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more effective than prochlorperazine in certain situations and seems promising (Gralla et al., 1981).

The suggestion that cannabis might have some useful antiemetic activity in this setting arose about 1973, when patients receiving intensive chemotherapy for acute leukemia observed that their "social" use of cannabis appeared to reduce their customary nausea and vomiting.

Clinical Investigations

Several controlled studies have been reported. In one of the early ones (Sallan et al., 1975), Δ -9-THC in 15- or 20-mg doses by mouth was compared with a placebo in a randomized double-blind crossover trial in 22 patients whose nausea and vomiting had been shown refractory to other antiemetics. In 14 of 20 courses of treatment, patients obtained "complete or partial relief" with Δ -9-THC; in none of 22 courses did patients report benefit with the placebo. It was observed that the antiemetic effect of Δ -9-THC occurred only in association with the "high," and it was necessary to maintain the "high" in order to maintain the antiemetic effect.

In another controlled trial (Chang et al., 1979), 14 of 15 patients with osteogenic sarcoma treated with high-dose methotrexate had less nausea and vomiting with Δ -9-THC than with the placebo. In that study, patients with other tumors being treated with cytoxan and adriamycin did not respond as well. That report and others like it suggested that the antiemetic effect of Δ -9-THC against those chemotherapeutic agents that are moderate in their emetic potential (e.g., methotrexate) was pronounced, but that Δ -9-THC was less effective against those agents with severe emetic properties. In a similar study (Lucas and Laszlo, 1980), 38 of 53 patients with nausea and vomiting refractory to other antiemetics reported good results with Δ -9-THC. Among the failures were those treated with cisplatin, which has been characterized as one of the most emetic agents used in cancer chemotherapy.

In comparison with prochlorperazine, Δ -9-THC has also been reported to be more effective in preventing nausea and vomiting (Ekert et al., 1979; Sallan et al., 1980).

In a larger study (Frytak et al., 1979), of 116 patients treated with 5-fluoracil and methyl-CCNU, Δ -9-THC was said to be no more effective than prochlorperazine. In that study, in which nearly all patients were older than those in the other reported trials, the majority of patients considered the other side-effects of Δ -9-THC so unpleasant that they preferred either prochlorperazine or the placebo.

Another cannabinoid, a synthetic, nabilone, has been provided to several investigators for evaluation as an antiemetic agent; it has been licensed for use in Canada for treatment of nausea associated with cancer treatment. In the largest clinical study to date (Herman et al., 1979), nabilone was compared with prochlorperazine in a double-blind crossover trial. It was found more effective than

prochlorperazine. The patients in that study preferred nabilone to prochlorperazine; the predominant side-effects were somnolence, dry mouth, and dizziness. Hallucinations occurred in a few patients. Euphoria of the type associated with cannabis was infrequent in that study. However, a study in dogs has revealed previously unrecognized late neurologic effects of nabilone at high doses (Archer et al., 1981). Monkeys and rats did not show similar toxic effects with long-term administration of nabilone (Archer et al., 1981), and further studies will be necessary to clarify the safety of this new agent.

Levonantradol is yet another synthetic cannabinoid, related to Δ -9-THC, which has been shown in preliminary clinical studies to have antiemetic action in patients with refractory chemotherapy-induced emesis (Diasio et al., 1981).

Uncontrolled Use of Δ -9-THC

In response to public and political pressures, the National Cancer Institute, the United States Drug Enforcement Agency, and the Food and Drug Administration have agreed to a program whereby the National Cancer Institute is making Δ -9-THC available through the pharmacies of approximately 500 teaching hospitals and cancer centers to physicians who wish to use Δ -9-THC in treating the nausea and vomiting of patients receiving cancer chemotherapy. This broad, uncontrolled program, in which no data other than the reporting of severe reactions are to be collected, may make it extremely difficult to obtain continuing valid evaluations of the effectiveness of Δ -9-THC in the management of nausea and vomiting due to cancer chemotherapy. Although the extent of use of Δ -9-THC under this program is difficult to evaluate, informal communication with the National Cancer Institute indicates that Δ -9-THC has been supplied in substantial quantities to several hundred hospital pharmacies. The problem is further complicated by the fact that the legislatures of 23 states have authorized the use of cannabis by any physician for the management of nausea and vomiting due to cancer chemotherapy. It is expected that little reliable information will be derived from such use.

Summary

There seems little doubt that Δ -9-THC and other cannabinoids are active against the severe nausea and vomiting produced by cancer chemotherapeutic agents. The extent of this activity, its relation to other antiemetics, and its relation to the other effects of the cannabinoids have not yet been accurately determined.

Cannabis leaf, smoked or eaten, is also antiemetic but its activity has been even less well determined than that of Δ -9-THC. Studies with other synthetic cannabinoids have barely begun and much remains to be learned in this field.

APPETITE STIMULANT

It has been stated by "social" users that the smoking of cannabis increases appetite. On that basis, there have been sporadic attempts to use it in patients with advanced cancer to overcome their customary debilitating weight loss.

In several of the studies in which Δ -9-THC was used as an antiemetic in patients receiving cancer chemotherapy, they were reported to have increased appetite and food intake. At this time, it is not certain whether that increase was due merely to relief of nausea and vomiting or to stimulation of appetite. One comparison of habitual marijuana users and controls matched for age and educational background showed increased caloric intake and weight gain among the users (Greenberg, et al., 1976). Furthermore, a double-blind controlled study (Hollister, 1971) of smokers of cannabis or placebo cigarettes provided with unlimited quantities of a high-caloric beverage indicated an increase in caloric consumption in those using cannabis compared with those using the placebo; however, the variability was very large and there was some question that cannabis could be considered a clinically significant appetite stimulant.

In another study of the psychological effects of Δ -9-THC in patients with advanced cancer, it was observed that Δ -9-THC appeared to stimulate appetite and retard weight loss (Regelson et al., 1976). In that study many patients refused to complete the 2-week trial because of unacceptable side-effects from Δ -9-THC.

The evidence to date suggests that there may be some influence of cannabis on appetite. However, it is not possible to separate that from the effect on nausea and vomiting. Further studies are in progress in cancer patients whose course is not complicated by nausea and vomiting.

ANTICONVULSANT ACTION

A large number of animal studies have been conducted using cannabis as an anticonvulsant. These can be divided into several categories. The first to be discussed will be maximal electroshock seizures (MES)* both in the rat and mouse (Loewe and Goodman, 1947; Sofia et al., 1971; Fujimoto, 1972; Consroe and Man, 1973; Karler et al., 1973; Chesher and Jackson, 1974; Karler et al., 1974; McCaughran et al., 1974; Karler and Turkanis, 1976; Consroe and Wolkin, 1977; Turkanis et al., 1977). In these studies there is a clear dose-response effect in the protection to MES conferred by cannabinal (CBN) and cannabidiol (CBD). Tolerance to the effect has frequently been reported. However, the tolerance ~~with~~ with cannabinoids is similar to that seen with phenytoin (DP). Further, even though tolerance to phenytoin develops with ~~DP~~, this has not been shown to

*Electrical shock of maximum intensity to cause a major seizure.

be a clinically significant phenomenon. In these studies it is generally found that CBN is less effective against MES and against audiogenic seizures, the latter produced in rodents by loud noise, than CBD. In addition, Turkanis et al. (1977) have emphasized the fact that CBD acts more like DPH than other anticonvulsants and hence would be expected to be effective against major seizures rather than against minor seizures.

