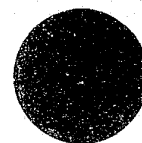
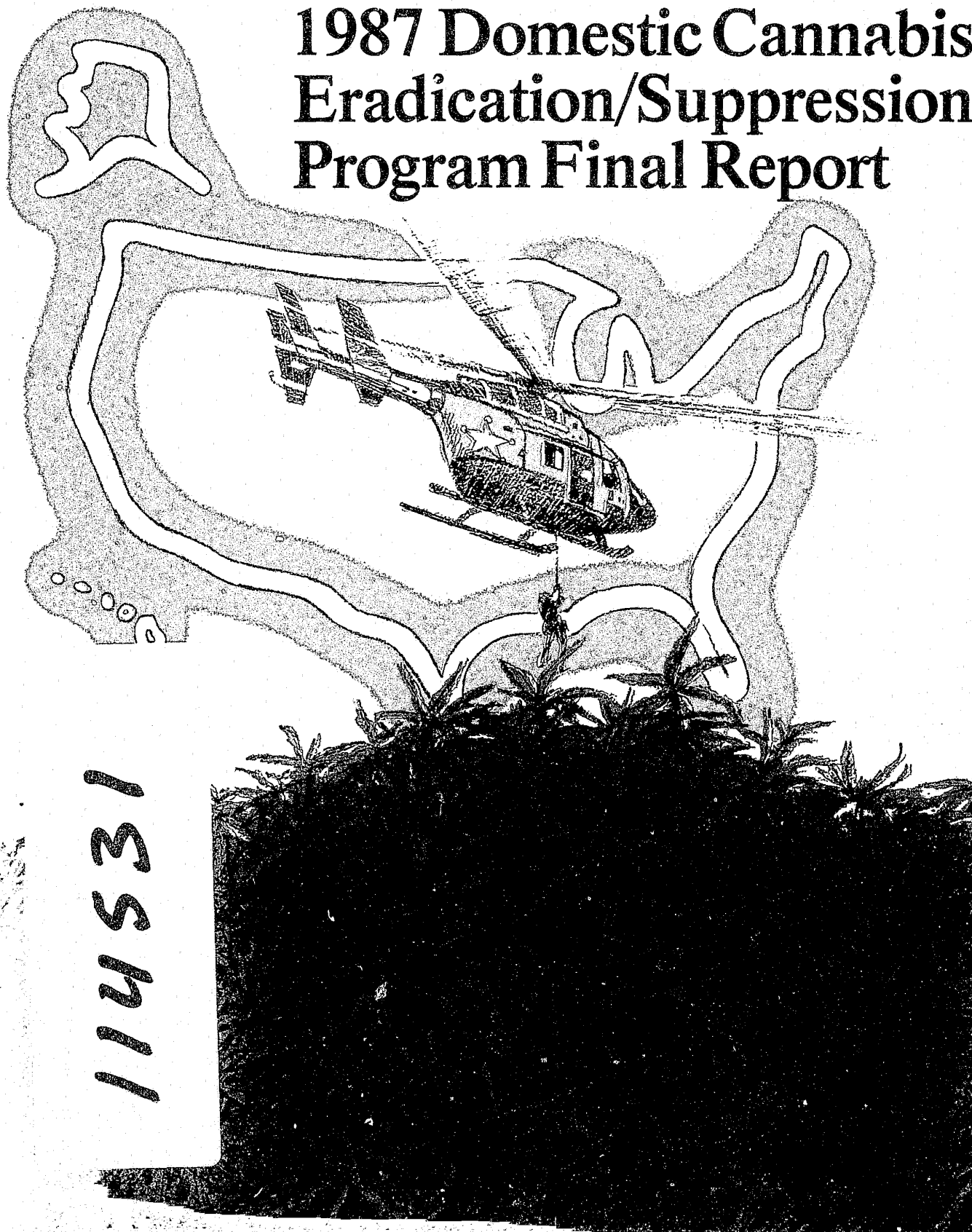




U.S. Department of Justice  
Drug Enforcement Administration



# 1987 Domestic Cannabis Eradication/Suppression Program Final Report



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1987 DOMESTIC CANNABIS  
ERADICATION/SUPPRESSION PROGRAM

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Prepared by the  
Cannabis Investigations Section  
Drug Enforcement Administration  
U.S. Department of Justice

The Administrator of the Drug Enforcement Administration has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this agency.

NCJRS

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ACQUISITIONS

December 1987

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## EXECUTIVE SUMMARY & INTRODUCTION

The DEA Domestic Cannabis Eradication/Suppression Program (DCE/SP) was established to ensure a coordinated effort between Federal, state, and local agencies involving the eradication of domestically cultivated cannabis in the United States. DEA's role in this cooperative venture is to encourage state and local eradication efforts and to contribute within limitations, funding, training, equipment, investigative and aircraft resources to support such efforts.

In 1987 forty-six states participated in the program and shared in a budget of 3.8 million dollars which was provided by DEA to fund the DCE/SP. A summary of expenditures is contained in the funding section of this report.

The Office of Training supported the DCE/SP by conducting 21 DCE/SP eradication schools in which 612 law enforcement personnel received training at a cost of \$77,000.

The DEA Aviation Unit provided support by flying 210 missions, totaling 632.1 hours in the eradication effort. Cost to the Aviation Unit was \$174,000.

In 1987 we had an increase of about 72% in the number of sinsemilla plants that were destroyed. An increase of approximately 59% in the number of cultivated plants eradicated was also accomplished in 1987. Increases were also encountered in the total number of arrests, greenhouse operations, weapons and assets seized. Total plants destroyed were down by 16.4 million (from 1986) due to the fact that there were 19.1 million less "ditch weed" plants reported destroyed in 1987.

In 1987 we saw the first undisputed evidence of an organized group involved in a multi-state cannabis cultivation and distribution network. This was uncovered in Minnesota when 48 tons of marijuana was seized on a farm. Further investigation determined the organization also operated a farm in Nebraska, where authorities seized an additional 34 tons of marijuana. Information developed in this case showed the group may be involved in operations in several other states.

The overall 1987 Domestic Eradication Program was a great success. In 1988 we will strive for increased follow up investigations and to increase the value of assets seized.

## PROGRAM MANAGEMENT AND COORDINATION

The Domestic Cannabis Eradication/Suppression Program is managed by the Cannabis Investigations Section at DEA Headquarters where three Special Agents are assigned full-time as Staff Coordinators to supervise the many diverse aspects of the program in conjunction with other Headquarters elements, and DEA field offices. They also act as liaison officers at meetings with state/local and other Federal officials. One Staff Coordinator at Headquarters also has responsibility to coordinate the Environmental Impact Statement (EIS) and the use of herbicides.

