The NORML Foundation strongly opposes the "aerial directed spraying" of herbicides from low flying aircraft for the purpose of eliminating wild growing marijuana plots. After evaluating the Drug Enforcement Administration's Domestic Cannabis Eradication Suppression Program (DCE/SP), we find it misguided, overly burdensome on taxpayers, counterproductive, and potentially harmful to the health and safety of residents and the environment.

I. The DCE/SP is Misguided

A 1998 Vermont State Auditor's report evaluating the DEA's marijuana eradication efforts revealed that over 99 percent of the 422,716,526 total marijuana plants eliminated nationwide by the agency in 1996 were "ditchweed," non-psychoactive hemp. The DEA defines ditchweed as: "Wild, scattered marijuana plants [with] no evidence of planting, fertilizing, or tending." Many of these plants are remnants from government-subsidized plots grown during World War II's "Hemp for Victory" campaign, when Japanese conquests in Asia put much of the world's rope-fiber supply in Axis hands. This strain of cannabis presents no threat to public safety because it contains too little THC to intoxicate users.

According to annual marijuana potency readings conducted by the National Institute on Drug Abuse (NIDA), the average THC content of marijuana consumed for recreational use is three percent while sinsemilla averages greater than seven percent. By comparison, ditchweed contains well less than one percent THC and is of no consequence to recreational marijuana users who consume the drug for its euphoric properties.

Ditchweed grows significantly differently from cultivated marijuana. The nonpsychoactive variety of the plant is sown densely in rows which causes it to grow to a height of ten to 15 feet tall. Little foliage results since the plant is primarily stalk. In contrast, cultivated marijuana is grown like a bush, requiring open space to branch out and produce leaves and flowers. A casual ground inspection of any marijuana plot will readily indicate whether the patch is ditchweed or cultivated.
marijuana. The DEA already makes this distinction since their records specify eradication of both ditchweed and cultivated marijuana.

Black market marijuana growers cannot tolerate the presence of ditchweed anywhere near their cultivated marijuana patches. The genetics of cultivated marijuana require a careful cross breeding of high THC strains in order to maintain the plant's usefulness as a drug. Cross pollination with ditchweed will ruin a strain's sinsemilla quality. The resulting seeds are also rendered worthless. Therefore, marijuana growers do not use ditchweed to camouflage their hand tended plots.

The DEA claims that ditchweed is a legitimate target of the DCE/SP initiative because the crop allegedly presents a problem for law enforcement. For example, Vermont Public Safety Commissioner A. James Walton, Jr. states that ditchweed is "routinely harvested for sale on our streets." The NORML Foundation finds this scenario unlikely and reminds DEA that the agency defines ditchweed as untended, and therefore presumably unharvested. It is further unlikely that black market dealers would sell exceptionally low grade marijuana because such sales would not be profitable. Even if the DEA is aware of such occasional sales, it is highly unlikely these rare occurrences justify the agency's fixation on ditchweed rather than cultivated marijuana.

Walton also alleges that ditchweed is "often smoked by juveniles as their first introduction to marijuana smoking," and that the plant can be "chemically altered to increase its psychoactive potential." The NORML Foundation is unaware of any evidence indicating these circumstances are encountered by law enforcement. At the least, the DEA should present evidence demonstrating that these circumstances present such a common threat to law enforcement and public safety to warrant the agency's overwhelming focus on ditchweed eradication. As it stands now, the NORML Foundation believes such concerns are unrealistic and unfounded.

In sum, ditchweed plants are fundamentally different from cultivated marijuana. Ditchweed presents no threat to public safety, does not contribute to the black market marijuana trade, and should not be targeted by DEA marijuana eradication efforts.

II. The DCE/SP Excessively Burdens the American Taxpayer

The Vermont Auditor's report found that the DEA spent over $9 million on marijuana eradication efforts in all 50 states in 1996. (This figure does not include the cost of state and local participation.) As indicated above, the bulk of these taxpayer's dollars were spent eradicating plants that present no threat to public safety. In fact, South Dakota spent $105,000 in 1996 eliminating only ditchweed. States like Missouri, North Dakota, and Illinois engaged in similar activities. In those states, ditchweed comprised more than 99.95 percent of the total plants eradicated by law enforcement at a cost to taxpayers of just under one million dollars.

It is likely that DEA expenditures will rise in the future. Members of Congress and the Office of National Drug Control Policy Director (ONDCP) Barry McCaffrey earmarked $6 million-more than half of the total DCE/SP 1996 budget-to combat marijuana eradication in Kentucky, Tennessee, and West Virginia in 1999. Of these three states, West Virginia currently spends the most money targeting ditchweed. The Vermont report found that more than 93 percent of the total plants eradicated there were untended, feral ditchweed plants.
If DEA encourages more states to engage in the "aerial directed spraying" of herbicides as part of their marijuana eradication efforts, the total amount of tax dollars spent by states on the DCE/SP could increase dramatically. Presently, only Hawaii engages in such conduct. (Oklahoma is set to begin the practice later this year.)

