarves,
they refused. Reportedly,
when General Ky got word,
he threatened to close all
the gates to Tan Son Nhut if
the Cowboys had to give up
the scarves.

Author Hulbs

Code # 8015

Page (s) 46

X B

Air Commands motto

"Anytime, Anywhere"

Author Hubbs

Code # 8015

Page (s) 9

B

Reported that new studies
showed 90 emergency dumps by
herbicide A/c, including 41
" directly over or near U.S. air
bases and other military installations."

(See clipping BrgS Eagle, 24 Sept 81,
4A:6

8019

Author Press Conference on Agent Orange,
Code # 23 Sept. 1981, Washington, DC., by
Page (s) Richard S. Schweiker, Sec., HHS

Sen. Barry Goldwater proposed using low-yield atomic weapons to defoliate forests along SVA's border to expose enemy supply lines.

(A LA Goldwater spokesman says that Goldwater was merely saying such plans had been studied.)

Author "Goldwater Poses New Asian Tactic"

Code # NYT 25-May 64 9027

Page (s) 1:7

"After 10 yrs of combat and more than 1,000 holes from enemy fire"

Says Patcher took on national control mission in late 1969, spraying insecticides (not true)

Interview with Capt Jack W. Greene of Spartanburg SC — planes last pilot (!)

Says it is going to the War Air Museum

Author "Museum to Get C-123"

Code # LA Times 20 Jan 72 9029

Page (s) 27: 6-8

More than 30,000 4-in sorties since US spray planes began the herbicide program.

\$27 mil budget in last fiscal year has been cut to \$3-mil in the current year.

Orange was 90% of the 3 main defoliants used since 1961 to spray at least over 5,000 of 54,663,350 sq. miles.

"U.S. Says..."

Author Blumenthal, Ralph

Code # NYT 24 Oct 70

Page (s) 3:4-8

Americal Division violated

the DOD 15 Apr 1970 order banning
2, 4, 5-T.

On several occasions in May July & Aug
of 1970 orange was sprayed to
destroy rubber & crops in Quang Tin
and Quang Ngai Prov. by both
helicopter & a ground pump.

Ralph Blumenthal

Author "U.S. Says Out in Vietnam Used Banned
Defoliant"

Code # NYT 24 Oct 70,

Page (s) 3: 4-8

" Most of the enemy fire is from rifles and machine guns. Sometimes rifle grenades have been fired at the planes and, in at least two instances, guerrillas have placed dynamite and rocks in holes and exploded them skyward when the planes dived overhead. "

Author Beecher

Code # 9031

Page (s) 2

"Last week [approx 1 Sept 66]
the Hanoi Radio changed that
20,000 people had been killed in
the Mekong River delta area of South
Vietnam by U— S— planes
spreading poisonous sprays."

Author Beecher

Code # 9031

Page (s) 2

9031
Elaborate approval method?
try to avoid friendly, however
sometimes may drift from target
dred.

"When claims are made, prompt
action is taken to pay damages. The
current price for a mature rubber
tree is \$87."

Author Beecher
Code # 9031
Page (#) 2

It is known that some news
have been flown against the Chi
nese trade in Laos

Author

Becker

Code #

9031

Page (s)

2

US pleased with effectiveness of
chemical defol & crop-dest. missions.

taking steps to triple capability

in 1966 RH, using avg 6 C-123 "has
squirted 1,324,430 gallons of nontoxic
herbicide over 530,872 acres"

Plans call for RH to build to
18 A/C in next few months operating
as newly designated 12 ACS (defoliation)

VC gunners have found their mark
533 times so far this year.

Author Beecher

Code # 9031

Page (1st) 2

US planes have sprayed jungle
along Saigon-Saint Jacques road

70 mi road connecting Saigon with
the popular seaside resort has been
unsafe for months.

Results unknown - supposed to
kill all trees and brush but may take
5 days to 3 weeks.

Accompanied by dropping pamphlets
"dissuading farmers that the chemicals
were harmless to humans and animals."

Author Homer Bigant

Code # 9032

Page (s)

4

"U.S. Spray Strips Foliage
Hiding Vietnam Reds."

62

"High SW official said
defoliant chemicals would also
be sprayed on the plantations
of manioc and sweet potatoes
in the highlands."

The locations had already
been plotted by aerial
surveys.

2 most reported food staples
for the comm. — bananas in
the mts.

tapioca made from manioc.

