# 10mestic 

Lamehis Etilivation A8sCSSMCILLDLS


## DOMESTIC <br> Cannabis Cultivation <br> ASSESSMENT

## NATIONAL DRUG INTELLIGENCE CENTER U.S. DEPARTMENT OF JUSTICE



## Table of Contents

Executive Summary ..... 1
Purpose ..... 2
Overview .....  2
National Cannabis Cultivation Trends ..... 2
Indoor Cultivation Trends .....  4
Outdoor Cultivation Trends ..... 6
Trends in M7 States ..... 6
California ..... 6
Hawaii ..... 9
Oregon ..... 10
Washington ..... 13
Kentucky ..... 16
Tennessee ..... 19
West Virginia ..... 21
Cannabis Cultivation on Public Lands. ..... 23
Primary Foreign Source Countries For Marijuana ..... 25
Mexico ..... 25
Canada ..... 26
Availability and Demand ..... 26
Intelligence Gaps ..... 29
Outlook ..... 29
Sources ..... 30

## Executive Summary

Domestic cannabis cultivation is occurring at high levels and eradication is increasing across the United States, according to the most recent eradication data. Cannabis cultivation operations currently appear to be most prevalent in western states but are increasing in many eastern states. Average marijuana potency steadily increased over the past 20 years to the highest recorded level in 2008; this continuous yearly increase can be partially attributed to improvements in outdoor and indoor cultivation methods. Indoor cannabis cultivation continues at high levels-the result of traffickers attempting to avoid heightened detection and eradication of outdoor grow sites and to gain higher profits by trafficking higher-grade marijuana.

California, Hawaii, Kentucky, Oregon, Tennessee, Washington, and West Virginia are the primary marijuana cultivation states (M7 states). Domestic Cannabis Eradication/Suppression Program (DCE/SP) data show that more than 8 million plants were eradicated in 2008, 89 percent ( $7,136,133$ plants of $8,013,308$ plants) of which were eradicated in the M7 States.

Despite continuing increases in the amount of cannabis produced domestically, much of the marijuana available within the United States is foreign-produced. The two primary foreign source areas for marijuana distributed within the United States are Canada and Mexico. Mexican drug trafficking organizations (DTOs) have relocated many of their outdoor cannabis cultivation operations in Mexico from traditional growing areas to more remote locations in central and northern Mexico, primarily to reduce the risk of eradication and gain easier access to U.S. drug markets. Asian criminal groups are the primary producers of high-potency marijuana in Canada.

The amount of marijuana available for distribution in the United States is unknown; an accurate estimate regarding the amount of marijuana available in the United States is not feasible. Despite record-setting eradication efforts in the United States, the availability of marijuana remains relatively high, with limited disruption in supply or price. Levels of marijuana use in the United States are higher than those for any other drug, particularly among adults; however, rates of marijuana use are decreasing among adolescents. Some law enforcement agencies identify marijuana as the greatest drug threat in their jurisdictions. Marijuana use often results in adverse health consequences to abusers, placing a burden on medical services.

No reliable estimates are available regarding the amount of domestically cultivated or processed marijuana. The amount of cannabis cultivated and marijuana produced in the United States by large-scale DTOs, including Asian, Caucasian, and Mexican groups, is unknown. The extent of indoor cannabis cultivation in the United States is largely unknown and likely underreported because of the challenges posed to law enforcement entities in locating indoor grow sites.

In the near term, the threat posed by domestic cannabis cultivation in both outdoor and indoor grows will increase as DTOs expand their operations throughout the United States. Traffickers, primarily Mexican and Asian DTOs involved with cannabis cultivation and marijuana distribution, will expand their operations to new areas, mainly to minimize detection and maximize profits. Demand for high-potency marijuana may encourage traffickers to produce other high THC-content products such as hashish and hash oil.

## National Drug Intelligence Center

## Purpose

The Domestic Cannabis Cultivation Assessment is prepared annually to provide policymakers, law enforcement executives, resource planners, and cannabis eradication program coordinators with strategic intelligence regarding cannabis cultivation and marijuana trafficking trends. ${ }^{1}$ The assessment highlights strategic trends in indoor and outdoor cannabis cultivation, particularly in principal domestic cultivation areas. This assessment also presents strategic intelligence regarding the operational trends and tendencies of drug trafficking organizations (DTOs) and criminal groups that produce marijuana, and it addresses the violence, hazards, and environmental damage associated with domestic cannabis cultivation.

## Overview

The high demand for marijuana has prompted DTOs ${ }^{2}$ and criminal groups to engage in largescale cannabis cultivation in the United States and to smuggle thousands of metric tons of marijuana from Mexico and, to a lesser extent, Canada into the United States for distribution. Mexican criminal groups operate large outdoor cannabis plots, often composed of several thousand plants, particularly on public lands in western states. Caucasian criminal groups, especially in Appalachian communities, cultivate significant amounts of cannabis, typically in smaller plots ( 100 to 200 plants). Some cannabis growers, particularly Caucasian criminal groups, have shifted from outdoor cannabis culti-

[^0]vation to indoor cultivation to gain higher profits generated from the production of higher-potency marijuana. The shift from outdoor to indoor cultivation by some criminal groups has contributed to an overall rise in indoor cannabis cultivation nationally; however, most indoor cannabis cultivation can be primarily attributed to large-scale indoor cultivation by Asian DTOs, including some Asian DTOs from Canada.

## National Cannabis Cultivation Trends


#### Abstract

Domestic cannabis cultivation is occurring at high levels and eradication is increasing across the United States, according to the most recent eradication data. No conclusive estimates are avail-


 able regarding the amount of cannabis grown in the United States; however, eradication statistics provide an indicator of the extent of cultivation. According to data from the Drug Enforcement Administration (DEA) Domestic Cannabis Eradication/Suppression Program (DCE/SP), domestic cannabis eradication is increasing. The number of plants eradicated from domestic cannabis cultivation sites increased substantially in each of the past 5 years. (See Table 1 on page 3.) In 2008, more than 8 million plants were eradicated from indoor and outdoor sites in the United States-a 14 percent increase over 2007 ( $7,034,327$ plants). Most cannabis eradicated annually is from outdoor cultivation sites. DCE/SP data indicate that 94 percent $(7,562,322$ of $8,013,308)$ of plants eradicated in the United States were eradicated from outdoor cultivation sites in 2008. States reporting the highest number of plants eradicated from outdoor sites in 2008 include California, Tennessee, Washington, and Kentucky. While outdoor cultivation is predominant, law enforcement reporting indicates a shift toward indoor cultivation. A significant and increasing number of plants are eradicated annually from indoor cultivation sites. Just 6 percent $(450,986$ of $8,013,308)$ of all plants eradicated in the country were eradicated from indoor cultivation sites in 2008. States reporting the highest number of plants eradicated fromindoor cultivation sites in 2008 are California, Florida, Washington, and Colorado. (See Table 2.)