Not surprisingly, Hawaii spent more money on marijuana eradication efforts in 1996 than virtually all other states.

There is no evidence that the American public wishes to spend millions of taxpayer's dollars eliminating primarily ditchweed. Recently, two state representatives specifically addressed this issue.

In a recent letter to USDA Project Leader Jack Edmundson, Hawaiian state Rep. Cynthia Thielen asserted "This [program] is a waste of taxpayer's money. The DEA should focus its efforts on meaningful drug eradication, not on methods designed merely to make it look as if the agency is doing something when it is not."

Representative Fred Maslack, who sits on the New Hampshire House Agriculture Committee, also criticized the amount of money spent on the annual program. "It's high time to reallocate this law enforcement money," he said after reviewing the Vermont Auditor report. The DEA DCE/SP "amounts to consumer fraud. They're misrepresenting what they're doing. ... As far as the 'War on Drugs' is concerned, they would be better off pulling up goldenrod. ... I hate to rain on their outdoor recreational activities, but the same money could just as well be used to control drunk drivers, which is a better use of the funds and that's where they should be redirected."

The NORML Foundation suggests that the DEA produce evidence demonstrating that the American people are aware that the agency's marijuana eradication efforts primarily target non-psychoactive ditchweed, and, if so, that they are willing to pay millions of dollars to fund these efforts. If DEA does not have such evidence, then we suggest an immediate spending freeze on the DCE/SP until the agency demonstrates such evidence.

III. The DCE/SP is Counterproductive to Agriculture and the Economy

Ditchweed, or nonpsychoactive hemp, is one of nature's strongest and most versatile agricultural crops and has a variety of commercial uses. Various parts of the plant may be utilized for making paper, textiles, cosmetics, paints, clothing, foodstuffs, insulation, and animal feed. It produces a much higher yield than substitutes such as wood pulp and cotton and requires virtually no pesticides. Also, hemp has an average growing cycle of only 100 days and leaves the soil practically weed-free for the next planting. Presently, farmers in over 30 countries -- including Canada, France, England, Germany, Japan, and Australia -- grow hemp for industrial purposes.

Farmers in America show interest in cultivating hemp as an economic crop. In 1996, the American Farm Bureau unanimously approved a resolution encouraging farmers to plant test plots of nonpsychoactive hemp for research purposes. Many farmers have applied for DEA licenses to grow the plant. This March, a coalition of business and agricultural organizations wishing to grow hemp filed a formal petition with the DEA and the USDA. Most recently, a
coalition of Kentucky farmers filed suit against the federal government to allow them to produce
hemp for commercial and industrial purposes.

In the last two years, legislators in over a dozen states introduced measures to allow American
farmers to cultivate hemp. In Hawaii, North Dakota, and Vermont, legislators approved bills to
study the feasibility and economic viability of industrial hemp production. The Vermont study
determined that "there is support ... for industrial hemp production, and there is a potential market
base for hemp based products." However, no state study attempted to grow the crop for fear of
conflicting with federal law.

The NORML Foundation finds it foolish and economically counterproductive for the DEA to
pursue efforts to target and eliminate a naturally growing crop that American farmers express
interest in cultivating for commercial purposes and that states desire planting for research
purposes. The hundreds of millions of ditchweed plants destroyed by the DEA annually should be
harvested by farmers for their fiber content to better serve the environmental and economic
interests of our nation.

IV. Destroying Ditchweed Plots Threatens the Natural Habitat of Wildlife

Ditchweed is one of the mainland United States' most valuable cover plants for upland game like
quail and pheasant. Game birds and neo-tropical songbirds also feed and depend upon its seed.
Massive eradication of these plants from their longstanding, natural habitat may drastically
change the ability of the ecosystem to support game. In addition, the aerial application of
chemicals by law enforcement could result in the inadvertent elimination of a broad array of plants
other than ditchweed. The net result of this effort could potentially shift the composition of the
midwest plant community from its present grassy-weedy complex toward a grass-only complex.

The NORML Foundation requests the DEA address the potential impact on wildlife and game
habitat posed by the "aerial directed spraying" of herbicides on and the massive elimination of
naturally occurring ditchweed. Until this impact is assessed, DEA should discontinue targeting,
spraying, and eliminating ditchweed in the Midwest states.

V. The Aerial Application of Herbicides Threatens Public Safety

The NORML Foundation's pivotal concern regarding the DEA's DCE/SP lies in the potential
safety threat the program poses for humans and the environment.

Environmental journals have long criticized the aerial use of the herbicide glyphosate (aka Round
Up) in marijuana eradication efforts. A report in the February 1993 issue of Global Pesticide
Campaigner called the tactic "unsuccessful" and highlighted the chemical's potential dangers.
"Reports from other countries where aerial spraying has been used in anti-drug programs are not
encouraging," it states. "International health workers in Guatemala report acute poisonings in
peasants living in areas near eradication spraying, while farmers in these zones have sustained
serious damage to their crops."