There is also extensive animal literature that CBN and CBD will protect against electrically induced, minimal (kindling) seizures (Corcoran et al., 1973; Fried and McIntyre, 1973; Izquierdo et al., 1973; Turkanis et al., 1977, 1979). Reduction of seizures produced by subcortical electrical stimulation in the cat has been reported (Wada et al., 1973). There appears to be much less effect on pentylenetetrazol-induced seizures (Consroe and Man, 1973; Turkanis et al., 1979). Any effect of CBN and CBD on such seizures occurs with maximal toxic doses (Turkanis et al., 1974). Protection against audiogenic seizures (Consroe et al., 1973) and against reflex seizures in the gerbil (Cox et al., 1975) have been reported.

Human studies are largely anecdotal and conflicting. There is one study by Cunha et al. (1980) in which 15 patients suffering from partial complex epilepsy with a temporal focus were randomly divided into two groups. Each patient received, in a double-blind procedure, 200-300 mg of CBD or placebo daily. The drugs were administered for as long as 4 1/2 months. Throughout the study, clinical and laboratory examinations, electroencephalograms, and electrocardiograms were performed at 15- to 30-day intervals. The patients continued their anticonvulsant medications taken before entering the study, on which all them had previously experienced uncontrolled seizures. All patients tolerated CBD well, and there were no signs of toxicity or serious side-effects. Four of the 8 CBD subjects remained nearly free of convulsions during CBD treatment and 3 other patients demonstrated partial improvement in their clinical condition. Cannabidiol was ineffective in 1 patient. The placebo group showed no alteration of seizure frequency. A series of 8 healthy volunteers given CBD showed no effects of the drug.

Summary

There is substantial evidence from animal studies to indicate that cannabinoids are effective in blocking both kindling seizures and MES, and this is particularly true for CBD. MES is a standard testing procedure for evaluation of anticonvulsant drugs. This is strong support for further investigation into the utility of CBD in human epilepsy. The one available carefully controlled human study is in accord with this review.

MUSCLE RELAXANT ACTION

There are widespread, anecdotal reports that cannabis is effective in relieving muscle spasm or spasticity. Petro (1980) has reported such effects in two cases and has carried out a double-blind study of the administration of Δ -9-THC on spasticity (Petro and Ellenberger, 1981). They reported that 10 mg of Δ -9-THC significantly reduced spasticity by clinical measurement and that quadriceps electromyograms demonstrated a decrease in interference pattern in four patients with primarily extensor spasticity. These are preliminary observations, but they suggest that further and more rigorous investigations of the use of cannabinoids in spasticity should be suggested to test their therapeutic effectiveness.

ANTI-ASTHMATIC EFFECT

Intensive, chronic smoking of concentrated cannabis produces several adverse effects on the airways, including mild bronchoconstriction. But acute smoking of cannabis as well as the ingestion of Δ -9-THC produces bronchodilation in normals and in subjects with chronic, clinically stable bronchial asthma of minimal to moderate severity (Tashkin et al., 1974). These bronchodilator effects were also investigated in individuals in whom an asthmatic attack was induced experimentally by exercise or methacholine (Tashkin et al., 1975). Immediately after the development of bronchospasm, subjects smoked a cigarette containing 500 mg of cannabis assayed at either 1 or 2 percent Δ -9-THC.

Methacholine inhalation promptly caused significant bronchoconstriction (an average decrease in airway conductance of 40-55 percent) and significant hyperinflation (mean increases in thoracic gas volume of 35-43 percent). After placebo smoking or saline inhalation, airway conductance increased only modestly, remaining significantly less than initial control values for 30 to 60 minutes, and thoracic gas volume decreased only gradually, remaining significantly increased for 15 minutes. However, after 2 percent cannabis, and after isoproterenol, there was a prompt return of airway conductance and thoracic gas volume to control values.

Exercise in the asthma-prone individual resulted in average decreases in airway conductance of 30-39 percent and average increase in thoracic gas volume of 25-35 percent. After placebo or saline, there was only a gradual return to control values during 30-60 minutes, but after cannabis, airway conductance and thoracic gas volume returned promptly to preexercise values. Four of the subjects who had previously used cannabis could detect pleasurable sensations after smoking cannabis, which distinguished these effects from those of the placebo cigarette. In that sense these experiments were not strictly blind. The four subjects who had no previous experience with cannabis did not experience any central nervous system effects but did note mild somnolence or light-headedness after cannabis. The results of this study suggest that any bronchial irritant effects of

placebo cannabis smoke were not sufficient to aggravate or perpetuate existing acute bronchospasm to an extent greater than that which might result from the irritant effect of inhaled saline. The results also demonstrate that inhaled Δ -9-THC causes a prompt and complete sustained reversal of methacholine-induced bronchospasm and correction of the associated hyperinflation. These effects were not significantly different from those observed after isoproterenol, although there was a tendency toward a greater degree of bronchial dilation after isoproterenol. Similarly, after inhalation of Δ -9-THC, there was a prompt return of airway conductance and thoracic gas volume during exercise-induced bronchospasm to the preexercise value. After exercise the effects of 10 mg Δ -9-THC was not as efficacious as 1.25 mg isoproterenol.

The way in which Δ -9-THC induces bronchial dilation has not been determined, but previous studies have shown that this effect is not mediated by beta-adrenergic stimulation or inhibition of muscarinic receptors (Shapiro et al., 1973). A vagolytic mechanism is possible, as suggested by other studies carried out on the dog salivary gland (Cavero et al., 1972) and on guinea pig ileum (Gill et al., 1970).

Although ingestion of Δ -9-THC in a sesame oil vehicle has produced bronchodilation in asthmatic patients (Tashkin et al., 1974), less dilation was noted than after smaller doses of Δ -9-THC delivered by smoking. Its significant bronchodilator effect notwithstanding, Δ -9-THC does not appear to be suitable for that therapeutic use, because of its psychotropic effects and possibly other side-effects. However, other cannabinoid compounds such as cannabinal and cannabidiol do not produce the central nervous system effects of tachycardia characteristic of cannabis (Hollister, 1973) and deserve further investigation for possible bronchodilator activity.

ANTIANKIETY EFFECT

Users of cannabis have often reported that the drug produces feelings of relaxation and calmness, and some have reported its use to reduce anxiety. A problem with evaluating cannabis as an anti-anxiety drug, however, is that some subjects report increased anxiety or panic after using cannabis (see Chapter 6). For example, Regelson et al. (1976) found less tension and apprehension in cancer patients after cannabis use; but 6 of 50 subjects receiving Δ -9-THC reported such side-effects as severe dizziness, confused thinking, dissociation, and concern over loss of sanity. In normals, Pillard et al. (1974) found no effects of cannabis on experimentally induced anxiety. Nabilone, a synthetic cannabinoid, was found to reduce experimentally induced anxiety in normal volunteers but it was less effective than diazepam (Nakano et al., 1978). Nabilone was found to be more effective than placebo in patients with psychoneurotic anxiety (Fabre et al., 1978).

There are very few studies of cannabis effects on anxiety. There is no indication at this time that cannabis or nabilone are

more effective or reliable than currently available anti-anxiety medication.

ANTIDEPRESSANT EFFECT

Regelson et al. (1976) reported a significant reduction in self-rated depressive symptoms in cancer patients treated with Δ -9-THC. However, in a carefully controlled trial with four bipolar and four unipolar depressed patients, Lotin et al. (1973) found no anti-depressant activity.