## Cannabis cultivation operations currently appear to be most prevalent in western states but are increasing in many eastern states. Do-

 mestic cannabis eradication from both indoor and outdoor cultivation sites appears to be highest in western states, specifically California, Oregon, and Washington where large-scale outdoor cannabis cultivation, especially by Mexican groups and Caucasian groups, is prevalent. DCE/SP data for 2008 show that 76 percent $(5,759,296$ of $7,562,322$ ) of all outdoor plants eradicated nationally were eradicated in these three states. Furthermore, 66 percent $(5,322,053$ of $8,013,308)$ of plants eradicated from indoor and outdoor cannabis cultivation sites in the United States were eradicated from California alone. National-level eradication data and intelligence reporting indicate that large-scale outdoor cannabis cultivation operations like those in many western states are expanding eastward into Utah, Idaho, and Texas and, more recently, into Wisconsin, Ohio, and Tennessee. Similarly, indoor cannabis cultivation operations are most pervasive in western states like California, Oregon, and Washington, largely because of the exploitation of medical marijuana laws in some western states, and the expansion of large-scale Asianoperated indoor grow sites. Indoor cultivation also is an increasing concern in eastern states-particularly in Florida, where law enforcement authorities report a substantial increase in Cuban-operated indoor grows throughout the state.> Table 1. Number of Plants Eradicated From Indoor and Outdoor Sites in the United States, 2004-2008

|  | $\mathbf{2 0 0 4}$ | 2005 | 2006 | 2007 | $\mathbf{2 0 0 8}$ |
| :--- | :---: | :---: | :---: | ---: | :---: |
| Indoor | 203,896 | 270,935 | 400,892 | 434,728 | 450,986 |
| Outdoor | $2,996,225$ | $3,938,151$ | $4,830,766$ | $6,599,599$ | $7,562,322$ |
| Total | $\mathbf{3 , 2 0 0 , 1 2 1}$ | $\mathbf{4 , 2 0 9 , 0 8 6}$ | $\mathbf{5 , 2 3 1 , 6 5 8}$ | $\mathbf{7 , 0 3 4 , 3 2 7}$ | $\mathbf{8 , 0 1 3 , 3 0 8}$ |

Source: Domestic Cannabis Eradication/Suppression Program. Note: Drug Enforcement Administration (DEA) methodology for collecting Domestic Cannabis Eradication/Suppression Program (DCE/SP) data changed in 2007. Beginning in 2007, public lands data are included in the number of outdoor plants eradicated and therefore should not be compared with previous years' data.

Table 2. Domestic Cannabis Eradication Indoor and Outdoor Plant Seizures, 2008

| State | Indoor Sites | Indoor Plants | Outdoor Sites | Outdoor Plants |
| :---: | :---: | :---: | :---: | :---: |
| Alabama | 15 | 748 | 529 | 36,118 |
| Alaska | 71 | 3,962 | 6 | 297 |
| Arizona | 35 | 715 | 28 | 13,671 |
| Arkansas | 15 | 844 | 114 | 20,373 |
| - California | 748 | 182,602 | 1,707 | 5,139,451 |
| Colorado | 29 | 24,469 | 17 | 5,564 |
| Connecticut | 12 | 874 | 36 | 2,066 |
| Delaware | 9 | 169 | 11 | 37 |
| Florida | 1,022 | 78,489 | 299 | 16,211 |
| Georgia | 12 | 2,840 | 215 | 47,607 |
| - Hawaii | 3 | 373 | 2,506 | 102,398 |
| Idaho | 18 | 843 | 16 | 19,941 |
| Illinois | 66 | 3,043 | 130 | 13,267 |
| Indiana | 170 | 11,831 | 633 | 26,114 |
| Iowa | 2 | 252 | 3 | 424 |
| Kansas | 27 | 1,413 | 12 | 1,463 |
| - Kentucky | 51 | 4,265 | 4,744 | 348,905 |
| Louisiana | 24 | 426 | 81 | 1,652 |
| Maine | 52 | 3,224 | 162 | 1,795 |
| Maryland | 70 | 1,692 | 59 | 1,147 |
| Massachusetts | 3 | 335 | 108 | 2,356 |
| Michigan | 129 | 9,283 | 820 | 53,266 |
| Minnesota | 60 | 16,536 | 15 | 1,962 |
| Mississippi | 18 | 500 | 75 | 1,237 |
| Missouri | 107 | 3,764 | 270 | 5,168 |
| Montana | 8 | 747 | 5 | 37 |
| Nebraska | 15 | 623 | 7 | 1,202 |
| Nevada | 89 | 6,826 | 5 | 3,185 |
| New Hampshire | 17 | 918 | 37 | 592 |
| New Jersey | 35 | 1,757 | 49 | 842 |
| New Mexico | 1 | 137 | 13 | 828 |
| New York | 89 | 2,181 | 314 | 12,014 |
| North Carolina | 30 | 1,489 | 303 | 103,711 |
| North Dakota | 0 | 0 | 0 | 0 |
| Ohio | 311 | 14,167 | 1,548 | 42,126 |
| Oklahoma | 0 | 0 | 161 | 21,067 |
| - Oregon | 194 | 10,874 | 191 | 80,927 |
| Pennsylvania | 82 | 2,194 | 661 | 8,693 |
| Rhode Island | 0 | 0 | 1 | 16 |
| South Carolina | 14 | 674 | 89 | 29,850 |
| South Dakota | 3 | 263 | 0 | 0 |
| - Tennessee | 2 | 70 | 2,428 | 539,300 |
| Texas | 6 | 738 | 28 | 35,542 |
| Utah | 2 | 170 | 11 | 90,054 |
| Vermont | 7 | 320 | 47 | 605 |
| Virginia | 105 | 5,512 | 298 | 13,727 |
| - Washington | 237 | 41,497 | 214 | 538,918 |
| - West Virginia | 36 | 2,422 | 543 | 144,131 |
| Wisconsin | 112 | 3,892 | 572 | 32,456 |
| Wyoming | 2 | 23 | 0 | 0 |
| Total | 4,165 | 450,986 | 20,121 | 7,562,322 |

Source: Domestic Cannabis Eradication/Suppression Program.
Note: These data were collected by DEA in conjunction with the DCE/SP Program. The DCE/SP program is a joint effort by federal and state agencies to which DEA contributes funding, training, equipment, investigative, and aircraft resources to participating states in an effort to eradicate domestically cultivated marijuana.

- M7 States (See Page 6 for explanation of M7 states.)

ARCHIVED

## National Drug Intelligence Center

Figure 1. Average Percentage of THC in Samples of Seized Marijuana, 1988-2008


Source: University of Mississippi Potency Monitoring Project.