In each participating state, a Special Agent from the appropriate DEA field office serves as a program coordinator. This function is to develop, in conjunction with state and local counterparts, an operational plan for the state eradication program and serve as coordinator and conduit for DEA support to the state program. The DEA field program coordinator also assists DEA field management in monitoring the program, compiles program statistics and develops intelligence within each area.

DEA's Office of Training at Quantico, Virginia, also has a coordinator assigned to the program. This Special Agent is responsible for coordinating the efforts of the DEA field division training officers in presenting eradication schools and seminars for Federal, state, and local officers. .

A supervisory pilot in DEA's Aviation Unit at Addison, Texas, serves as a program coordinator to monitor the utilization of DEA's aviation resources in the training and air surveillance activities of the program.

## ERADICATION STATISTICS

The 1987 Domestic Cannabis Eradication/Suppression Program statistics are presented on pages 4 through 7 for each of the 46 states who participated in the program. These statistics are compiled from data received by DEA Headquarters and since such data does not reflect the total number of plots or plants under cultivation in the United States, no correlation between the two should be attempted.

A 72% increase in the destruction of sinsemilla was realized in 1987 as compared to 1986. In 1987 3,105,460 of these higher THC content plants were destroyed. Hawaii, California and Tennessee reported the most sinsemilla destroyed, 2,325,822 for the three states. A total of 7,432,834 cultivated plants were destroyed in 1987.

"Ditch weed", a low potency marijuana, accounted for over 105 million plants destroyed. This represented a decrease of slightly over 16 million plants from 1986. Once again Indiana reported the destruction of the most ditchweed with slightly over 67 million plants destroyed. Other states with high "ditchweed" eradication were Kansas, (14 million), Nebraska (12.4 million) and Minnesota (9.1 million).

Both the number of arrests and the number of weapons seized were increased over 1986. Total arrests were 6,502, an increase of 965 from last year; weapons seized were 1,728 which represents an increase of 82.

The Pacific coast states led the nation in greenhouse operations seized with Oregon, Washington and California having a total of 685 out of a grand total of 1,192 greenhouse operations seized.

Asset seizures showed a modest increase over 1986. Several reporting states showed seizure of property but put no dollar figures on the value. Proper reporting would have substantially increased the value of the total assets seized.

The manpower required to accomplish the physical destruction of cannabis plots has been, and continues to be, one of the primary contributing factors toward the overall difficulty of eradication efforts. While it is recognized that increased intelligence regarding the domestic cannabis industry is a necessary component of the overall program, it is also understood that a labor-intensive effort is required to minimize the availability of domestically grown cannabis.

1987 DOMESTIC CANNABIS ERADICATION/SUPPRESSION PROGRAM

STATES	PLOTS SIGHTED	PLOTS ERADICATED	CULTIVATED PLANTS ERADICATED	NUMBER SINSEMILLA	DITCH WEED	TOTAL PLANTS ERADICATED	GREEN HOUSES	NUMBER OF ARRESTS	WEAPONS SEIZED	ASSETS SEIZED (VALUE)
ALABAMA	1,361	1,361	160,510	322	0	160,510	3	88	4	\$11,349
ALASKA	22	20	1,438	1,022	0	1,438	20	5	14	\$0
ARIZONA	251	177	78,490	78,490	370	78,860	44	132	27	\$969,000
ARKANSAS	1,218	1,218	77,161	4,573	0	77,161	9	336	58	\$81,500
CALIFORNIA	3,582	3,013	289,833	281,140	8,693	298,526	172	950	531	\$5,238,346
COLORADO	81	69	18,316	1,290	161	18,477	16	45	7	\$159,563
CONNECTICUT	4	4	17	0	0	17	1	4	2	\$120,000
DELAWARE	7	7	230	1	0	230	4	6	3	\$310
FLORIDA	1,199	1,199	72,040	10,169	0	72,040	22	206	12	\$0
GEORGIA	910	910	119,355	14,274	0	119,355	0	320	1	\$0
HAWAII	44,766	36,263	1,899,955	1,801,774	0	1,899,955	10	1,092	73	\$77,662
IDAHO	171	171	10,059	2,616	0	10,059	62	186	12	\$221,810
ILLINOIS	362	209	31,960	289	39,971	71,931	7	66	11	\$33,625
INDIANA	805	805	33,107	63	67,147,156	67,180,263	8	74	4	\$45,360
IOWA	38	38	2,165	147	25,266	27,431	1	19	0	\$0
KANSAS	205	205	2,356,558	2,212	14,196,647	16,553,205	9	84	17	\$616,182
KENTUCKY	2,529	2,529	478,527	146,339	0	478,527	8	214	20	\$70,223
LOUISIANA	138	137	24,167	638	0	24,167	15	138	76	\$339,560
MAINE	253	248	5,771	5,771	0	5,771	19	42	11	\$11,322
MARYLAND	84	77	5,858	0	0	5,858	14	40	0	\$0
MASSACHUSETTS	46	46	1,176	402	0	1,176	7	24	3	\$2,052,700
MICHIGAN	765	727	81,373	3,628	35,872	117,245	34	102	19	\$1,819
MINNESOTA	58	57	121,700	101,013	9,137,000	9,258,700	11	45	20	\$300,000
MISSISSIPPI	188	188	39,392	1,482	0	39,392	0	75	0	\$0
MISSOURI	511	511	370,562	58,975	0	370,562	2	230	32	\$376,534
MONTANA	20	16	3,960	3,960	150,000	153,960	12	29	4	\$109,000
NEBRASKA	70	50	25,188	24,664	12,434,242	12,459,430	8	49	29	\$71,300
NEW HAMPSHIRE	38	38	1,361	1,106	0	1,361	5	39	4	\$80,000
NEW JERSEY*	0	0	150	0	0	150	0	0	0	\$0
NEW MEXICO	55	46	6,756	153	0	6,756	2	10	3	\$17,500
NEW YORK	51	51	11,202	0	0	11,282	3	15	3	\$0
NORTH CAROLINA	1,573	1,573	89,273	4,164	0	89,273	9	200	0	\$53,900
OHIO	994	998	75,114	11,129	0	75,114	11	164	8	\$0
OKLAHOMA	507	507	36,352	1,422	1,077,690	1,114,042	4	75	41	\$0
OREGON	1,181	1,181	59,526	38,973	20,553	80,079	267	371	270	\$349,911
PENNSYLVANIA	339	297	11,060	2,448	90	11,150	5	26	6	\$6,300
RHODE ISLAND	10	10	591	0	0	591	0	8	5	\$21,000
SOUTH CAROLINA	112	112	132,211	121,905	10,306	142,517	0	45	0	\$431,000
SOUTH DAKOTA*	5	5	259	36	129	388	2	3	1	\$54,900
TENNESSEE	5,279	5,279	488,764	242,908	0	488,764	1	131	3	\$59,000
TEXAS	132	132	67,190	50,560	1,027,367	1,094,557	9	61	26	\$542,900
UTAH	49	44	8,237	2,457	193	8,430	3	23	5	\$900
VERMONT	89	88	3,456	3,456	0	3,456	4	64	13	\$87,700
VIRGINIA	817	807	34,795	824	153	34,948	86	204	30	\$13,030
WASHINGTON	375	375	48,759	37,953	0	48,759	246	339	271	\$1,044,709
WEST VIRGINIA	427	427	42,567	37,725	204,841	247,408	4	62	11	\$0
WISCONSIN	144	114	4,815	2,097	325,290	330,105	2	24	0	\$0
WYOMING	24	24	1,448	890	0	1,448	11	37	38	\$0
TOTAL	71,845	62,363	7,432,834	3,105,460	105,841,990	113,274,824	1,192	6,502	1,728	\$13,669,915
TOTAL 1986 FINAL FIGURES	33,291	32,196	4,673,153	1,807,021	125,012,880	129,686,033	1,077	5,537	1,646	\$13,582,761