ANALGESIC ACTION

Several animal models have been used to show analgesic effects of cannabis and its analogues (for example, Grunfeld and Edery, 1969; Sofia et al., 1973). Human studies have been conflicting. Milstein et al. (1975) found increase in tolerance to experimentally induced pain after smoking cannabis, while Hill et al. (1974) were unable to detect effects using a different kind of experimental pain. Noyes et al. (1976) found a reduction in pain reports by cancer patients given oral Δ -9-THC; Regelson et al. (1976) also studied cancer patients and found no significant changes in pain after Δ -9-THC.

Those subjects who show analgesic effects of cannabis also show other pharmacological effects such as mental clouding. The literature does not indicate a specific effect of cannabis on pain pathways nor does it suggest that cannabis is likely to be more effective than currently available analgesics.

ALCOHOLISM

Cannabis has been proposed as a treatment for alcoholism (Scher, 1971) based upon case reports and on the observation that cannabis and alcohol were generally not used together. A systematic evaluation (Rosenberg et al., 1978) failed to find cannabis useful in alcoholism. Moreover, recent surveys (see Chapter 2) indicate that currently the abuse of cannabis and alcohol are frequently combined.

OPIATE WITHDRAWAL

Early clinical reports suggested that cannabis might be useful in suppressing the symptoms of opiate withdrawal (Birch, 1889; Thompson and Proctor, 1953). Recently a series of animal studies (Hine et al., 1975a,b; Bhargava, 1976) have found that Δ -9-THC suppresses many of the behavioral manifestations of withdrawal precipitated by naloxone in morphine dependent rodents. This effect is enhanced by cannabidiol (CBD) (Hine et al., 1975a,b), but CBD is not effective alone.

There are no reports of systematic evaluations of cannabis as a treatment of opiate withdrawal in human beings. The animal studies do not present evidence that cannabis is likely to be more effective than currently available treatments for opiate withdrawal.

ANTITUMOR ACTION

There is very little information about the effects of cannabis on neoplasms. In one study (Harris et al., 1976), minor effects were seen on the Lewis Lung Tumor but not in L1210 leukemia. In another study (White et al., 1976), it was found that Δ -9-THC inhibited tumor DNA replication somewhat. In that same study, cannabidiol appeared to have a growth enhancing effect on the Lewis Lung Tumor. These limited studies do not support a view that Δ -9-THC has a useful effect in inhibiting tumor growth.

SUMMARY

Cannabis and its derivatives have shown promise in the treatment of a variety of disorders. The evidence is most impressive in glaucoma, where their mechanism of action appears to be different from the standard drugs; in asthma, where they approach isoproterenol in effectiveness; and in the nausea and vomiting of cancer chemotherapy, where they compare favorably with phenothiazines. Smaller trials have suggested cannabis might also be useful in seizures, spasticity, and other nervous system disorders. Effective doses usually produce psychotropic and cardiovascular effects and can be troublesome, particularly in older patients.

Although marijuana has not been shown unequivocally superior to any existing therapy for any of these conditions, several important aspects of its therapeutic potential should be appreciated. First, its mechanisms of action and its toxicity in several diseases are different from those of drugs now being used to treat those conditions; thus, combined use with other drugs might allow greater therapeutic efficacy without cumulative toxicity. Second, the differences in action suggest new approaches to understanding both the diseases and the drugs used to treat them. Last, there may be an opportunity to synthesize derivatives of marijuana that offer better therapeutic ratios than marijuana itself.

RECOMMENDATIONS FOR RESEARCH

The committee believes that the therapeutic potential of cannabis and its derivatives and synthetic analogues warrants further research along the lines described in this chapter. There also may be significant heuristic benefits to be derived from the study of the biological mechanisms by which these compounds act.

Some therapeutic promise seems to be offered by synthetic cannabinoid analogues. The committee recommends that particular attention be paid to the treatment of chemotherapy-induced nausea and vomiting in cancer patients because current management of this important and widespread problem is inadequate and preliminary studies suggest that cannabinoids may have some special advantage. Cannabinoids or their analogues also may find a place in the management of resistant glaucoma, of severe intractable asthma, and of certain forms of seizures that are resistant to standard therapy. Continued carefully contracted clinical trials in these areas seem worthwhile at this time, as do studies of the usefulness of cannabinoids in the treatment of muscle spasticity.

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8

FEDERAL SUPPORT OF RESEARCH ON MARIJUANA

PRESENT SOURCES AND AMOUNTS OF SUPPORT

In this chapter the committee has examined sources and amounts of federal support for research on cannabis and the areas of research support. The committee has not analyzed the scientific substance of the work, nor has it examined the strategy of research support or reviewed current unpublished research.

The overall federal support for research on cannabis for the fiscal years 1977, 1978, and 1979 has averaged slightly more than \$4 million per year in real dollars (Table 4). During these years, 11 federal agencies allocated funds for this purpose. Of these, the National Institute on Drug Abuse (NIDA) has been the principal agency, accounting for over four-fifths of the total, therefore, our analysis will focus primarily on this agency.

For fiscal years 1975 through 1980, NIDA's support of research on cannabis amounted to \$4.5, \$2.9, \$3.9, \$3.6, \$3.5, and \$3.8 million, respectively, in real dollars, but in constant 1981 dollars, corrected by the GNP deflator, the same figures were \$7.0, \$4.2, \$5.4, \$4.6, \$4.2, and \$4.1 (Table 5). Although the total research budget of this agency for those years increased by approximately \$12 million (real dollars), the percent spent on cannabis declined from 14.2 to 8.2 (Table 5). During the same period, the total number of projects on cannabis supported by NIDA was reduced by approximately 50 percent; however, the cost per project increased from \$42,700 to \$71,400 (real dollars). This increased cost per project is still somewhat lower than the mean cost of all projects funded by the National Institutes of Health in 1980 (Leventhal, 1981).

Table 6 shows the NIDA extramural research programs for fiscal years 1975 through 1981, allocated according to the type of drug being studied. In FY 1975 research on cannabis was allocated only 13 percent of the total extramural budget, whereas narcotics and narcotic antagonists received more than 40 percent. Thereafter, the percentage devoted to cannabis declined, to a low of 8 percent in FY 1979, but started to rise again slightly in FY 1980 and FY 1981. In the last year, an estimated 11 percent of the budget was spent on cannabis research. The percent of the budget allocated to narcotics and narcotic antagonists has declined steadily, while the percentages

TABLE 4 Cannabis Research by Federal Agency: FY 1977-1979 (real dollars in thousands)

	Total (77)			Total (78)			Total (79)		
	No. of grants	Funds	Percent	No. of grants	Funds	Percent	No. of grants	Funds	Percent
ADAMHA^b									
NIDA	75	3,940	90	64	3,596	88	65	3,536	84
NIMH	8	167	4	8	214	5	7	207	5
NIAAA	2	8	<u>a</u>	5	85	2	6	122	3
NIH									
NCI	4	91	2	2	80	2	2	85	2
NEI	--	--	0	3	68	2	1	36	1
NICHD	--	--	0	1	13	<u>a</u>	1	15	<u>a</u>
NIRRR	--	--	0	2	26	0	--	--	0
NIGMS	--	--	0	--	--	0	1	9	<u>a</u>
OTHER AGENCIES									
VA	7	52	1	6	26	1	8	25	1
DOT	5	55	1	1	--	<u>a</u>	2	104	2
USDA	1	41	1	-	--	0	1	85	2
TOTAL	102	4,354		92	4,106		94	4,202	

^aless than 1 percent.