Average marijuana potency steadily increased over the past 20 years to the highest recorded level in 2008; this continuous yearly increase can be partially attributed to improvements in outdoor and indoor cultivation methods. According to data from the University of Mississippi Potency Monitoring Project (PMP), the average THC (delta-9-tetrahydrocannabinol) level in tested samples of marijuana increased in 2008 to the highest level ever recorded since the project's inception in 1975. The average THC content of tested marijuana samples increased to 10.14 percent in 2008, rising from 9.60 percent in 2007 (see Figure 1). The tested samples consisted, in large part, of marijuana seized from eradicated plots in the United States and other countries, particularly Mexico and Canada. Improved outdoor and indoor cultivation methods adopted by both domestic and foreign cannabis cultivators appear to be a factor in increased marijuana potency.

## Indoor Cultivation Trends

Indoor cannabis cultivation continues at bigh levels-the result of traffickers attempting to avoid heightened detection and eradication of outdoor grow sites and to gain bigher profits by trafficking higher-grade marijuana. The number of indoor cannabis grow sites seized and indoor cannabis plants eradicated by federal, state, and local law enforcement agencies has increased significantly since 2004 (see Table 1 on page 3). Many cultivators, particularly Caucasian groups, have relocated or established their operations indoors because of the reduced risk of law enforcement detection in comparison with outdoor grows, which are being increasingly targeted by vigorous outdoor cannabis eradication operations. Caucasian criminal groups are increasing their indoor operations in many states, particularly California and Tennessee. Indoor cannabis cultivators are able to generate higher profit margins from indoor-produced marijuana, since controlled growing conditions at indoor sites generally yield higher-potency marijuana. For
example, the wholesale price for domestic highpotency marijuana ranges from $\$ 2,500$ to $\$ 6,000$ per pound in Los Angeles, California, while the wholesale price for midgrade marijuana is approximately $\$ 750$ per pound, according to the Los Angeles County Regional Criminal Information Clearinghouse (LACLEAR). Additionally, indoor cannabis cultivators are able to cultivate year-round with four to six harvests a year, compared with the one or two harvests a year typical of outdoor cultivation.

Asian DTOs and criminal groups have increased their indoor cannabis cultivation operations in many states; some of these groups are linked in a nationwide criminal network. Asian criminal groups, including some that have relocated from Canada to the United States, have established cannabis cultivation operations throughout the United States. Recent law enforcement reporting reveals that Asian DTOs and criminal groups expanded indoor cultivation operations in 2007 in several areas of the country, including southern and eastern states. Some Asian DTOs that operate grow sites in western states are linked organizationally to groups in other regions of the country, suggesting coordination among some Asian DTOs cultivating cannabis in separate regions of the country.

> Indoor cannabis cultivation sites operated by Cuban DTOs and criminal groups are prevalent in the Southeast region of the United States-primarily in Florida. Law enforcement and intelligence sources indicate that the primary threat regarding marijuana production in Florida is attributed to Cuban-operated indoor cultivation sites. Cuban immigrants are often exploited by DTOs and criminal groups to cultivate highpotency cannabis, which is sold for approximately $\$ 4,500$ per pound. In fact, law enforcement reporting indicates an increase in the seizure of indoor cannabis grow operations for the cultivation of high-potency marijuana; according to DCE/SP, the number of indoor grow sites seized in Florida rose each year between 2004 ( 246 plots) and 2008 ( 1,022 plots) (see Table 3 and Figure 2 on page 7.) Cuban-operated cannabis cultivation sites are most
pervasive in southern Florida, but have expanded northward throughout Florida. Since 2001, these groups have extended their operations even farther northward into the neighboring states of Georgia and North Carolina to avoid increasing law enforcement scrutiny and to be closer to drug markets.

Table 3. Number of Indoor Grow Sites and Plants Eradicated in Florida, 2004-2008

| Year | Indoor Grow Sites | Indoor Plants Seized |
| :---: | :---: | :---: |
| 2004 | 246 | 21,879 |
| 2005 | 384 | 45,217 |
| 2006 | 480 | 36,172 |
| 2007 | 944 | 74,698 |
| 2008 | 1,022 | 78,489 |

Source: Domestic Cannabis Eradication/Suppression Program.

[^1]
## National Drug Intelligence Center

## Outdoor Cultivation Trends


#### Abstract

Mexican traffickers are expanding cannabis cultivation operations eastward to states that appear to have less law enforcement scrutiny and fewer eradication operations. Mexican criminal groups and DTOs operating in the United States have traditionally established outdoor grow sites in the western region of the country, primarily in California, Oregon, Washington, and Idaho. However, focused marijuana investigations in western states that coincide with increased detection capabilities and large-scale eradication operations have resulted in growers expanding or shifting their outdoor grow operations eastward. Though successful in eradicating plants and arresting growers, these operations appear to have resulted in groups increasingly seeking areas with seemingly less law enforcement scrutiny of outdoor grow operations. Mexican groups operating large outdoor grow sites were detected and/or plants were eradicated in several midwestern and eastern states.


## National Guard Involvement in Cannabis Eradication

The National Guard Counterdrug Program has assisted local, state, and federal law enforcement agencies annually since 1989 with cannabis eradication. Soldiers and airmen provide aerial reconnaissance, ground reconnaissance, and criminal-analyst support in the 50 states and 4 territories. In 2008, 6,239,221 cannabis plants and 849,141 pounds of processed marijuana were seized by law enforcement officers with the assistance of the National Guard.

Source: United States National Guard Counterdrug Division.

## Trends in M7 States

In 2005, the Office of National Drug Control Policy (ONDCP) and DEA, along with other federal, state, and local law enforcement and intelligence agencies, identified California, Hawaii, Kentucky, Oregon, Tennessee, Washington, and West Virginia as the primary marijuana cultivation states (M7 states). After the M7 states were identified, law enforcement resources were shifted to focus eradication efforts on these states. Much of the funding used to facilitate these eradication operations is provided through DEA's DCE/SP Program. DCE/SP data show that more than 8 million plants were eradicated in 2008, 89 percent ( $7,136,133$ plants of $8,013,308$ plants) of which were eradicated in the M7 States.

## CALIFORNIA

Cannabis cultivation and eradication levels are consistently higher in California than in any other state. According to DCE/SP data, eradication of indoor and outdoor cannabis plants in California in 2008 accounted for 66 percent (5,322,053 of $8,013,308$ ) of cannabis plants eradicated nationally, compared to 70 percent $(4,951,976$ of $7,034,327)$ in 2007. Eradication data from the DEA San Francisco Field Division also show that the California counties where outdoor eradication is highest include Lake, Tulare, Shasta, Los Angeles, and Mendocino; ${ }^{3}$ these counties accounted for 40 percent ( $2,069,179$ of $5,139,451$ ) of all outdoor plants eradicated in California in 2008 (see Figure 3 on page 8). Eradication of indoor cannabis plants in California occurred at the highest levels in Humboldt, Mendocino, Sonoma, San Diego, and San Mateo Counties, ${ }^{4}$ accounting for 61 percent of all indoor plants (110,503 of 182,602 ) eradicated in California in 2008.