\*STATE DID NOT PARTICIPATE IN DCE/SP IN 1987

1987 DOMESTIC CANNABIS ERADICATION/SUPPRESSION PROGRAM

TOP FIVE ARREST AND ASSET SEIZURES BY STATE

RANK	STATE	TOTAL <u>ARRESTS</u>
1	Hawaii	1,092
2	California	950
3	Oregon	371
4	Washington	339
5	Arkansas	336

		<u>ASSET SEIZURES</u>
1	California	5,238,346
2	Massachusetts	2,052,700
3	Washington	1,044,709
4	Arizona	969,000
5	Kansas	616,182

State Totals: Arrests - 6,502  
Assets - \$13,669,915



1987 DOMESTIC CANNABIS ERADICATION/SUPPRESSION PROGRAM

FINAL STATISTICS\*  
CULTIVATED PLANTS

1.	Kansas	2,356,558
2.	Hawaii	1,899,955
3.	Tennessee	488,764
4.	Kentucky	478,527
5.	Missouri	370,562
6.	California	289,833
7.	Alabama	160,510
8.	South Carolina	132,211
9.	Minnesota	121,700
10.	Georgia	119,355
11.	North Carolina	89,273
12.	Michigan	81,373
13.	Arizona	78,490
14.	Arkansas	77,161
15.	Ohio	75,114
16.	Florida	72,040
17.	Texas	67,190
18.	Oregon	59,526
19.	Washington	48,759
20.	West Virginia	42,567
21.	Mississippi	39,392
22.	Oklahoma	36,352
23.	Virginia	34,795
24.	Indiana	33,107
25.	Illinois	31,960
26.	Nebraska	25,188
27.	Louisiana	24,167
28.	Colorado	18,316
29.	New York	11,282
30.	Pennsylvania	11,060
31.	Idaho	10,059
32.	Utah	8,237
33.	New Mexico	6,756
34.	Maryland	5,858
35.	Maine	5,771
36.	Wisconsin	4,815
37.	Montana	3,960
38.	Vermont	3,456
39.	Iowa	2,165
40.	Wyoming	1,448
41.	Alaska	1,438
42.	New Hampshire	1,361
43.	Massachusetts	1,176
44.	Rhode Island	591
45.	Delaware	230
46.	Connecticut	17
		<hr/> 7,432,225

\*New Jersey, South Dakota, North Dakota, and Nevada did not participate in 1987.

RECAPITULATION - 1982-1987

	<u>Plants Eradicated</u>	<u>Sinsemilla</u>	<u>Arrests</u>	<u>Weapons Seized</u>
1982	2,590,388	*	2,512	785
1983	3,793,943	979,802	4,318	984
1984	12,981,210	1,043,133	4,941	1,424
1985	39,231,479	1,332,804	5,151	1,768
1986	129,686,033	1,807,021	5,537	1,646
1987	113,274,824	3,105,460	6,502	1,728

NOTE: States Participating: 1982-25; 1983-40; 1984-50; 1985-50;  
1986-49; and 1987-46.

\*Figures not Available

FUNDING LEVEL+

1982	\$ 843,340
1983	2.4 million
1984	3.3 million
1985	3.15 million
1986	3.6 million
1987	3.8 million

+Does not Include Training or Aviation Expenses

### FUNDING

In FY-87 \$3.8 million was allocated to DEA's DCE/SP to fund the primary objective of the program, which is direct support to state and local eradication activities as reflected on page 9.

The expenditure of these funds helped offset state and local law enforcement expenses directly related to the eradication efforts such as officer overtime and per diem payments, vehicle/aircraft rental/operating costs and the purchases of equipment.

In addition to the above direct allocations to state and local agencies, the DEA Office of Training also expended \$77,000 for training programs. Further the DEA Aviation Unit expended \$174,000 in its support of state and local aerial surveillance efforts in the program and in providing aerial support to the DEA training schools and seminars.

# ALLOCATION OF PROGRAM FUNDS FY-87

STATE	LOA FUNDS
Alabama	\$ 140,000
Alaska	7,000
Arizona	40,000
Arkansas	110,000
California	457,900
Colorado	40,000
Connecticut	5,000
Delaware	5,000
Florida	118,000
Georgia	155,000
Hawaii	528,500
Idaho	35,000
Illinois	115,000
Indiana	115,000
Iowa	5,000
Kansas	35,500
Kentucky	230,000
Louisiana	34,950
Maine	25,000
Maryland	12,000
Massachusetts	4,000
Michigan	55,000
Minnesota	22,000
Mississippi	90,000
Missouri	120,000
Montana	12,000
Nebraska	20,000
Nevada	-0-
New Hampshire	15,000
New Jersey	-0-
New Mexico	18,598
New York	15,000
North Carolina	115,000
North Dakota	-0-
Ohio	30,000
Oklahoma	96,000
Oregon	100,000
Pennsylvania	50,000
Rhode Island	7,000
South Carolina	16,000
South Dakota	-0-
Tennessee	185,000
Texas	133,000
Utah	25,000
Vermont	34,000
Virginia	100,000
Washington	66,000
West Virginia	90,000
Wisconsin	28,000
Wyoming	5,000
TOTAL	\$ 3,665,448

## COOPERATION WITH OTHER FEDERAL AGENCIES

The DCE/SP continued to maintain and strengthen close cooperative working arrangements with other federal agencies. DEA assisted in the training of U.S. Forestry personnel who are the designated forefront of cannabis eradication efforts on National Forest Lands. The U.S. Forest Service has established a policy of aggressive prosecution whenever possible, against those growers utilizing public lands.