Author Bigart

Code # 9032

Page (s) 4

Foie, JACK

9033

"Defoliation Pressed Along Supply Trails."

Washington Post, 16 February 1966, A1:6, A19:1

N 188

notes

Ranch Hands being used
on attacks on the Ho Chi Minh
Trail in Laos. (A1)

Seeking to expose stream
crossings & other vulnerable spots. (A19)

Meeting unusually heavy AA
fire including 37-mm weapons (A19)

Author Fo sie

Code # 9033

Page (s) A1 & A19

9035 " The Victorians keep telling the peasants and guerrilla troops that the chemical is poisonous, which is not true.

One pilot said this was all right with him because some of the Victorians are so afraid for their lives that they don't shoot at the fat, swaybacked transports, which must lumber along like boxcars on rails, unable to take evasive action.

Author Nohr

Code # 9035

Page (s) 3

9036

concern that crop destruction in heavy⁹⁰³⁶
pop areas could send new flood of
displaced VN.

Also, so much food in heavy pop
areas that there would be "no
real military value" in spraying
Delta — "politically impracticable"
to apply herbicide on such a vast scale.

Author Nohr

Code # 9036

Page (s) 1:6 4:3

21 Dec 65

Says US ~~rice~~ killing crop-dest
began last spring.

missions will not be flown in
heavily populated areas. "There
has been no crop destruction, for example,
in the Mekong Delta officials say."
(1)

a politically delicate subject.
not publicized

AF officers say they are forbidden
to discuss it.
(1)

Author Charles Mohr

Code # 9036

Page (s) 1: 6-7 4:3

21 Dec 65

"Some VC units are devoting
as much as 50 percent of their
manpower to growing food"

Author

Mohr

Code #

9036

Page (s)

4

21 Dec 65

more than $\frac{1}{2}$ time of
the AF unit is spent on
crop & efforts
expected to grow next year.

political control of the crop-
dest. — program begins with
the S-V-A-

Author

Mohr

Code #

9036

Page (s)

4

21 Dec 65

use to strip jungles & damage farm crops "in areas where Vietcong control has long been established."

"United States military forces, while participating in most of the defoliating efforts, have not taken part in crop-damaging operations."

"Military officials emphasize, however, that they are not harmful to people, animals, soil, or water."

"Defoliants have been used "under controlled conditions for unquestionably legitimate requirements." "

"on the premise that the U-S- has not engaged directly in the war against the Vietcong, U-S- planes have been kept out of crop-damage operations."

Author

Raymond

Code #

9037

Page (s)

2:6

28 Mar 65

123046
crop-damage ~~was~~ controversial

have been errors in which crops
grown by loyal SVN have
been ruined

ops are said to leave US
open to germ warfare charges,
even if unjustified

Author

Raymond

Code #

9037

Page 1 of 1

2:7

28 Mar 65

Notes that a new technique
in the counter-offensive in
SVN is "defoliation" from
the air, a demand means of
stripping leaves from the
foliage that hides Viet Cong
movements in thickly wooded
areas.

Author Trumbull NTT 1 JAN 62

Code # 9038

Page (s) 1

The plan to defoliate with chemicals delayed by question of how to publicize this "form of chemical warfare."

VC agents have spread reports of "American plans to cut a swath of devastation through the countryside."

"The chemical operation is intended to improve the country's economy by permitting freer communication & as well as to facilitate the Vietnamese Army's task of keeping avenues of communication free of Viet Cong harassments."

Author "Defoliation Effort Delayed in Vietnam."

MT 12 JAN 62

Code # 9040

Page (s) 3:5

U.S. te

9041

"U.S. Tells of Crop Destruction in South Vietnam."

New York Times, 10 March 1966, 9:2-4.

files

St. Dept said 20,000 acres of SVN crops destroyed with herb. to deny food to guerrillas.

"The areas affected are known to be used to produce food for Vietcong military units," the St. Dept statement said.

"The areas involved in the crop-destruction program are remote and thinly populated."

"The Vietcong and any innocent persons were warned of the planned action."

"The State Department said all deliberation and crop-destruction operations were initiated by the South Vietnamese themselves, usually, by a district or province chief. It said United States aircraft and technical capability were used, but the South Vietnamese participated at every stage."

Author "U.S. Tells of Crop Destruction in South Vietnam."

Code # 9041

Page (s) 9:2-4