[^2]Figure 2. Cannabis Plants Eradicated From Indoor Grows in Florida, by County, 2008


## National Drug Intelligence Center

Figure 3. Outdoor Cannabis Plants Eradicated and Sites Seized in California, by County, 2008


## Hawail

Hawaii consistently ranks among the top states for the total number of cannabis plants eradicated each year. According to DCE/SP data, eradication of indoor and outdoor cannabis plants in Hawaii ( 102,771 plants) accounted for 1 percent of all plants eradicated in the United States $(8,013,308$ plants) in 2008. Unlike previous years, Hawaii County Police Department statistics were not included in 2008 DCE/SP data-a contributing factor to a decrease in the number of plants eradicated in Hawaii between 2007 (139,089 plants) and 2008 (102,771 plants) (see text box). According to the DEA San Francisco Field Division, a majority of the cannabis eradicated in Hawaii was seized from outdoor sites on public lands by the Department of Land and Natural Resources (DLNR) $(64,841$ plants). County-level eradication data for Hawaii are not available; however, available data indicate that a considerable number of cannabis plants were eradicated by the Maui County Police Department ( 32,378 plants), the Kauai County Police Department ( 2,043 plants), and the Honolulu County Police Department (3,316 plants) during 2008. DEA San Francisco Field Division eradication data also show that indoor cannabis cultivation levels were highest in Maui County; 373 plants were eradicated during 2008. No cannabis plants were eradicated from indoor grow sites in Honolulu or Kauai Counties or from DLNR lands during 2008.

## Hawaii County Votes to Drop Federal Eradication Funding

> In May 2008, the County Council for Hawaii County voted not to accept federal DCE/SP funding for state and local law enforcement's aerial surveillance and eradication efforts, citing complaints from many residents who reportedly opposed the program because low-flying helicopter missions violated their privacy and disrupted rural life. Consequently, law enforcement agencies were constrained in their efforts to effectively monitor outdoor and indoor grow activity in Hawaii County, where most of the state's cannabis cultivation occurs.

Source: Drug Enforcement Administration.

## Oregon

According to DCE/SP data, eradication of indoor and outdoor cannabis plants in Oregon ( 91,801 plants) accounted for 1 percent of all plants eradicated in the United States $(8,013,308$ plants). Data from the Oregon Department of Justice indicate that outdoor eradication levels were highest in Jefferson, Douglas, Morrow, Hood River, and Yamhill Counties, ${ }^{5}$ accounting for 70 percent of all outdoor plants eradicated in Oregon in 2008 ( 53,736 of 76,896). (See Figure 4 on page 11.) Indoor cannabis eradication levels were highest in Multnomah, Lane, Deschutes, Douglas, and Clackamas Counties, ${ }^{6}$ accounting for 85 percent of all indoor plants eradicated in Oregon in 2008 ( 7,490 of 8,805 plants). (See Figure 5 on page 12.)

[^3]Figure 4. Outdoor Cannabis Plants Eradicated and Sites Seized in Oregon, by County, 2008


## National Drug Intelligence Center



## Washington

Cannabis cultivation and eradication levels in Washington were relatively high during 2008. According to DCE/SP data, eradication of indoor and outdoor cannabis plants in Washington accounted for 7 percent of all plants eradicated in the United States ( 580,415 of 8,013,308 plants) in 2008. Washington State Patrol eradication data show that outdoor eradication levels were highest in Yakima, Chelan, Benton, Walla Walla, and Grant Counties, ${ }^{7}$ accounting for 74 percent (400,103 of 538,918 plants) of all outdoor plants eradicated in Washington in 2008. (See Figure 6 on page 14.) Indoor cannabis eradication levels in Washington were highest in King, Snohomish, Pierce, Spokane, and Thurston Counties, ${ }^{8}$ accounting for 84 percent ( 35,151 of 41,764 plants) of all indoor plants eradicated in Washington in 2008. (See Figure 7 on page 15.)
7. According to the Washington State Patrol, law enforcement authorities in the state eradicated the highest number of outdoor-grown cannabis plants in Yakima $(214,036)$, Chelan $(85,961)$, Benton $(43,021)$, Walla Walla $(31,449)$, and Grant $(25,636)$ Counties in 2008.
8. According to the Washington State Patrol, law enforcement authorities in the state eradicated the highest number of indoor-grown cannabis plants in King $(23,222)$, Snohomish $(5,798)$, Pierce $(2,738)$, Spokane $(1,999)$, and Thurston $(1,394)$ Counties in 2008.

## National Drug Intelligence Center

Figure 6. Outdoor Cannabis Plants Eradicated and Sites Seized in Washington, by County, 2008

Figure 7. Indoor Cannabis Plants Eradicated in Washington, by County, 2008


## National Drug Intelligence Center

## Kentucky

Ongoing drought conditions and law enforcement pressure contributed to a 28 percent decrease in the number of cannabis plants eradicated in Kentucky between 2007 (492,615 plants) and 2008 ( 353,170 plants). This decrease resulted in lower eradication levels in Kentucky during the year, since fewer plants were present in the state. According to DCE/SP data, eradication of indoor and outdoor cannabis plants in Kentucky ( 353,170 plants) accounted for 4 percent of all plants eradicated in the United States $(8,013,308$ plants). Furthermore, Kentucky State Police eradication data show that outdoor eradication levels were highest in Harlan, Knox, Bell, Wayne, and Owsley Counties, ${ }^{9}$ accounting for 36 percent $(123,825$ of 348,254$)$ of all outdoor plants eradicated in Kentucky in 2008. (See Figure 8 on page 17.) Cannabis eradication at indoor grow sites in Kentucky was much lower than at outdoor grow sites. During 2008, 4,191 plants were eradicated from indoor cultivation operations in Kentucky, representing less than 1 percent of all cannabis plants eradicated from indoor grow sites in the United States (450,986 plants). Indoor cultivation sites were reported in 32 counties in Kentucky, with the majority of plants eradicated from Wayne, Spencer, Carter, Washington, and Garrard Counties ${ }^{10}$ ( 2,873 plants of 4,191 plants). (See Figure 9 on page 18.)