The Department of Interior has also begun an active program to deal more effectively with cultivation on public land within its jurisdiction. DEA's Cannabis Investigations Section foresees an increasing closer working relationship with the Department of Interior in the coming year.

## TRAINING

Training of state, local, and Federal officers is primarily the responsibility of the DEA Office of Training. A full-time training coordinator at Quantico, Virginia is utilized in conjunction with DEA Division Training Officers to schedule and conduct the schools and seminars for the DCE/SP. Headquarters and field personnel, state, local, and other Federal officers contributed their expertise to specialized courses of instruction. Twenty-one DEA sponsored one-week schools, attended by 612 officers were conducted in 1987. Total cost for the training program for 1987 was \$77,000.

The training curriculum focused on the objectives, functions, and problems associated with the detection and eradication of illicit cannabis. The aerial observation portion of the course, to which the DEA Aviation Unit contributed a significant amount of time and expertise, included actual flying time in fixed wing and rotor aircraft and "on-the-job" training in safety, observations, aerial photography and detection techniques. Presentations on booby-traps and first-aid received emphasis due to the proliferation of potentially lethal devices encountered during past eradication efforts.

The Office of Training, working with the Cannabis Investigations Section, OM, produced a 17 minute video on "Domestic Cannabis Eradication". This video tells the story of the eradication of marijuana in the United States and focuses on the research, education and enforcement efforts in the domestic cannabis area. This video was shown at the United Nations Conference on Drugs in Vienna, Austria and was very well received. Both English and Spanish language versions of the video were made. Copies were distributed to all domestic training coordinators and all DCE/SP state coordinators during 1987.

## AVIATION ACTIVITY

In 1987, DEA's Aviation Unit flew 210 missions, totaling 632.1 hours in direct support of the Domestic Cannabis Eradication/Suppression program.

These figures included both enforcement activities and training schools conducted throughout the country. An additional 58 mission request went unanswered primarily due to lack of DEA Aircraft or pilot availability. Total cost in support of the DCE/SP for the Aviation unit was \$174,000.

In addition to DEA Aviation Unit support, aviation resources from other Federal agencies, National Guard units under state activation, state and local law enforcement agencies and civilian contract sources were utilized throughout the United States in 1987.

In 1986, we regreatably reported that five police officers and one contract pilot were killed while involved in cannabis eradication activities. 1987 was a fortunate year in that no deaths were reported while engaged in these hazardous operations. There were several air crashes reported by the states during 1987 operations however, as follows:

Indiana: Fixed wing and Helicopter  
California: Helicopter  
Hawaii: Helicopter

No DEA aircraft were involved in any of the incidents.

## INCIDENTS AND VIOLENCE, /TRAPS, AND ALARMS

Incidents of violence and the use of booby traps have decreased in the past several years, however, a majority of the states still report the use of booby traps and warning devices. An increase in the use of guard dogs, especially pit bulls has been noticed. The following incidents are some examples of those reported to DEA Headquarters:

1. In Breathitt County, Kentucky an individual sustained a severe injury to his right foot when an explosive device detonated in a marijuana field. Police and BATF also found a second device on a trail leading to the field. (EPIC-EB-22-87).
2. Mendocino County, California reported that while cutting marijuana plants, officers found several razor blades with hydodermic needles attached and mounted at the bottom of the plants. These devices were designed to injure anyone who attempted to pull the plants.
3. The Mesa County Colorado, S.O. encountered an intrusion alarm system with an auto-dialer directed to the growers home.
4. In Morgan County, Colorado a sheriff's deputy was injured when seven meat boning knives were placed like punji sticks in a marijuana field.
5. The Rabun Co., Georgia eradication team took rifle fire while entering a field; one individual was arrested.
6. Hawaii reported one cultivator fired numerous gunshots at a police helicopter.
7. Crawford Co., Kansas reported a listening and warning device in a greenhouse with the control was set in a nearby trailer. Also connected in the greenhouse were bales of hay doused with kerosene, rigged with igniters controlled by an electric switch in the trailer.



## ASSET SEIZURES

Asset seizures showed a slight increase over 1986, with \$13,669,915 in assets being seized.

California again led all states in asset seizures with \$5,238,346 reported as they did in 1986 with some \$3.9 million in assets being seized. This year's increase was due in part to an aggressive asset forfeiture program by the California DCE/SP in which three asset/seizure teams conduct follow up investigations on potential asset seizures from individuals involved in marijuana cultivation. The revenue sharing provisions of the forfeiture act allow participating police agencies to share in a portion of those assets actually forfeited to the government.

The asset forfeiture provisions in federal law is a powerful tool in our overall DCE/SP and allows the government to attack the profits of the illicit drug trade. Efforts will be made in CY 1988 to encourage all states to concentrate on seizing marijuana growers' profits.

The following states did not report any asset seizures as a result of the 1987 DCE/SP: Alaska, Florida, Georgia, Iowa, Maryland, Mississippi, New York, Ohio, Oklahoma, West Virginia, Wisconsin and Wyoming.

## SIGNIFICANT INVESTIGATIONS

According to the Case Status Subsystem, a total of 2,057 marijuana investigations were opened by the Domestic Field Divisions from January 1 to December 1, 1987. Of this total only 105 were listed with the "R" (Marijuana of Domestic Origin) identifier. Greater efforts will be made in 1988 to conduct follow up investigations on those violators involved in domestic cannabis production.