^b

ADAMHA Alcohol, Drug Abuse and Mental Health Administration
 DHHS Department of Health and Human Services
 DOT Department of Transportation
 NCI National Cancer Institute
 NEI National Eye Institute
 NIAAA National Institute on Alcohol Abuse and Alcoholism
 NICHD National Institute of Child Health and Human Development
 NIDA National Institute on Drug Abuse
 NIGMS National Institute of General Medical Sciences
 NIH National Institutes of Health
 NIMH National Institute of Mental Health
 NIRRR National Institute of Research Resources
 VA Veterans Administration
 USDA Department of Agriculture

Source: Adapted from information provided by NIDA.

TABLE 5 Total Research and Research on Cannabis in NIDA Budget

	FY '73	FY '74	FY '75	FY '76	FY '77	FY '78	FY '79	FY '80	FY '81
Total NIDA research budget (real dollars, thousands)	31,600	34,000	34,046	33,760	33,994	33,986	42,930	41,972	40,400
Total NIDA research budget (constant 1981 dollars, thousands)	58,500	58,700	53,500	49,600	46,800	43,800	51,000	50,300	40,400
Cannabis research budget (real dollars, thousands)	a	a	4,483	2,853	3,940	3,596	3,536	3,788	a
Cannabis research budget (constant 1981 dollars, thousands)	a	a	7,043	4,191	5,421	4,636	4,201	4,144	a
Percent Cannabis research	a	a	14.2	9.1	11.6	10.6	8.2	8.2	a
Total cannabis projects (real dollars, thousands)	a	a	105	82	75	64	65	53	a
Mean cannabis project cost (real dollars, thousands)	a	a	42.70	34.8	52.5	56.2	54.4	71.5 ^b	a
Mean cannabis project cost (constant 1981 dollars, thousands)	a	a	67.1	51.1	72.3	72.5	64.6	78.2	a

^aData unavailable at present time.

^bMean NIH Project Cost (1980) was 105.

Source: Adapted from information provided by NIDA.

CORRECTION

**THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY**

TABLE 5 Total Research and Research on Cannabis in NIDA Budget

	FY '73	FY '74	FY '75	FY '76	FY '77	FY '78	FY '79	FY '80	FY '81
Total NIDA research budget (real dollars, thousands)	31,600	34,000	34,046	33,760	33,994	33,986	42,930	45,972	40,400
Total NIDA research budget (constant 1981 dollars, thousands)	56,500	58,700	53,500	49,600	46,800	43,800	51,000	50,300	40,400
Cannabis research budget (real dollars, thousands)	a	a	4,483	2,853	3,940	3,596	3,536	3,788	a
Cannabis research budget (constant 1981 dollars, thousands)	a	a	7,043	4,191	5,421	4,636	4,201	4,144	a
Percent cannabis research	a	a	14.2	9.1	11.6	10.6	8.2	8.2	a
Total cannabis projects (real dollars, thousands)	a	a	105	82	75	64	65	53	a
Mean cannabis project cost (real dollars, thousands)	a	a	42.70	34.8	52.5	56.2	54.4	71.5 ^b	a
Mean cannabis project cost (constant 1981 dollars, thousands)	a	a	67.1	51.1	72.3	72.5	64.6	78.2	a

^aData unavailable at present time.

^bMean NIM Project Cost (1980) was 105.

Source: Adapted from information provided by NIDA.

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TABLE 6 NIDA Extramural Research Program, Distribution by Drug (real dollars in thousands)

Drug Class	FY 1975 Amount		FY 1976 Amount		FY 1977 Amount		FY 1978 Amount		FY 1979 Amount		FY 1980 Amount		FY 1981 ^a Amount	
Cannabis	4,104	13	3,694	12	3,532	11	3,114	10	3,263	8	3,683	9	4,500	11
Depressants	3,642	5	1,527	5	1,976	6	1,557	5	1,123	3	1,495	4	1,000	3
Hallucinogens	316	1	729	2	1,572	5	1,515	5	2,358	6	2,865	7	3,000	7
Narcotics	9,787	31	11,398	36	11,766	37	9,341	30	8,947	23	10,667	25	10,000	25
Narcotic antagonists	3,473	11	3,061	10	3,017	10	3,526	11	3,879	10	2,304	5	2,800	7
Stimulants	1,926	6	2,360	8	2,291	7	2,535	8	2,778	7	3,277	8	4,000	10
Volatiles/solvents	158	1	363	1	496	2	556	2	294	1	278	1	500	1
Tobacco	--	--	--	--	110	0	934	3	1,130	3	2,973	7	3,200	6
Endogenous substances	--	--	--	--	--	--	1,337	4	2,717	7	2,607	6	3,400	8
Polydrug, unspecified, other	10,169	32	8,166	26	6,731	22	6,721	22	12,286	32	11,875	28	8,000	20
TOTAL	31,575	100	31,198	100	31,491	100	31,138	100	38,775	100	42,024	100	43,400	100

^aEstimate.

Source: Adapted from information provided by NIDA.

devoted to hallucinogens, stimulants, and "endogenous substances" have increased.

In FY '80, only \$3,683,000 (9 percent) of the extramural budget was devoted to cannabis research. Almost as much was spent that year by NIDA on stimulants and on tobacco. For comparison, the National Cancer Institute's budget for its program "Smoking and Health" was \$13.2 million in FY '80, of which \$3.9 million was allocated for tobacco research (Little, 1981). The National Heart, Lung, and Blood Institute allocated \$8.2 million to study the effects of cigarette smoking on the cardiovascular respiratory system (Hurd, 1981).

AREAS OF RESEARCH SUPPORT

Cannabis research essentially began in the late 1960s with a National Institute of Mental Health program to produce "pedigreed" cannabis for research investigators. NIDA, which was created in 1972, started with an extramural budget of \$29.6 million and an intramural budget of \$4.0 million for fiscal year 1973 (Ludford, 1981). In the early 1970s, NIDA's major thrusts were (a) supplying (to researchers) standardized marijuana of a known concentration of Δ -9-THC and of known genetic stock, (b) facilitating administrative mechanisms, and (c) attempting to understand the problem of drug abuse, e.g., how many people use the drug, what are the acute effects, and what are its implications (Petersen, 1981).

Recently, NIDA's emphasis has shifted to studying certain groups, e.g., children, adolescents, and pregnant women, especially with respect to the long-term effects of cannabis on these groups (Petersen, 1981). The NIDA program plan for fiscal year 1982 stresses that chronic and acute studies need to be conducted on the effects of cannabis and other drugs of abuse on women and adolescents, with a special emphasis on: (a) in-depth behavioral and biological studies of the amotivational syndrome ("burn-out"), and (b) the development of approaches to treatment. Also specifically targeted are studies of the effects on brain function and structure.