[^4]Figure 8. Outdoor Cannabis Plants Eradicated and Sites Seized in Kentucky, by County, 2008


## National Drug Intelligence Center



## Tennessee

Eradication statistics in Tennessee were relatively high in 2008, largely due to the discovery and eradication of one large-scale grow in eastern Tennessee. According to DCE/SP data, eradication of indoor and outdoor plants in Tennessee (539,370 plants) accounted for 7 percent of all plants eradicated in the United States (8,013,308 plants). Furthermore, data from the Tennessee Bureau of Investigation (TBI) show that the eradication of indoor and outdoor cannabis plants in Tennessee increased from 178,322 plants in 2007 to 539,422 plants in 2008; this increase is attributed to the eradication of a single outdoor grow site yielding approximately 375,000 plants in 2008. TBI data also show that outdoor eradication levels were highest in Cocke, Cumberland, Wayne, Lawrence, and Hickman Counties, ${ }^{11}$ accounting for 82 percent ( 442,351 of 539,322 plants) in 2008. (See Figure 10 on page 20.) Data from TBI also show that relatively few plants were eradicated from indoor grows in Tennessee in 2008; 100 plants were eradicated from Rutherford (70 plants) and Roane (30 plants) Counties.

[^5]
## National Drug Intelligence Center



## West Virginia

Cannabis cultivation and eradication in West Virginia are relatively low in comparison with the rest of the United States. DCE/SP data indicate that 146,553 plants were eradicated from indoor and outdoor cultivation operations during 2008, representing 2 percent of all cannabis plants eradicated in the country (8,013,308 plants). West Virginia State Police and West Virginia National Guard eradication data show that outdoor eradication levels were highest in Grant, Hardy, Wayne, Mingo, and Mason Counties, ${ }^{12}$ accounting for 67 percent $(95,589$ of 143,732$)$ of all outdoor plants eradicated in West Virginia in 2008. Outdoor cultivation sites are most prevalent in the southwestern region of the state. (See Figure 11 on page 22.) County-level data regarding the number of plants eradicated from indoor cultivation sites in West Virginia counties during 2008 is not available; however, DCE/SP data for 2008 indicate that 2,422 plants were eradicated from 36 indoor sites throughout West Virginia that year.

[^6]
## National Drug Intelligence Center



## Cannabis Cultivation on Public Lands

Outdoor cannabis cultivation on public lands, particularly by Mexican criminal groups, is occurring at high levels and eradication on these lands is increasing. Cannabis cultivation on U.S. public lands is occurring at high levels, according to law enforcement reporting and recent eradication data. These lands are often used for cannabis cultivation operations, primarily by Mexican DTOs and criminal groups. These groups benefit from the remote locations that enable cultivators to operate largescale cannabis cultivation operations by limiting the chance of detection, and to maintain these activities without ownership of any land that could be seized by law enforcement or traced back to a participating member. Data from U.S. Department of Agriculture (USDA) Forest Service and the Department of the Interior (DOI) indicate that a combined total of 4,043,231 plants were eradicated from these lands in 2008. Furthermore, eradication data reveal an increasing trend in eradication efforts on these lands; eradication totals reported by each public lands agency show that the number of plants eradicated increased each year between 2004 and 2008. According to the USDA Forest Service, the number of plants eradicated from national forests more than quadrupled between 2004 (718,447 plants)
Figure 12. Number of Plants Eradicated From Federal Lands, 2004-2008*


Source: U.S. Department of Agriculture Forest Service; U.S. Department of the Interior.
*USFS data as of February 12, 2009. DOI data as of January 21, 2009.
and 2008 (3,079,923 plants). (See Figure 12.) DOI data show a similar trend; the number of plants eradicated from DOI lands increased overall from just 294,641 plants in 2004 to 963,308 plants in 2008. (See Figure 12.) Although the number of plants eradicated from DOI lands increased overall during this time period, some areas-like the Whiskeytown Recreational Area in Northern California-reported decreases in eradication during 2008 due to significant weather and fire events.

## Cannabis cultivation operations and eradication efforts in national forests appear to be bigher in California than in any other state.

 U.S. public lands in California continue to yield the highest number of eradicated plants of all public lands in the United States. According to data from the USDA Forest Service, the number of plants eradicated from national forests in Region 5-which encompasses only California-yielded an average of 83 percent of all plants eradicated from all U.S. national forests between 2004 and 2008 (see Table 4). Furthermore, cannabis eradication in California national forests is increasing; the number of plants eradicated from national forests in California increased each year between 2004 and 2008, rising from 591,824 plants to 2,456,235 plants, respectively (see Figure 13 on page 24 and Table 4).Table 4. Percentage of Cannabis Plants Eradicated From National Forests in California, 2004-2008*

| Year | U.S. National <br> Forests | Region 5 | Percent <br> Eradicated in <br> Region 5 |
| :--- | :---: | ---: | :---: |
| 2004 | 718,447 | 591,824 | $82 \%$ |
| 2005 | 992,264 | 783,839 | $79 \%$ |
| 2006 | $1,245,324$ | $1,091,236$ | $88 \%$ |
| 2007 | $2,176,952$ | $1,948,207$ | $89 \%$ |
| 200 ® $^{\star}$ | $3,079,923$ | $2,456,235$ | $80 \%$ |

Source: U.S. Department of Agriculture Forest Service.
*Data as of February 12, 2009.

## National Drug Intelligence Center



## Hispanic Cannabis Growers Hold Three Bureau of Land Management Employees at Gunpoint


#### Abstract

On October 7, 2008, three Bureau of Land Management (BLM) biologists were held at gunpoint by three members of a Hispanic criminal group who were operating a large-scale cultivation site on nearby BLM lands in northern Nevada. This was the third such incident regarding Hispanicoperated cannabis cultivation operations on BLM lands in Nevada in 2008. The three BLM biologists were conducting a stream study when they came upon a cannabis grow site and were immediately held at gunpoint by the three growers. All three biologists were released and were rescued by a BLM search party later the same day. The following day, law enforcement officers from the Humboldt County Sheriff's Office, Nevada Department of Public Safety, BLM Office of Law Enforcement Security, and Winnemucca Police Department, with the assistance of National Guard, secured the abandoned site. Law enforcement officers believe that five or six Hispanic growers lived onsite and were responsible for tending to nearly 800 mature plants and producing 150 pounds of processed buds.


Source: Bureau of Land Management.

## Primary Foreign Source Countries For Marijuana

Domestic marijuana production appears to be at the highest recorded levels; however, production in neighboring Mexico and Canada also supplies much of the demand for marijuana in the United States. Although no reliable estimates exist regarding the amount of foreign-produced marijuana available in the United States, much of the foreign marijuana transported to and available in the United States is produced in Mexico and Canada.