Listed is a breakdown, by DEA Division, of "R" category cases:

Level	0	1	2	3	4	Totals
Atlanta	0	2	0	1	0	3
Boston	0	0	0	0	0	0
Chicago	0	4	0	0	0	4
Dallas	0	0	1	0	0	1
Denver	0	0	0	2	1	3
Detroit	0	0	0	4	0	4
Houston	0	1	0	0	0	1
Los Angeles	12	3	1	9	5	30
Miami	0	0	4	0	0	4
Newark	0	0	0	0	0	0
New Orleans	3	0	2	2	1	8
New York	0	0	0	0	0	0
Philadelphia	0	0	0	0	0	0
Phoenix	0	0	0	0	0	0
San Diego	1	0	0	0	5	6
San Francisco	15	3	5	2	0	25
Seattle	1	4	3	0	4	12
St. Louis	1	2	0	0	1	4
Washington	0	0	0	0	0	0
TOTALS	33	19	16	20	17	105

The following are examples of some of the significant domestic cannabis investigations conducted in 1987:

### Little Rock Resident Office

After receiving information from police in St. Petersburg, Florida, authorities in Arkansas developed a conspiracy case which required assistance from police agencies in Florida, Arkansas, Oklahoma and Hawaii. It was determined that marijuana was being grown and shipped from Hawaii to Oklahoma and the southeastern United States. Search warrants were executed and numerous arrests were made. Forfeiture proceedings are pending on property and other assets.

#### Louisville Resident Office

DEA and state police received information concerning marijuana being processed on a rural farm where approximately 4,000 pounds of processed marijuana were seized. Follow up investigation determined an organized group was involved in growing and processing marijuana in Kentucky, Nebraska, Missouri, Minnesota and Maine. 12 persons have been convicted. Forfeiture is pending on the farm which has a value of \$750,000.

#### Minneapolis Resident Office

Indiana State Police provided information to authorities in Minnesota which resulted in the seizure of a sinsemilla greenhouse operation. In addition to the greenhouse seized in Minnesota and Indiana, information was developed that this group was also operating an indoor operation in California. Four individuals were convicted in Minnesota.

In another case authorities raided a 355 acre farm in New York Mills Minnesota and seized 48 tons of marijuana. The marijuana was being grown in two corn fields. One field had been cut and marijuana processed; the other field still had the marijuana under cultivation. The farm had an alarm system that warned of the approach of law enforcement officers. Information developed in the investigation disclosed that this group had another marijuana growing operation in Nebraska which was also raided. An additional 34 tons of marijuana were seized. Seventeen individuals are being charged in U.S. District Court in Minnesota.

#### Sacramento Resident Office

Campaign Against Marijuana Planting (CAMP) officers discovered approximately 2,500 sinsemilla plants growing in a remote section of Trinity County. Follow up investigation determined that an organized group from Southern California was funding this operation. Eight Class I defendants were arrested. Numerous assets were seized and are pending forfeiture.

#### Reno Resident Office

Approximately 1,644 sinsemilla plants were seized in Truckee, California, making it one of the largest indoor operations ever seized in that state. The violator had a modified 3 story barn with an elevator, its inhouse electric and fuel system. It was estimated that the subject was producing three crops per year.

#### Great Falls Resident Office

DEA and Choteau County Sheriffs officers seized approximately 2,700 sinsemilla plants on a remote ranch. The grower stated he went into the marijuana business to make money to save his family farm. It was determined that the whole family would put in 12-14 hours of labor per day growing and caring for the marijuana.

## DEA SCIENCE & RESEARCH SUMMARY

During 1987 several major research projects were undertaken in support of the domestic cannabis suppression and eradication program. The principal focus during the year has been on crop detection, remote surveillance and alternative methods of crop eradication. The most significant accomplishments are as follows:

### -Cannabis Pollen Detection & Identification-

The reliability of a portable pollen detector was tested in a controlled experiment at the University of Mississippi and by several DEA field offices with success. This equipment is inexpensive, portable, easy to use and can be operated without failure. A pollen source, such as an outdoor field or an indoor growing operation, can readily be detected at distances up to one quarter mile. The cannabis pollen can be identified by trained personnel using a standard microscope.

While only non-sinsemilla crops will have pollen, thereby limiting its utility as an investigative tool, the equipment's low cost and ease of use make it a useful addition to the technical equipment inventory. It is envisioned that the pollen collector in conjunction with other sources of information can be used to establish probable cause. Research data gathered during the year does not indicate that cultivated cannabis pollen is any different than that of uncultivated cannabis.

### -Cannabis Source Determination Program-

A feasibility research effort has been initiated to determine if the source of origin of a domestic cannabis seizure can be identified. A large number of known samples from various producer countries are being analyzed. Initial data analysis is promising, and a final report is expected by June, 1988.

### -Crop Detection & Estimation-

During 1987 several aerial sensor systems were reviewed for their potential as an investigative tool to support domestic cannabis detection operations. While technological advances are being made yearly, trained human observers in the proper aircraft still are the most reliable and cost-effective approach.

Preliminary research has begun on the detection of airborne chemical compounds originating from live cannabis plants. Several advanced systems approaches, which could operate at long distances, have been identified.

A variety of estimation methodologies to measure the illicit domestic cannabis crop were examined. While greater precision in the national estimate may be possible, an inordinate amount of work and expense would fall on Federal, state, and local eradication organizations. Continued evaluation of alternative strategies will be pursued in the upcoming year.

#### -Technology Report-

During 1987 a primer for law enforcement personnel was developed to summarize key botanical information relating to the identification of significant illicit cannabis growing operations. In addition, succinct discussions of select science and technological topics such as cannabis eradication, detection, and plant growth were included in the report as well.

This article was contributed by DEA's Research and Engineering Facility.

## MARIJUANA SURVEY

During the latter part of CY 1986, a survey was conducted by the DEA Office of Intelligence to address the issue of an alleged marijuana shortage and to obtain a national overview of the domestic marijuana situation. At that time 14 of DEA's 19 Divisional offices reported lessened availability of marijuana within their regions. Concomitantly, prices for all varieties of cannabis had risen significantly. Extremes of \$3,500 for pound quantities of sinsemilla were reported in California and the national average price for pound quantities of cultivated marijuana increased from \$300-\$600 in December 1985 to \$400-\$2,400 in December of 1986.

Reports from many mid-western states noted the influx of out-of-state violators intent on harvesting ditchweed which could be mixed with commercial grade marijuana to increase poundage. Among the factors thought to have influenced this shortage at the time were the effectiveness of U.S. and foreign governments interdiction efforts, expanded effective domestic eradication programs, drought conditions in many states which significantly reduced production, a switch by some poly-drug organizations to trafficking principally in cocaine, the immobilization of marijuana trafficking organizations through "Sting" operations, and seasonal unavailability of foreign crops.