Table 7 presents the NIDA projects on cannabis for fiscal years 1978, 1979, and 1980 stratified by research goal. These research goals are defined in the footnote to the table. For fiscal years 1978, 1979, and 1980, most of the money devoted to research on cannabis (approximately \$3 million annually) was spent in three areas: (1) hazards of cannabis use, (2) basic research, and (3) research support. This last goal includes the growth, processing, packaging, and distribution of cannabis, as well as the development of the Δ -9-THC capsule. It is instructive to compare this distribution of cannabis funds with the distribution of the total research funds of NIDA. In FY '80, research on hazards took only 12 percent of the total NIDA research budget, basic research 42 percent, and research support 19 percent (Pollin, 1981).

The allocation of funds, by research topic, for fiscal years 1978, 1979, and 1980 is presented in Table 6. The largest proportion of the funds has been allocated to two research topics: (1) drug

TABLE 7 NIDA Cannabis Projects by Research Goal: FY 1978-1980
(real dollars in thousands)

Goals	FY 1978	FY 1979	FY 1980
1. Epidemiology	238	54	61
2. Etiology	145	133	136
3. Prevention	77		48
4. Hazards	916	990	1,236
5. Therapeutic uses of cannabis	43	49	50
6. Treatment of cannabis abuse	11	2	82
7. Basic research	972	1,295	1,036
8. General research support	1,194	1,013	1,139
TOTAL	3,596	3,536	3,788

1. Epidemiology--to determine the incidence, prevalence, trends, and distribution of drug abuse by sex, race, geographic origin, and other special characteristics.

2. Etiology--to determine the etiologic factors associated with drug abuse, including those combinations of biological, psychological, and societal factors most associated with increased risk for misuse and/or abuse of drugs.

3. Prevention--to develop and test new strategies and methods which might decrease, postpone, or modify drug-abusing behavior

4. Hazards--to determine the hazards of drug abuse to the physical and mental health of the individual and its adverse effects on society.

5. Therapeutic uses--to study the effectiveness and safety of cannabis in the treatment of various medical conditions.

6. Treatment--to determine the most effective therapeutic procedures for reducing drug abuse including new and innovative treatment methods and development of more effective drugs to be used in treatment.

7. Basic research--to advance basic knowledge of the pharmacology, biochemistry, and neurophysiology of drugs, the basic mechanisms involved in drug tolerance, and dependence and the underlying processes involved in addictive and/or habitual behaviors.

8. Research support--to develop the methodological and support resources required to further drug abuse research; to provide for the publication and evaluation of research results, the analysis and supply of controlled substances, and the development of chemical methods to detect and assay drugs.

Source: Adapted from information provided by NIDA.

TABLE 8 NIDA Cannabinoid Projects by Research Topic: FY 1978-1980
(real dollars in thousands)

	FY 1978	FY 1979	FY 1980
Assay and models	482	302	268
Drug development, synthesis, and distribution	706	756	950
Psychophysiology	54	76	16
Performance (e.g. driving)	193	111	76
Reproduction and development	491	864	849
Behavioral studies	124	62	15
Other drug effects/toxicity	397	347	440
Metabolism and pharmacokinetics	261	446	259
Immunology	69	85	--
Drug interactions	--	64	97
Chemistry	67	58	103
Mechanism of tolerance and dependence	285	174	134
Cultural/ethnic	195	45	69
Patterns and lifestyle	57	80	127
Crime/law	137	66	337
Abuse liability	76	--	48
TOTAL	3,594 ^a	3,536	3,788

^aDue to rounding of numbers, the total value is not exactly the same as in Table 7.

Source: Adapted from information provided by NIDA.

development, synthesis, and distribution; and (2) drug effects on reproduction and development.

Grants, Contracts, and Intramural Projects

Tables 9 through 11 compare the number of grants, contracts, and intramural projects on cannabis, as well as the funds expended by each agency for fiscal years 1977, 1978, and 1979. In each of these years, most of the extramural awards and most of the money involved investigator-initiated research grants. The ratio of grant to contract funds rose during this period from approximately 1.5 in FY '77 to almost 3.0 in FY '79. For NIDA as a whole, that ratio has consistently been much higher; in FY '79, for example, the funding of grants was more than five times that of contracts.

Support of investigator-initiated research grants requires that grant applications be approved by a peer review committee. In the peer review process, each approved grant is given a priority score based on scientific merit of the proposal (scaled from 100 to 500, with 100 the highest). This priority score determines the order in which available funds are dispersed. The award rate for all drug research supported by NIDA is shown in Table 12. The percentage of grants recommended for approval has increased slightly over recent years, as has the total number of grant applications. However, the percent of approved grants that has been funded has gone down sharply, as shown in the table. For FY '81 it is estimated that only 25 percent of all applicants were ultimately funded. The priority score at the 90th percentile of funded applications has also been declining, and in 1981 was estimated at 190. These data suggest that there has been no decline in the quality of funded grants--if anything, the quality has risen during the past few years.

The number of investigator-initiated projects has decreased slightly but still exceeds the number of contracts and intramural projects. Grants generally are for a period of 3 years (renewable on a year-to-year basis), with a maximum period of 5 years (Petersen, 1981). Contract projects are funded on a year-to-year basis and are mainly concerned with the growth, processing, packaging, and distribution of cannabis, as well as with the development of the Δ -9-THC capsule.* A few studies are conducted on toxicology and pharmacokinetics (Petersen, 1981). For fiscal years 1977, 1978, and 1979, the number of contracts has declined: 16, 14, and 10, respectively. However, the requests for proposals for fiscal years 1980 and 1981 have increased to 12 and 14, respectively (Ludford, 1981).

Intramural projects account for a small portion of the budget; for fiscal years 1977, 1978, and 1979, they have been declining.

*NIDA has requested that the NIH take over the cost and distribution of the drugs for clinical studies (Snyder, 1981).

TABLE 9 Cannabinoid Research by Agency: FY 1977
(real dollars in thousands)

	<u>Grants</u>		<u>Contracts</u>		<u>Intramural</u>		<u>Total</u>	
	No.	Funds	No.	Funds	No.	Funds	No.	Funds
ADAMHA								
NIDA	55	2,267	16	1,629	4	44	75	3,940
NIMH	8	167	--	--	--	--	8	167
NIAAA	2	8	--	--	--	--	2	8
NIH								
NCI	4	91	--	--	--	--	4	91
NEI	--	--	--	--	--	--	--	--
NCHD	--	--	--	--	--	--	--	--
NIRR	--	--	--	--	--	--	--	--
NIGMS	--	--	--	--	--	--	--	--
OTHER AGENCIES								
VA	--	--	--	--	7	52	7	52
DOT	--	--	2	55	--	--	2	55
USDA	--	--	--	--	1	41	1	41
TOTAL	69	2,533	18	1,684	12	137	99	4,354

Source: Adapted from information provided by NIDA.

SUMMARY OF FINDINGS

Total federal support for research on cannabis has been declining in real dollars over the past 3 years. Most of that support comes from the NIDA research budget, which allocates approximately 10 percent of its resources to this purpose. The current level of funding, under 4 million dollars, supports only about 50 extramural projects and represents only one-tenth of the total research program of NIDA. This decline in support has inexplicably occurred during a period when the concern of the public and of all levels of government seems to be rising. It cannot be explained by lack of interest in the field, for research grant applications have risen; neither can it be

TABLE 10 Cannabinoid Research By Agency: FY 1978
(real dollars in thousands)

	<u>Grants</u>		<u>Contracts</u>		<u>Intramural</u>		<u>Total</u>	
	No.	Funds	No.	Funds	No.	Funds	No.	Funds
ADAMHA								
NIDA	47	2,104	14	1,460	3	30	64	3,594
NIMH	5	158	--	--	3	56	8	214
NIAAA	5	85	--	--	--	--	5	85
NIH								
NCI	2	80	--	--	--	--	2	80
NEI	3	68	--	--	--	--	3	68
NCHD	1	13	--	--	--	--	1	13
NIRR	2	26	--	--	--	--	2	26
NIGMS	--	--	--	--	--	--	--	--
OTHER AGENCIES								
VA	--	--	--	--	6	26	6	26
DOT	--	--	1	<u>a</u>	--	--	1	<u>a</u>
USDA	--	--	--	--	--	--	--	--
TOTAL	65	2,534	15	1,460	12	112	92	4,106

aIndicates a funding level of less than \$1000.