Despite continuing increases in the amount of cannabis produced domestically, much of the marijuana available within the United States is foreign produced. The two primary foreign source areas for marijuana distributed within the United States are Canada and Mexico. Mexico remains the primary foreign source for commercial-grade marijuana in the United States; approximately 15,800 metric tons of marijuana were potentially produced in Mexico in 2007, according to the latest data available from the Central Intelligence Agency Crime and Narcotics Center (CNC). Annual Mexican consumption is estimated at 100 to 500 metric tons; ${ }^{13}$ consequently, law enforcement officials believe that the majority of the marijuana that Mexico produces is bound for U.S. markets. The government of Mexico (GOM) reports that cultivation and eradication activities are concentrated in 9 states: Sinaloa, Nayarit, Jalisco, Michoacán, Guerrero, Oaxaca, Chihuahua, Sonora, and Durango. Guerrero, Nayarit, and Michoacán are the primary growing areas in Mexico.

Canada is a much lesser, albeit significant, source of marijuana-particularly high-grade marijuana-to U.S. drug markets. According to the Royal Canadian Mounted Police (RCMP), annual Canadian marijuana production is estimated at between 1,399 and 3,498 metric tons; cultivation activities are most predominant in British Columbia, Ontario, and Quebec, where approximately 90 percent of the marijuana is produced. RCMP also reports that approximately $1,749,057$ plants were seized by law enforcement agencies in 2006-the most recent year for which these data are available.

## Mexico

> Mexican DTOs have relocated many of their outdoor cannabis cultivation operations in Mexico from traditional growing areas to more remote locations in central and northern Mexico, primarily to reduce the risk of eradication and gain easier access to U.S. drug markets. According to CNC, Mexican DTOs have relocated
13. International Narcotics Strategy Control Report 2007.

## National Drug Intelligence Center

many of their cannabis-growing operations from traditional growing areas in the states of Guerrero, Nayarit, and Michoacán to remote mountain areas of Durango, Sinaloa, and Sonora in central and northern Mexico. CNC reports that the relocation is most likely the result of sustained high levels of detection and eradication in traditional growing areas as well as a desire on the part of the DTOs to reduce transportation costs to the Southwest Border and gain more direct access to drug markets throughout the United States.

## Canada

Cannabis cultivation in Canada occurs predominantly in British Columbia, Ontario, and Quebec; RCMP estimates that 90 percent of the marijuana produced in Canada is produced from cannabis cultivated in these three provinces. Additionally, cannabis cultivation appears to be increasing in Ontario and Quebec, primarily due to increased law enforcement pressure in and displacement of DTOs and criminal groups from British Columbia. Despite regional changes in cultivation in Canada, marijuana production continues at a relatively high rate, according to law enforcement and intelligence reporting, as well as eradication data. Annual eradication totals for Canada are not available; however, RCMP reports that a total of 806,616 plants and 384 kilograms of marijuana were seized between 2004 and 2008 by the RCMP, Canadian Forces, and local enforcement as part of Operation SABOT-a national interagency effort aimed at eradicating outdoor cannabis cultivation sites.

## Asian criminal groups are the primary producers of high-potency marijuana in Canada.

 Organized criminal groups, particularly Asian, but also Italian organized crime and outlaw motorcycle gangs (OMGs), engage in marijuana production in Canada, largely because of the lucrative market forhigh-potency marijuana-particularly BC Bud. ${ }^{14}$ According to RCMP, Asian criminal groups and OMGs are the primary traffickers of marijuana produced in Canada; however, Asian criminal groups-especially those of Chinese and Vietnamese descent-are predominant because of their advanced growing techniques for high-potency marijuana. The RCMP reports that the involvement of Asian criminal groups in technologically advanced indoor grow sites enables the groups to produce marijuana with high THC levels. In fact, the average THC content for marijuana grown in Canada was 10.25 percent in 2006, the latest year for which data were available. Law enforcement reporting indicates that these groups are using the large profits from high-grade marijuana sales to finance other illicit activities, including firearms and cocaine trafficking from the United States.

## Availability and Demand


#### Abstract

The amount of marijuana available for distribution in the United States is unknown; an accurate estimate regarding the amount of marijuana available in the United States is not feasible. In order to determine the amount of processed marijuana available in the United States, precise estimates are required for several critical factors, including the number of plants cultivated domestically and internationally; the amount consumed internationally; the amount produced from a single indoor and outdoor cannabis plant; and the effectiveness of eradication and interdiction/seizure efforts. Production and consumption estimates are available for Mexico, and production estimates are available for Canada-primary foreign source areas for marijuana destined for the United States. However, no reliable estimates of the aforementioned factors are available for the United States.


[^7]Table 6. Adolescent Trends in Percentage of Past Year Use of Marijuana, 2003-2007

| Grade | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 0 6}$ | $\mathbf{2 0 0 7}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 8th Grade | 12.8 | 11.8 | 12.2 | 11.7 | 10.3 |
| 10th Grade | 28.2 | 27.5 | 26.6 | 25.2 | 24.6 |
| 12th Grade | 34.9 | 34.3 | 33.6 | 31.5 | 31.7 |

Source: Monitoring the Future.

Despite record-setting eradication efforts in the United States, the availability of marijuana remains relatively high, with limited disruption in supply or price. During 2008, more marijuana was eradicated in the United States than ever before. According to DCE/SP data, an estimated 8 million plants were eradicated from outdoor and indoor cultivation sites throughout the country, a 150 percent increase since 2004 (3,200,121 plants to $8,013,308$ plants) (see Table 1 on page 3). These eradication efforts have been successful in removing thousands of pounds of marijuana from the U.S. drug market, but appear to have had limited long-term impact on market supply. No major price fluctuations were reported nationally. ${ }^{15}$ Nonetheless, the Central Valley HIDTA reports that in 2007 some cultivation site bosses returned to Mexico earlier in the season because their grow sites were eradicated and the sites were no longer profitable that season.

[^8]Levels of marijuana use in the United States are higher than those for any other drug, particularly among adults; bowever, rates of marijuana use are decreasing among adolescents. According to the National Survey on Drug Use and Health (NSDUH) data, the number of individuals 12 and older who used marijuana within the past year has decreased slightly overall from $2004(25,451,000)$ through $2007(25,085,000)$, the latest year for which data are available. Despite the slight decrease, the number of marijuana users is much higher than for any other drug surveyed, including pharmaceutical drugs $(16,280,000)$ and cocaine $(5,738,000)$. Rates of past year use are highest among adults aged 18 to 25 , and use of the drug is stable for that age group (see Table 5). However, rates of past year use for adolescents aged 12 to 17 declined from 15.0 percent in 2003 to 12.5 percent in 2007. Furthermore, Monitoring the Future (MTF) data show that rates of past year use among eighth, tenth, and twelfth graders have decreased overall since 2003. In particular, data show a significant decrease between 2006 and

## National Drug Intelligence Center

2007 (the latest date for which such data are available) in rates of past year use among eighth graders and a slight decline among tenth graders. (See Table 6 on page 27.)