In order once again to assess current availability of marijuana and obtain a national overview, a similar survey was undertaken during the early part of December 1987. A telephonic survey was conducted of the fifty Domestic Cannabis Eradication and Suppression Program (DCE/SP) Coordinators. Various state/local law enforcement officers, DEA Special Agents and Intelligence Analysts assigned to the 19 Divisional Offices were also queried. The results of this survey were analyzed along with Divisional Field Management Reports, Reports of Investigation, teletypes, special field reporting and consultation with a representative of the Department of Agriculture. This report deals then with the findings of this study.

In contrast to the 14 Divisional Offices which noted diminished availability of marijuana in the 4th Quarter of 1986, only one DEA Divisional office noted diminished supply of marijuana for the same time period in CY 1987.

Nationally, the number of states which reported marijuana availability as limited, decreased in 1987. DCE/SP coordinators and/or state and local law enforcement officials in only 10 of the 50 surveyed states noted limited availability of marijuana in 1987 compared to 33 states in which marijuana availability was reported as limited in 1986.

Generally, in those states in which supplies were reported as diminished, the situation appeared to reflect a localized occurrence. That is to say, there appeared to be either (1) a lack of established foreign cannabis distribution networks within specific areas, (2) an effective domestic cannabis eradication and suppression program which impacted on availability within those states, and/or (3) geographic and climatic constraints within the state which inhibited production.

Although marijuana appeared to be more readily available at a national level in CY 1987, prices remain high for domestic commercial marijuana. DCE/SP coordinators reported prices averaging between \$500-\$1,500 a pound for domestically cultivated marijuana. These figures compare to the 1983 national average price for domestic commercial marijuana of \$350-\$650 a pound. Sinsemilla prices were reported as averaging between \$1,200-\$3,100 for pound quantities, reflecting a moderate decline.

The following significant trends in domestic marijuana cultivation were noted during calendar year 1987.

Cultivators, spurred on by trade publication such as HIGH TIMES and SINSEMILLA TIPS, are increasingly turning toward indoor grow operations. Both the number of states (45 in 1987 compared to 39 in 1986) in which greenhouses were seized and the total number of actual greenhouses seized (1,192 in 1987 compared to 1,077) increased in 1987.

In general, DCE/SP coordinators and state/local law enforcement officials noted the continuing trend of decreasing plot sizes. As stated in an article in the Fall 87 issue of SINSEMILLA TIPS "Growers were willing to harvest much lower yields by planting in the shade on east or west slopes and nowhere near water. Many growers had at least a little something to harvest this year because of this change in cultivation tactics."



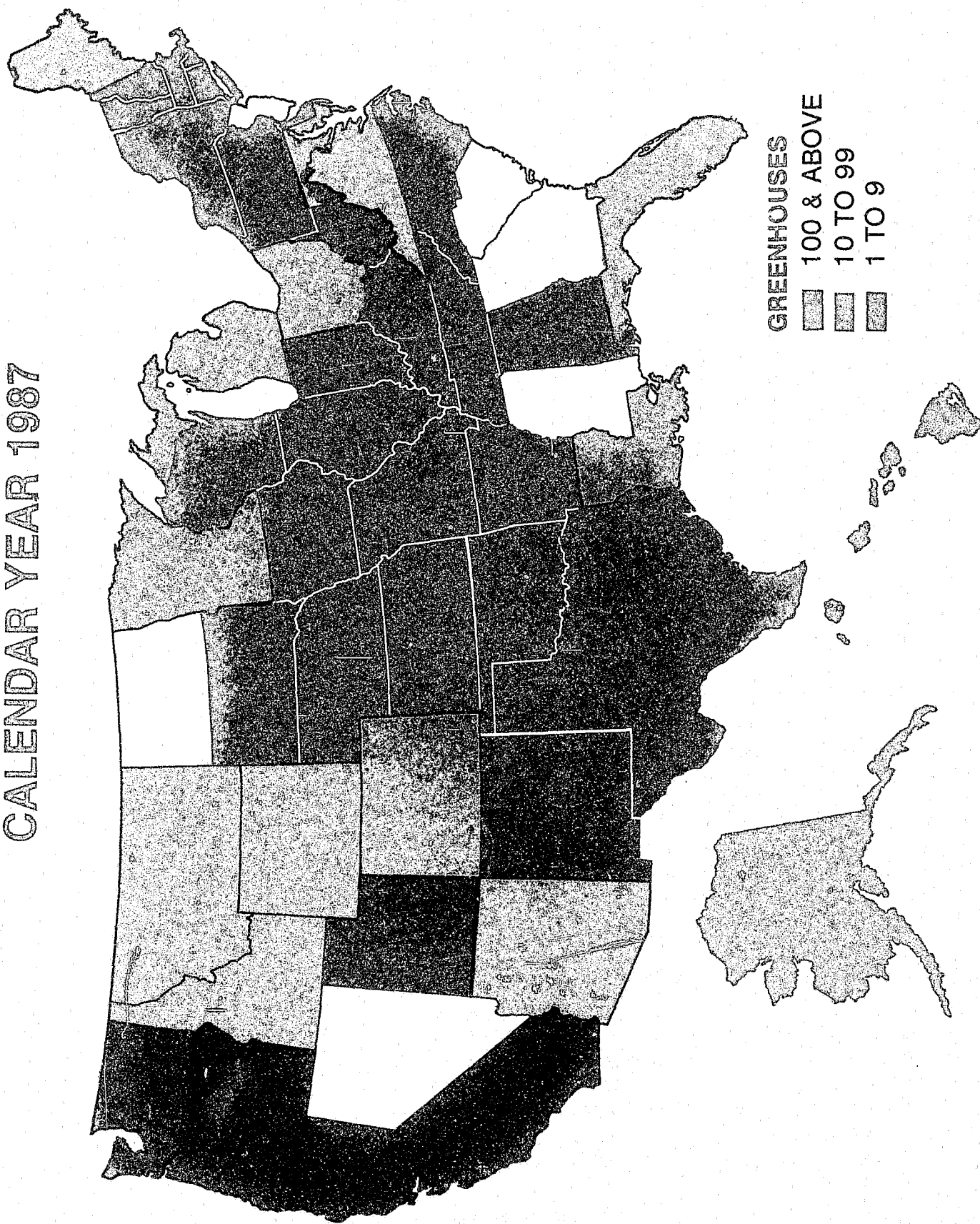
The employment and sophistication of camouflage techniques to avoid detection were again noted in almost all states surveyed. Camouflage techniques ranged from the standard intercropping of cannabis plants among existing vegetation to such unique practices as hoisting potted plants up into the center of trees in what are termed "tree plots". Yet another example of a unique camouflage technique, was a plot discovered in California in large 10 foot deep pit. As trees had been intermingled with the cannabis plants the aerial configuration was similar in nature to that of grass.