Source: Adapted from information provided by NIDA.

attributed to lack of scientific opportunity; for every area we have studied, the committee has identified important questions that seem amenable to new research efforts. (Many of these have been enumerated in the preceding chapters.)

In FY '80, NIDA spent a nearly equal amount on stimulant drugs and more than four times as much on narcotics and narcotic antagonists. Most of the cannabis research is devoted to three areas in approximately equal amounts: (1) growth, processing and distribution; (2) hazards of cannabis use; and (3) basic research. Three quarters of all the federal research money devoted to cannabis goes to

TABLE 11 Cannabinoid Research by Agency: FY 1979
(real dollars in thousands)

	<u>Grants</u>		<u>Contracts^a</u>		<u>Intramural</u>		<u>Total</u>	
	No.	Funds	No.	Funds	No.	Funds	No.	Funds
ADAMHA								
NIDA	54	2,608	10	925	1	3	65	3,536
NIMH	4	145	--	--	3	62	7	207
NIAAA	6	122	--	--	-	--	6	122
NIH								
NCI	2	85	--	--	--	--	2	85
NEI	1	36	--	--	--	--	1	36
NICHD	1	15	--	--	--	--	1	15
NIRR	--	--	--	--	--	--	--	--
NIGMS	1	9	--	--	--	--	1	9
OTHER AGENCIES								
VA	--	--	--	--	8	25	8	25
DOT	--	--	2	104	--	--	2	104
USDA	--	--	1	85	--	--	1	85
TOTAL	69	3,020	13	1,114	12	90	94	4,224

^aFY '80: RFP 12

FY '81: RFP 14

Source: Adapted from information provided by NIDA.

investigator-initiated extramural research grants, and most of the rest to extramural contracts. There is relatively little intramural research. The fraction of NIDA grants approved is about 60 percent, but the fraction funded is slightly more than half of that. The total number of cannabis research grants is declining steadily as support (in constant dollars) continues to fall and the average cost of a project (in constant dollars) goes up.

The committee believes that the magnitude of the problem, and the extent and depth of public concern about the consequences of marijuana use warrant more support of research in this field.

TABLE 12 Drug Abuse Research Grant Award Rates and Priority Scores

	1979 Actual	1980 Actual	1981 Estimate	1982 Estimate
Applicants received (number)	359	369	382	360
Percent recommended for approval	59	62	63	62
Percent funded of those approved during year	63	57	40	27
Percent funded of all applicants	37	35	25	20
90 percent priority score	244	230	190	170

Source: Adapted from information provided by NIDA.

Emphasis should be on studies of human beings and other primates, and investigator-initiated research grants should continue to be the primary vehicle of support.

RECOMMENDATIONS

In view of the demonstrated high potential of risk to human health that has been associated with the use of cannabis, the existing funds allocated to such research are not appropriate. The committee's recommendations to federal agencies regarding support of cannabis-related research are:

• More support of cannabis research is needed. Properly allocated, it could pay large dividends in new knowledge and could help to dispel present ignorance in many critical areas. Without this new information, the present level of public anxiety and controversy over the use of marijuana is not likely to be resolved in the foreseeable future. Furthermore, we are not likely to improve our present slow progress in developing information about possible therapeutic uses of cannabis and its analogues without the stimulus of increased research grant support. At the end of each of the chapters, we have pointed out opportunities or problems that are ripe at this time.

• A larger proportion of NIDA resources could justifiably be allocated to cannabis research. Without wishing to minimize the value of any of the other drug research programs now supported by NIDA, we believe that the magnitude and social urgency of the marijuana problem warrant a higher priority for cannabis research

than it has apparently received to date. A drug that is currently used by about a third of all American high school seniors, and daily by about one in eleven, deserves more study than we currently are giving it. No other illicit drug is used as widely by our youth, and yet NIDA spent only 9 percent of its research budget on it in FY '80.

- NIDA would be advised to continue its recent policy of reducing the relative proportion of contracts and emphasizing grants. Although we believe that there is need for federal initiatives in stimulating work in neglected areas of current concern, the bulk of research support should continue to go to investigator-initiated projects.

- The duration for investigator-initiated research should be lengthened beyond the average 3-year period in order to attract and hold good researchers.

- Other agencies should contribute funds for the production, processing, and distribution of cannabis.

- A scientific advisory group should be formed to assist in providing scientific evidence and guidance to the director of NIDA.

- An increased interagency effort targeted toward specific problems not readily addressed by other approaches is required. These would include, for example, human long-term studies, as well as studies in epidemiology, prevention, and treatment. Funds should be contributed by all agencies.

- Research on human beings and other primates should be encouraged, particularly studies in the young. There is a special need at this time for good epidemiological studies that follow identifiable cohorts of marijuana users over a period of time.

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Appendix

A

WORK OF THE COMMITTEE

To conduct this study, the Institute of Medicine established a committee of experts drawn from relevant disciplines, including clinical medicine, epidemiology, pharmacology, psychiatry, and toxicology. This steering committee's expertise was augmented by consultants, as well as by many other persons serving as panel members. Six panels, each chaired by a committee member, were formed to carry out a detailed analysis of such special issues as the effects of cannabis use on behavioral and psychosocial development, on reproductive and fetal biology, on cardiovascular and respiratory systems, and to consider neurobiologic, genetic, oncogenic, and cytogenetic issues, and cell biology, including pharmacologic and immunologic aspects. During the early months of the study, the panels met to apportion writing responsibilities, and established the scope and focus of each panel's undertaking. The chronology of the panel meetings follows.

- February 3, 1981: Panel on Behavioral and Psychosocial Issues met in Washington
- February 18, 1981: Panel on Neurobiological Issues met in Washington
- February 26, 1981: Panel on Cardiovascular and Respiratory Issues met in New York City
- February 27, 1981: Panel on Genetic/Oncogenic/Cytogenetic Issues met in Washington
- March 11, 1981: Panel on Reproductive and Fetal Issues met in Boston
- March 16, 1981: Subpanel on Intrapersonal Variables and Social Behavior of the Panel on Behavioral and Psychosocial Issues met in Los Angeles
- March 23, 1981: Panel on Cell Biology/Pharmacological and Immunological Issues met in Boston
- April 14, 1981: Panel on Behavioral and Psychosocial Issues met in Washington

The steering committee, in the meantime, nominated additional candidates for membership on the panels and committee at its first meeting on December 1, 1980. Subsequently, four more meetings were

held, on April 15, 1981, June 2-3, 1981, August 31-September 1, 1981, and October 26, 1981. The first two were held in Washington, the third meeting was held in Woods Hole, Massachusetts, and the final meeting was held in Washington.