## Some law enforcement agencies identify

 marijuana as the greatest drug threat in their jurisdictions. Data from NDIC's National Drug Threat Survey (NDTS) for 2008 reveal that 11.3 percent of state and local law enforcement agencies report that marijuana poses the greatest drug threat to their areas; this percentage is higher than for heroin ( $9.8 \%$ ) and pharmaceuticals ( $8.1 \%$ ) but lower than for powder cocaine ( $8.7 \%$ ) and crack (32.2\%) and powder methamphetamine (10.3\%) and ice methamphetamine (19.1\%). NDTS 2008 data further reveal that 8.0 percent of state and local law enforcement agencies report that marijuana is the drug that most contributes to property crimes in their areas; 4.1 percent report that marijuana most contributes to violent crimes.
#### Abstract

Marijuana use often results in adverse bealth consequences to abusers, placing a burden on medical services. According to NSDUH 2007 data, an estimated 25 million people aged 12 and older were dependent on or abusers of marijuana during the past year. This percentage is higher than for any other illicit drug. An increasing number of abusers are suffering adverse health consequences from their marijuana use, such as adverse physical, emotional, or behavioral changes or acute psychosis, including hallucinations or delusions, which necessitate medical intervention. As such, marijuana-related treatment admissions are increasing. Long-term trends of marijuana treatment admissions indicate a growing need for treatment services; according to Treatment Episode Data Set (TEDS), the number of marijuana-related treatment admissions doubled between 1994 and 2006, the most recent year for which data are available. (See Figure 14.)


Figure 14. Marijuana-Related Admissions to Publicly Funded Treatment Facilities, 1994-2006


[^9]
## Intelligence Gaps


#### Abstract

No reliable estimates are available regarding the amount of domestically cultivated or processed marijuana. The amount of marijuana available in the United States-including marijuana produced both domestically and internationally-is unknown. Moreover, estimates as to the extent of domestic cannabis cultivation are not feasible due to significant variability in or nonexistence of data regarding the number of cannabis plants not eradicated during eradication seasons, cannabis eradication effectiveness, and plant-yield estimates.


> The amount of cannabis cultivated and marijuana produced in the United States by large-scale DTOs, including Asian, Caucasian, and Mexican groups, is unknown. No estimates are available regarding the amount of marijuana produced by Asian, Caucasian, and Mexican traffickers in the United States; currently, no nationallevel eradication statistics are compiled or recorded by the producing group. The lack of such estimates precludes a precise determination of the extent to which each group is involved in marijuana production within the United States.

The extent of indoor cannabis cultivation in the United States is largely unknown and likely underreported because of the challenges posed to law enforcement entities in locating indoor grow sites. Law enforcement reporting indicates that indoor cannabis cultivation in the United States is increasing because more cultivators are establishing indoor grows in order to avoid detection and attain higher profits. However, fewer indoor grow sites are eradicated than outdoor sites in the United States. DCE/SP data indicate that 20,121 outdoor sites were eradicated in 2008, compared with just 4,165 indoor sites the same year. This disparity is most likely due to challenges posed to law enforcement in investigating indoor grow sites, particularly issues pertaining to searches of the sites, since most are located within private residences.

## Outlook

In the near term, the threat posed by domestic cannabis cultivation in both outdoor and indoor grows will increase as DTOs expand their operations throughout the United States. Traffickers, primarily Mexican and Asian DTOs, involved with cannabis cultivation and marijuana distribution will expand their operations to new areas, primarily to minimize detection and maximize profits. Such expansion will likely occur in areas where traffickers believe there is less law enforcement scrutiny and public awareness. Additionally, demand for high-potency marijuana may encourage traffickers to produce other high THC-content products such as hashish and hash oil.

## Sources

## Federal

Central Intelligence Agency
Crime and Narcotics Center
Executive Office of the President
Office of National Drug Control Policy
High Intensity Drug Trafficking Areas
Appalachia
Arizona
Demand Reduction Office
Post Seizure Analysis Team
Atlanta
Central Florida
Central Valley California
Marijuana Investigative Team
Chicago
Gulf Coast
Hawaii
Houston
Lake County
Los Angeles
Michigan
Milwaukee
Nevada
New England
New York/New Jersey
Northern California
North Florida
North Texas
Northwest
Ohio
Oregon
Philadelphia/Camden
Puerto Rico/U.S. Virgin Islands
Rocky Mountain
South Florida
Southwest Border
Washington/Baltimore
National Marijuana Initiative
U.S. Department of Agriculture

Forest Service
National Forest System
U.S. Department of Defense
U.S. Army
National Guard
Counterdrug Division
U.S. Department of Health and Human Services
National Institute of Health
National Institute on Drug Abuse
Monitoring the Future
University of Mississippi
Potency Monitoring Project
Substance Abuse and Mental Health Services
Administration
Office of Applied Studies
National Survey on Drug Use and Health
Treatment Episode Data Set
U.S. Department of Homeland Security
U.S. Customs and Border Protection
Border Patrol Intelligence Center
U.S. Department of Justice
Criminal Division
Organized Crime Drug Enforcement Task
Force
Drug Enforcement Administration
Atlanta Field Division
Boston Field Division
Caribbean Field Division
Chicago Field Division
Dallas Field Division
Denver Field Division
Detroit Field Division
Domestic Cannabis Eradication/Suppression
Program
El Paso Field Division
El Paso Intelligence Center
National Seizure System
Houston Field Division
Los Angeles Field Division
Miami Field Division
Tallahassee Resident Office
Newark Field Division
New Orleans Field Division
New York Field Division
Philadelphia Field Division
Phoenix Field Division
Uis

San Diego Field Division
San Francisco Field Division
Sacramento District Office
Seattle Field Division
St. Louis Field Division
Washington, D.C., Field Division
Executive Office for U.S. Attorneys
U.S. Attorneys Offices

District of Oregon
Eastern District of Kentucky
Northern District of New York
U.S. Department of State

International Narcotics Control Strategy Report
U.S. Department of the Interior

Bureau of Indian Affairs
St. Regis Mohawk Tribal Police Department
Bureau of Land Management
Bureau of Reclamation
National Park Service
U.S. Fish and Wildlife Service

## State

## Alaska

Alaska Department of Health and Social Services Arizona

City of Phoenix
Drug Enforcement Bureau
California
Alameda County Narcotics Task Force
California Department of Justice
Bureau of Narcotic Enforcement
Campaign Against Marijuana Planting
Narcotics Information Network
California Office of Health Services
California Secretary of State
Elk Grove Police Department
Los Angeles County Regional Criminal Information Clearinghouse
Mendocino Major Crimes Task Force
Oakland Police Department
Riverside County Sheriff's Office
San Bernardino County Sheriff's Office
San Diego County Sheriff's Department