Last year, a June 5 Reuters News article reaffirmed these dangers. "Their is a high risk in aerial
spraying [of the herbicide,]" Louis Eduardo Perra, senior researcher at Columbia’s National Drug
Council, told the news wire. "There is a risk to those who may be exposed on the ground. There is a risk of contamination in our rivers."

The winter 1995 edition of the Journal of Pesticide Reform reported similar cases in the U.S. "In California, ... glyphosate was the third most commonly reported pesticide illness among agricultural workers," the journal reported. "Among landscape maintenance workers, glyphosate was the most commonly reported cause." The author added that, "Glyphosate exposure damages or reduces the population of many animals, including beneficial insects, fish, birds, and earthworms, [and] in some cases is directly toxic."

The journal also stated that aerial application of the drug poses an even greater danger to the environment. "In general, movement of a pesticide through unwanted drift is unavoidable; drift of glyphosate is no exception." The article emphasized that glyphosate drift is a "particularly significant problem ... [because] damage is likely to be much more extensive and more persistent than with many other herbicides."

Studies conducted regarding the aerial spraying of glyphosate in the early 1990s demonstrated that between 41 and 82 percent of glyphosate applied from helicopters moves off the target site. In addition, two studies conducted in Canada measured glyphosate residues more than 650 feet away from target areas following helicopter applications to forest sites and a third study from California found glyphosate over 2,600 feet away following aerial application.

The Radian Corporation defines glyphosate as a "moderately toxic" herbicide if ingested. Symptoms of exposure to this compound include "irritation of the skin, gastrointestinal tract and respiratory tract, convulsions, and coma." Additionally, glyphosate irritates the human eye, and is toxic to wild birds which commonly roost in ditchweed plots. At least one study, cited in the December 24, 1996, issue of the Hawaiian Tribune Herald, found that the herbicide increased the size of a tumor in an animal.

First hand experiences from Hawaii -- the only state where the DEA presently sprays glyphosate from aircraft--illustrate the dangers inherent in the DEA's eradication efforts. According to area physician, Patricia Bailey, M.D., who first contacted NORML in 1996, the DEA's DCE/SP directly threatens the health of area residents and poisons wildlife. At that time, Bailey collected incident reports from some 40 persons, aged nine months to 84 years, who claim that they have been adversely affected by the spray. She cited generalized symptoms of eye and respiratory tract irritation. She further noted that about 75 percent of respondents suffered from diarrhea.

Signed statements from residents living in proximity to the sprayings describe flu-like symptoms such as nausea and headaches, sometimes lasting for more than a week after the spraying. Others complain of experiencing fatigue, irritability, sore joints and throats, and frequent itchiness and burning of the eyes. In one of the most severe reported cases, a 32-year-old resident complained of experiencing prolonged numbness in her arms. "The numbness was the most prominent and frightening [symptom]," she explained. "[It] felt uncomfortable to wear my watch. ... I kept rubbing my arms, trying to warm them and get blood back circulating." The NORML Foundation houses these incident reports at our Washington, D.C. office. Bailey later concluded that there was "statistical significance" to the complaints.
According to the published literature and anecdotal reports from Hawaii, glyphosate-particularly when applied from low flying aircraft-poses a real threat to the health and safety of residents and the environment. The NORML Foundation believes that this herbicide's demonstrated threat to public safety greatly overshadows any alleged problems ditchweed may pose for law enforcement. We object to the dangers this and similar chemicals like triclopyr pose to the general public and wildlife through contamination of ground water, surface water, air and soil, and request the agency explore alternatives to using chemical herbicides in the DCE/SP.

The NORML Foundation also notes that the DEA fails to assess the potential harm and intrusions these helicopter missions have upon local residents and wildlife. In several states, residents report that noise and turbulence caused by search aircraft damage houses, gardens, and endanger livestock. The NORML Foundation recommends the agency adequately probe this issue.

**Conclusion**

The NORML Foundation opposes the DEA's Domestic Cannabis Eradication Suppression Program, and further opposes the "aerial directed spraying" of herbicides from low flying aircraft. The program almost exclusively eradicates ditchweed which presents no threat to public safety. The DEA demonstrates no evidence that the American public wishes to spend millions of dollars annually eliminating this plant, and in fact, many farmers and state legislatures express interest in growing nonpsychoactive hemp for agricultural and research purposes. In addition, the aerial application of herbicides to eliminate ditchweed poses a demonstrated threat to the general public and wildlife through contamination of ground water, surface water, air and soil, and the elimination of many animals' natural habitat. It is ironic that the same plant so zealously targeted by this program is now cultivated by farmers in various Western nations for commercial purposes. Only in America do federal law enforcement continue to place public safety at risk and our tax dollars to waste eliminating this proven worldwide cash crop.

(Copies of Armentano's written testimony, complete with citations, is available upon request from The NORML Foundation.)

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