The committee made full use of research in other countries as well as the United States. A special effort was made to coordinate activities with the staff of the Addiction Research Foundation/World Health Organization Conference on Adverse Health and Behavioral Consequences of Cannabis Use. The group's draft report and working papers were made available to the IOM committee. The mandate of this group was to consider the scientific, clinical, and epidemiological information about potential and actual hazards to health.

Because of widespread public interest in the IOM study, a notice was placed in the February 24, 1981, Federal Register to solicit information from the public and from professional groups on the health-related effects of cannabis use. Approximately 90 responses were received from professional organizations, lawyers, medical doctors, scientists, other professionals, and parents. The responses can be divided into three categories:

1. The dangers of marijuana. The majority of responses came from people and groups opposed to cannabis use. Many parents of cannabis smokers (and ex-cannabis smokers) submitted statements about their personal experiences and observations. Included among the groups that responded are the National Federation of Parents for Drug Free Youth, Georgia Congress of Parents and Teachers, the American Lung Association, Drug Information Program of the Crusade Against Crime, the Committees of Correspondence, Phoenix House Foundation, and Pride.

2. The therapeutic potential of marijuana. Responses were received from medical doctors, as well as individuals or their parents, reporting that cannabis had alleviated pain from various medical problems--rheumatoid arthritis, migraine headaches, multiple sclerosis--and had in some cases lessened the side-effects of drugs used in chemotherapy. In most cases the marijuana had to be obtained by unauthorized means, making many of the victims and their families uncomfortable. Several respondents were from the State of Michigan, where a cannabis therapeutic research program has recently been authorized by the state legislature. Responses were also received from the Alliance for Cannabis Therapeutics and the American Medical Association.

3. Support of general use and legalization of marijuana. Responses in this regard were received from lawyers and other individuals, as well as the following organizations: the Ethiopian Zion Coptic Church, the Cannabis Institute of America, the National Organization for the Reform of Marijuana Laws, and the publication High Times. One writer contended that perhaps more people would submit statements if their anonymity were assured.

Appendix

B

ACCESS TO Δ-9-THC AND MARIJUANA FOR RESEARCH AND TREATMENT

The investigational use in human subjects of Δ-9-THC and marijuana are controlled by the Federal Food, Drug, and Cosmetic Act and the Investigational New Drug Regulations issued under that Act. In addition, Δ-9-THC and marijuana are controlled under the provisions of the Controlled Substances Act and currently are controlled in Schedule I of the Controlled Substances Act. Schedule I drugs are those that have: (1) high potential for abuse, (2) no currently accepted medical use in treatment in the United States, and (3) lack of accepted safety for use under medical supervision.

Basically two agencies work together for enforcing the controls of the Act: the Food and Drug Administration (FDA) in the Department of Health and Human Services and the Drug Enforcement Administration (DEA) in the Department of Justice. The Department of Justice was petitioned to reconsider the rescheduling of Δ-9-THC and marijuana in 1972, but to date there has been no change. However, DEA and FDA are now under court order to reconsider this situation. An FDA advisory meeting, held in June 1981, considered the scheduling status of the Δ-9-THC capsule only (Federal Register, 1981). The committee recommended that the Δ-9-THC capsule be changed from Schedule I to Schedule II status when a new drug application for Δ-9-THC is approved by FDA. Schedule II drugs are those that have: (1) a high potential for abuse, (2) a currently accepted medical use in treatment in the United States or a currently accepted medical use with severe restrictions, and (3) abuse that may lead to severe psychological or physical dependence.

Complaints and concerns were expressed to the study committee about the supply and distribution of marijuana and Δ-9-THC for treating chemotherapy side-effects in cancer patients. On the one hand, physicians said that there was poor cooperation from federal agencies engaged in controlling and supplying the drug (Koller, 1981; Monson, 1981), particularly with respect to (1) potency of Δ-9-THC received (concentrations were too low to be effective), and (2) uncertainty and irregularity of the shipments of the drug. On the other hand, some clinicians felt that it was premature to release Δ-9-THC for use in cancer patients (Moertel, 1981; Cook, 1981, because:

- specific indications have not been established, in that the way in which chemotherapeutic agents cause nausea and vomiting is not known;
- specific populations of patients have not been established;
- effective dose schedules have not been established;
- safety of treatment at doses effective for antiemetic purposes remains in question;
- reported peer-reviewed experience is contradictory and still fragmentary; and
- controlled, randomized, prospective studies have not been conducted.

Depending upon the use of the drug, two different agencies are in charge of supplying marijuana cigarettes and Δ -9-THC capsules; the National Institute on Drug Abuse (NIDA) controls the supply of marijuana cigarettes and/or Δ -9-THC capsules for basic research, and the National Cancer Institute (NCI) controls the supply of Δ -9-THC capsules for cancer treatment. The processes of obtaining supplies from each agency (or for each purpose) differ.

OBTAINING THE MARIJUANA CIGARETTES*

To obtain marijuana cigarettes for basic research,[†] an investigator must register with DEA (apply for a license), file a Notice of Claimed Investigation Exemption for a New Drug (IND)^{††} with FDA, and submit an order for drug substance to NIDA. The agencies suggest that all the paperwork be filed concurrently in order not to unnecessarily delay the process. FDA analyzes the scientific protocol and determines if the project has scientific merit, if the researcher is qualified, and if IND requirements are satisfied. DEA sends an agent to supply the order forms, to determine from local police records whether the investigator has a drug trafficking record, and to see if the investigator has provisions for keeping the drug secure from theft. On notification of approval by FDA and DEA, NIDA will supply the drug. The entire process is supposed to take from 30 days to 6 months, including the visit from the DEA (Tocus, 1981). However, some investigators have contended it can take longer.

To obtain marijuana cigarettes (or Δ -9-THC capsules) for investigational treatment of glaucoma, multiple sclerosis, or

*Concentrations of Δ -9-THC range between 0.5 and 2.8 percent; the marijuana cigarettes contain other cannabinoids, as well as other chemicals.

†DEA and FDA do not fund research. Federal agencies that have supported cannabis research in FY 1979 (in order of percent cannabinoid research) are: NIDA (84), NIMH (5), NIAA (3), NCI (2), DOT (2), USDA (2), NEI (1), NICHD and NIGMS (less than 1).

††Twelve states hold their own IND as of September 1981.

anorexia, the physician must go through the basic research route. In view of the possible contaminant problems with aspergillus and salmonella, it may be necessary to provide sterilized marijuana cigarettes to patients.

OBTAINING THE Δ-9-THC CAPSULES*

As a Schedule I drug, Δ-9-THC can only be used for investigational purposes. However, some cancer patients undergoing chemotherapy treatment and resistant to standard antiemetic drugs benefit from the antiemetic properties of Δ-9-THC. Therefore, a system has been established for the distribution of Δ-9-THC capsules to chemotherapy patients within the guidelines of the Schedule I restrictions.

A physician who wants to dispense Δ-9-THC capsules to his cancer patients does so under NCI Group C distribution system (Group C Guidelines, 1980). The physician sends an FDA registration form to a DEA-approved hospital pharmacy. The pharmacy forwards the application to NCI, which holds its own IND. NCI evaluates the credentials of the physician, and, if approving, informs the pharmacy to supply the physician. This process, under emergency situations, can take as little as 24 hours (Abraham, 1981). A physician may also obtain marijuana cigarettes for cancer patients in an NCI-approved treatment program. More than 500 hospitals have been invited to participate (Abraham, 1981), and about 300 have clearance from DEA (Gunby, 1981). Shipments began late last fall (Gunby, 1981). More than 1,500 physicians have applied, and 1,000 have been approved by DEA (Gunby, 1981). The doses available in capsule form are 2.5 and 5 mg.