Increased production of sinsemilla continues. Approximately 41 percent of the cultivated domestic cannabis crop eradicated in CY 1987 was sinsemilla. This figure compares to 38 percent sinsemilla in CY 1986, 33 percent in 1985, 27 percent in 1984 and 26 percent identified as sinsemilla in 1983.

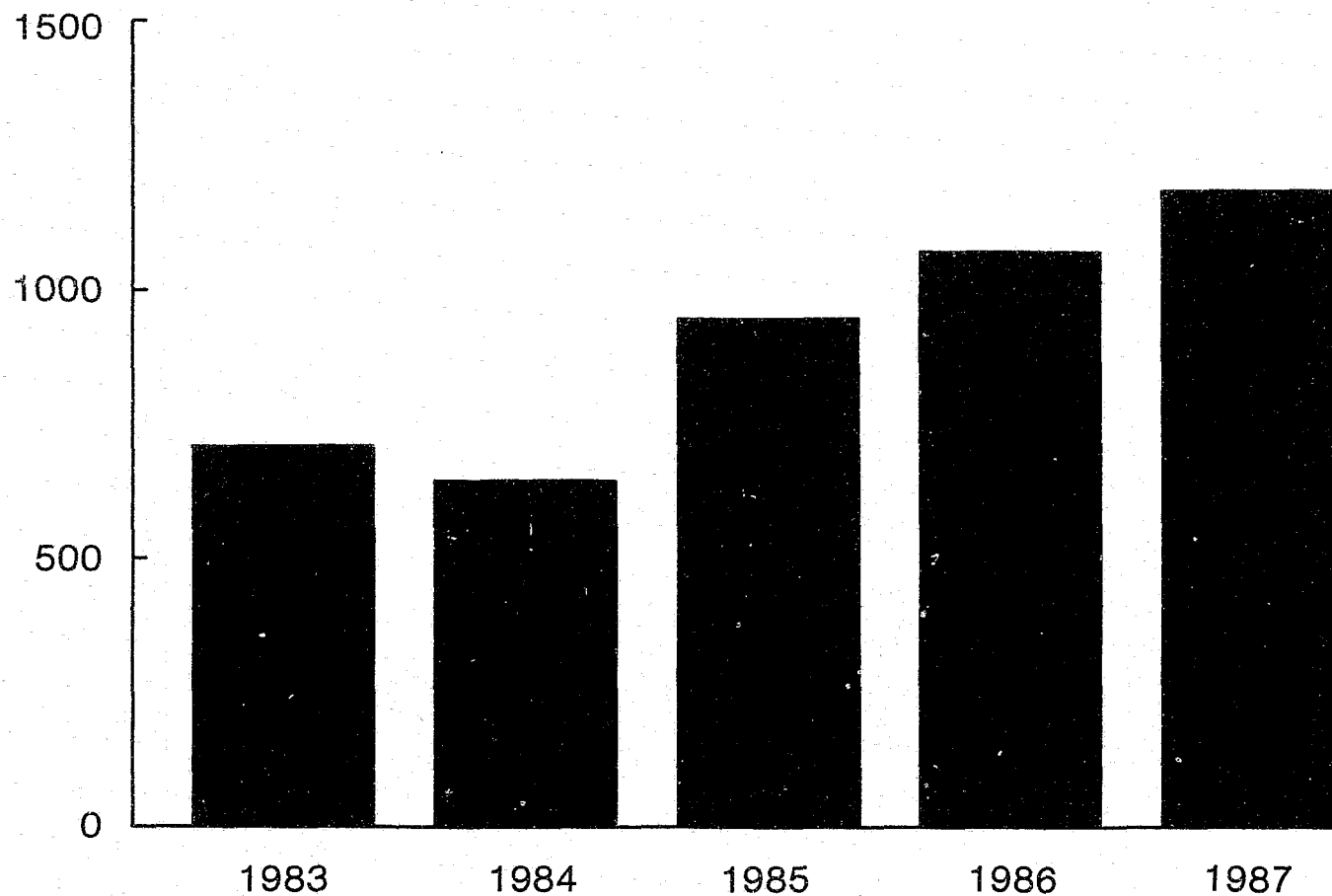
This article was prepared by DEA, Office Intelligence, OISD