Tulare County Sheriff's Department
Colorado
Colorado Department of Public Health and
Environment
North Metro Drug Task Force
Florida
Florida Department of Agricultural and
Consumer Services
Office of Agricultural Law Enforcement
Florida Department of Law Enforcement
Domestic Marijuana Eradication Program
Florida National Guard
Miami-Dade Police Department
Port St. Lucie Police Department
Georgia
Fayette County Sheriff's Department
Henry County Police Department
Hawaii
Hawaii Department of Public Safety
Kauai Police Department
Indiana
Indiana State Police
Kentucky
Kentucky State Police
Marijuana Suppression Unit
Maryland
Montgomery Police Department
Michigan
Michigan State Department of Health
Michigan Medical Marijuana Program
Michigan State Police
Minnesota
Minnesota Office of Substance Abuse
Montana
Montana Department of Public Health and Human Services
Nevada
Nevada State Health Division
New Mexico
New Mexico Department of Health
North Carolina
Davidson County Sheriff's Office
Ohio
Perry County Sheriff's Office
Oregon
Oregon Department of Human Services
Oregon Department of Justice
Washington County Sheriff's Office
Rhode Island
Rhode Island Department of Health
Tennessee
Tennessee Alcoholic Beverage Commission
Tennessee Bureau of Investigation
Governor's Task Force for Marijuana Eradication
Tennessee Judicial Drug Task Forces15th Judicial District Task Force
Texas
Texas Department of Public Safety
Domestic Marijuana Eradication Program
Utah
Garfield County Sheriff's Office
Washington County Sheriff's Office
VermontVermont Department of Public Safety
Washington
Washington State Department of Health
Washington State Patrol
West Virginia
West Virginia Army National Guard
West Virginia State Police
Bureau of Criminal Investigations
Wisconsin
Wisconsin Statewide Information Center
International
Canada
Royal Canadian Mounted Police
Sûreté du Québec
Mexico
Government of Mexico


## Questions and comments may be directed to National Drug Threat Assessment Unit, National Threat Analysis Branch

## National Drug Intelligence Center

319 Washington Street 5th Floor, Johnstown, PA 15901-1622•(814) 532-4601
NDIC publications are available on the following web sites:
INTERNET
www.usdoj.gov/ndic
ADNET http://ndicosa.adnet.sgov.gov
RISS
ndic.riss.net
LEO https://www.leo.gov/http://leowcs.leopriv.gov/lesig/ndic/index.htm


[^0]:    1. This assessment addresses changes in domestic and foreign cannabis cultivation that have emerged since publication of the Domestic Cannabis Cultivation Assessment (DCCA) 2007 and 2008. Please refer to the DCCA 2007 and 2008 for more information on historical cultivation trends and in-depth, state-level information for primary cultivation areas.
    2. For the purposes of this assessment, the term drug trafficking organization (DTO) refers to groups of two or more individuals involved in drug trafficking activities in the United States that have connections to foreign countries, such as Mexico or Canada.
[^1]:    The production of hashish and hash oil may become increasingly common as demand for marijuana products with bigher THC content increases. Rising demand by marijuana users for high-potency marijuana could result in increased domestic production of hashish and hash oil that typically have much higher THC content than marijuana. Production of hashish and hash oil is limited in the United States and appears to be largely concentrated in western states, particularly California. National Seizure System (NSS) data show only 19 THC-extraction and hash oil laboratory seizures in the United States in 2002 through 2008. However, some law enforcement officials believe that hashish production and hash oil laboratories may be underreported in the United States because such laboratories have rarely been encountered in the past and, as such, are not easily identifiable. Expanded production of hashish and hash oil could yield very high profits for criminal groups. For example, LACLEAR reports that the price for high-potency sinsemilla ranges from $\$ 2,500$ to $\$ 6,000$ per pound in southern California, compared with hashish that sells for $\$ 8,000$ per pound.

[^2]:    3. According to the DEA San Francisco Field Division, law enforcement authorities eradicated the highest number of outdoor-grown cannabis plants in Lake $(495,035)$, Tulare $(474,215)$, Shasta $(407,386)$, Los Angeles $(359,870)$, and Mendocino $(315,397)$ Counties in 2008.
    4. According to the DEA San Francisco Field Division, law enforcement authorities eradicated the highest number of indoor-grown cannabis plants in Humboldt $(32,242)$, Mendocino $(23,684)$, Sonoma $(20,547)$, San Diego $(17,324)$, and San Mateo $(16,706)$ Counties in 2008.
[^3]:    5. According to the Oregon Department of Justice, law enforcement authorities eradicated the highest number of outdoor-grown cannabis plants in Jefferson $(20,865)$, Douglas $(9,885)$, Morrow $(9,226)$, Hood River $(7,098)$, and Yamhill $(6,662)$ Counties in 2008.
    6. According to the Oregon Department of Justice, Iaw enforcement authorities eradicated the highest number of indoor-grown cannabis plants in Multnomah ( 2,615 ), Lane $(2,547)$, Deschutes (943), Douglas (696), and Clackamas (689) Counties in 2008.
[^4]:    9. According to the Kentucky State Police, law enforcement authorities in the state eradicated the highest number of outdoor-grown cannabis plants in Harlan $(54,678)$, Knox $(24,462)$, Bell $(19,397)$, Wayne $(14,494)$, and Owsley $(12,464)$ Counties in 2008.
    10. According to the Kentucky State Police, law enforcement authorities in the state eradicated the highest number of indoor-grown cannabis plants in Wayne (1,018), Spencer (611), Carter (444), Washington (415), and Garrard (385) Counties in 2008.
[^5]:    11. According to the Tennessee Bureau of Investigation, law enforcement authorities eradicated the most plants from outdoor sites in Cocke $(359,685)$, Cumberland $(34,402)$, Wayne $(19,325)$, Lawrence $(17,536)$, and Hickman $(11,403)$ Counties in 2008.
[^6]:    12. According to the West Virginia National Guard, law enforcement authorities eradicated the highest number of outdoor-grown cannabis plants in Grant $(30,500)$, Hardy $(22,005)$, Wayne $(16,732)$, Mingo $(15,714)$, and Mason $(10,638)$ Counties in 2008.
[^7]:    14. BC Bud, which originally referred to sinsemilla grown in British Columbia, has become synonymous with high-grade marijuana from Canada. The THC (delta-9-tetrahydrocannabinol) content of BC Bud ranges from an average of 10 to 15 percent but can be as high as 30 percent.
[^8]:    15. Marijuana prices are an indicator of increasing and decreasing availability.
[^9]:    Source: Treatment Episode Data Set.