## APPENDIX

NUMBER OF GREENHOUSES SEIZED  
CALENDAR YEAR 1987



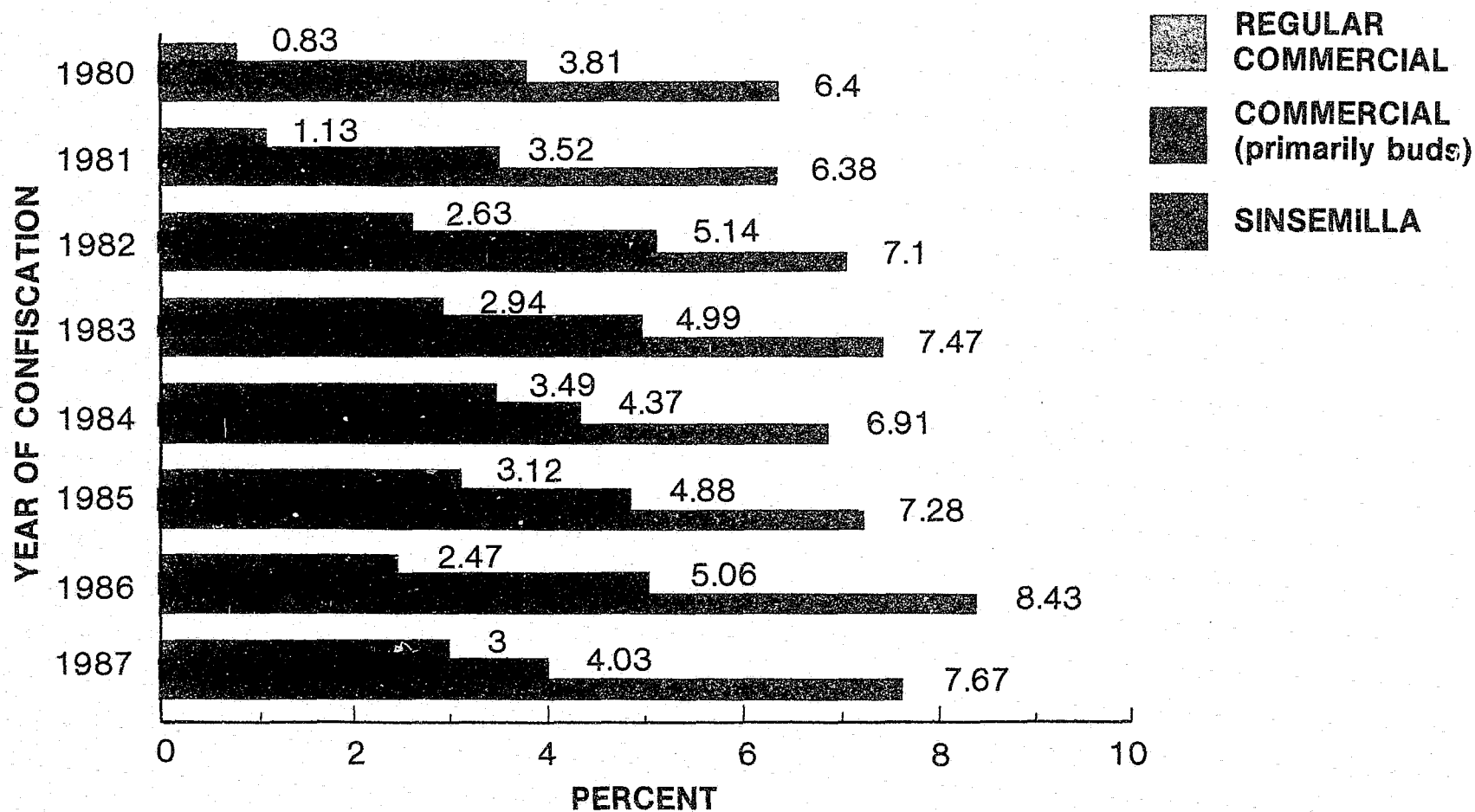
**NUMBER OF GREENHOUSES SEIZED  
DOMESTIC ERADICATION/SUPPRESSION PROGRAM  
CALENDAR YEAR 1983 - 1987**



# CANNABIS POTENCY

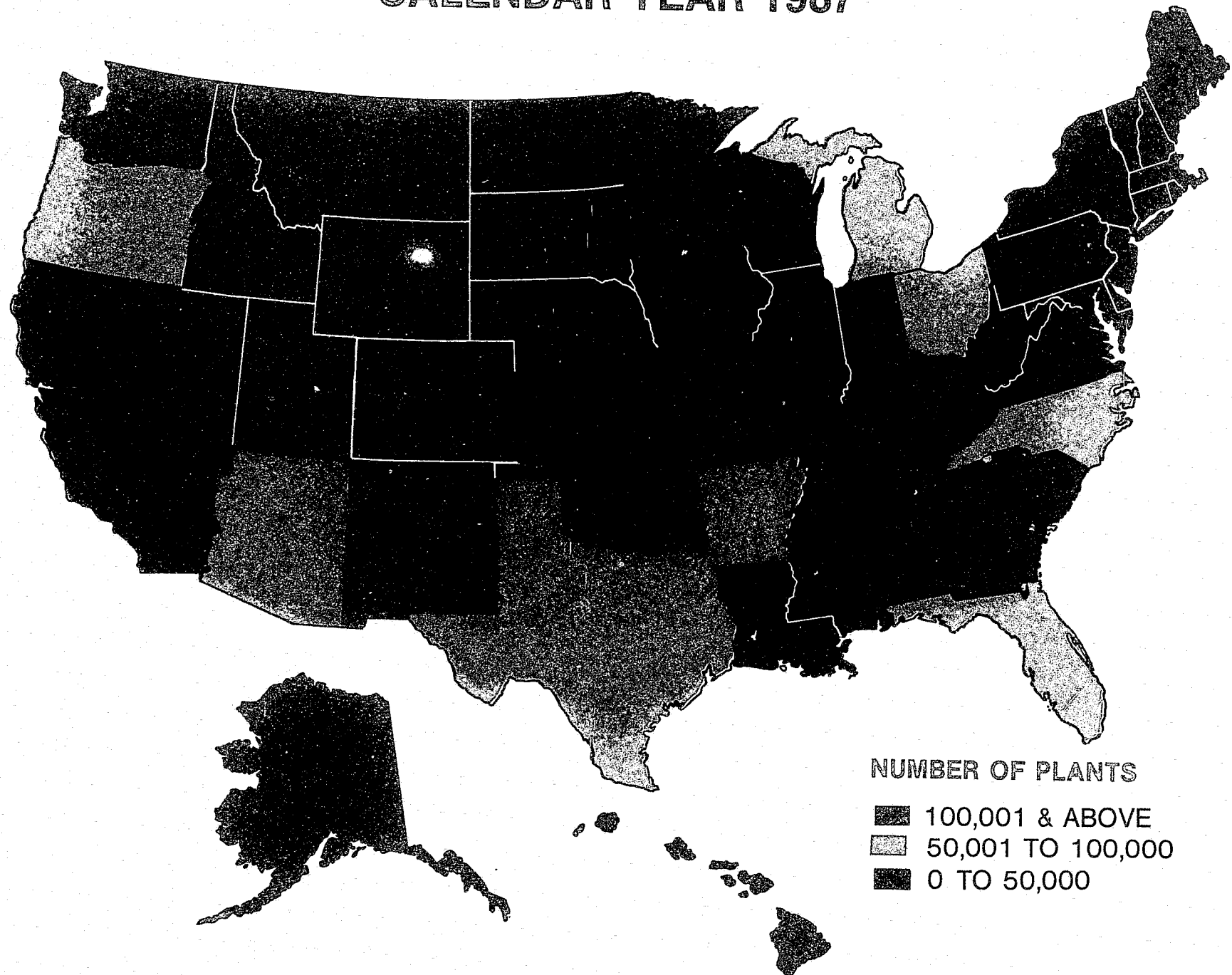
## AVERAGE PERCENT DELTA-9 THC CONTENT

### CY 1980 - CY 1987\*



\* THROUGH SEPTEMBER 1987

# CULTIVATED CANNABIS ERADICATED IN THE UNITED STATES CALENDAR YEAR 1987



# HASHISH/HASHISH OIL AVERAGE PERCENT DELTA- 9 THC CONTENT 1980 - 1987