At least one company has submitted a New Drug Application (NDA) to the FDA for manufacture of a synthetic Δ-9-THC capsule to treat cancer patients (Federal Register, 1981; Tocus, 1981). If an NDA for Δ-9-THC is approved, a Schedule I status will no longer be appropriate. In fact, the Drug Abuse Advisory Committee[†] recommended that the Δ-9-THC capsule be changed from Schedule I to a Schedule II status when an NDA is approved by FDA.

*Purity of Δ-9-THC capsules is better than 96 percent (97-98 percent, C. Turner, 1981, and 100 percent, D. Abraham, 1981).

†The committee advises the Commissioner of Food and Drugs regarding the scientific and medical evaluation of all information gathered by the Department of Health and Human Services and the Department of Justice with regard to safety, efficacy, and abuse potential of drugs and other substances and recommends action to be taken by the Department of Health and Human Services with regard to the marketing, investigation, and control of such drugs or other substances.

SUPPLIERS OF MARIJUANA CIGARETTES AND Δ -9-THC CAPSULES

Marijuana cigarettes are supplied to NIDA by Research Triangle Institute, which stores and distributes them (Davignon, 1981).

Many contractors are engaged in the synthesis, storage, and distribution of Δ -9-THC capsules to NCI. Manufacture is done by Aerojet Propulsion Labs (large scale) and Arthur D. Little (small scale). Stanford Research Institute assays Δ -9-THC. Banner Gelatin encapsulates it. Flow Laboratories stores and ships Δ -9-THC to DEA-approved hospital pharmacies.

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- Turner, Carleton. Director, Research Institute of Pharmaceutical Sciences, University of Mississippi, Oxford, Miss. Personal communication, 1981.

Appendix

C

LONGITUDINAL STUDIES

Appendix C is a review of prospective longitudinal studies of drug use in normal populations listed by completion status, type of sample (school sample, community sample), age of respondents, and year of first contact. Some of the studies are ongoing.

SUPPLIERS OF MARIJUANA CIGARETTES AND Δ -9-THC CAPSULES

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CORRECTION

**THIS DOCUMENT
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TO ASSURE LEGIBILITY**

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Appendix

C

LONGITUDINAL STUDIES

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Characteristics of Longitudinal Studies of Drug Use in Normal Populations Listed by Completion Status, Type of Sample, Age of Respondents, and Year of First Contact.

Part 1. Completed Studies: School Samples

Principal Investigators	Population Characteristics	Grade/Age at T1 of Sample Eligible for Panel	Year of First Contact	Year of Last Contact	Total Number of Contacts	Interval Between Contacts	Size of Sample T1 Eligible for Panel	Size of Matched Panel	Methods of Data Collection ²	Drugs Inquired About
Kellam	All entering public and parochial school first-grade children in a black community in Chicago with low income and high unemployment	Grade 1	1966	1975-1976	5	3 times during first grade 2 years 7 years	1,241	705	Home interviews; school tests (IQ, achievement) and grades; ratings by teacher, clinician, mother (T1-T5); police records, questionnaires (T5)	Cigarettes, beer or wine, hard liquor, marijuana, LSD, other psychedelics, uppers, downers, tranquilizers, cocaine, heroin and other opiates, glue, cough syrup
Smith	Students from grades 4-12 in 6 school systems in greater Boston area, predominantly white and middle-class	Grades 4-11	1969	1973	2-5	1 year	12,800 (approx.)	Variable	Self-administered questionnaires in classrooms; school records; peers' ratings of students' personalities	Cigarettes, liquor, marijuana, uppers, downers, psychedelics, opiates, inhalants, nonprescription drug store products
Kaplan	Seventh grade students from 18 of 36 junior high schools of the Houston Independent School District	Grade 7	1971	1973	3	1 year	7,620	3,148	Self-administered questionnaires in classrooms	Beer or wine, liquor, marijuana, narcotics
Jessor and Jessor	High school study; random sample of students from grades 7-12 of 3 junior and 3 senior high schools in a small city in the Rocky Mountains, almost all of Anglo-American, middle-class background	Grades 7-9 Grades 10-11	1969	1972	4 2-3	1 year 1 year	589 262	183 Variable	Self-administered questionnaires outside of class, school records	Beer or wine, hard liquor, marijuana, amphetamines, LSD, other psychedelics, cocaine, and heroin
Bliss and Josephson	Students from 5 junior and 18 senior high schools purposefully selected to represent varied regions, community sizes, socioeconomic levels, and racial compositions but not to represent the United States	Grades 7-10	1971	1973	2	2 years	10,363	8,136	Self-administered questionnaires in classrooms	Cigarettes, beer or wine, hard liquor, marijuana or hashish, amphetamines, methedrine, barbiturates, LSD, other psychedelics, cocaine, heroin, inhalants

Annie and Watson	Students of 3 public high schools in a northern Ontario city and dropouts from same classes	Grade 9	(Not Given)	(Not Given)	2	13 months	915	886	Self-administered questionnaires in class; interviews with dropouts at T2	Alcohol, marijuana, tobacco, solvents, hallucinogens, barbiturates, opiates
Kandel	(1) Multistage random sample of New York State public secondary school students from 18 schools and data from mothers or fathers; best school friend in subsample of 5 schools	Grades 9-12	1971	1972	2	6 months	8,206	5,423	Self-administered questionnaires in classrooms (adolescents). Mailed questionnaires (parents)	Cigarettes, beer or wine, hard liquor, marijuana, hashish, amphetamines, methedrine, barbiturates, tranquilizers, LSD, other psychedelics, cocaine, heroin, other narcotics, inhalants, cough syrup
	(2) 1972 Senior class (Third wave)	Grade 12	1971	1973	3	7-12 months	2,386	1,635	Self-administered questionnaires (T1, T2); mailed questionnaires (T3)	Same
Johnston	Youth in Transition cohort--A national random sample of boys in 87 public high schools in continental United States in 1966; drug components added in 1970 and 1974	Grade 10	1966	1974	5	2 years 1 year 1 year 6 years	2,213	1,608	Interviews (T1, T2, T4); self-administered questionnaires (T1-T4); mailed questionnaires (T5); ability tests (T1)	Cigarettes, beer, wine, hard liquor, marijuana, amphetamines, barbiturates, hallucinogens, methadone, cocaine, heroin
Britt and Campbell	North Carolina high school seniors who expressed an intention to attend college in fall	Grade 12	1961	1962	2	1 year	2,305	1,420	Self-administered questionnaires, (unclear whether in or out of class)	Alcohol
Guise and King	Seniors at Dartmouth College matched retrospectively to their freshman-year records	College freshmen	Not Given (prior to 1976)	Not Given	2	4 years	90	90	Mailed questionnaires	Marijuana, amphetamines, barbiturates, hallucinogens
Naagan	College juniors at Wesleyan University matched retrospectively to their freshman-and-sophomore-year records	College freshmen	1965	1968	2	3 years	70	70	Self-administered questionnaires; test data on file at Office of Psychological Service	Tobacco, alcohol, marijuana, hallucinogens
Garfield and Garfield	Random sample at large private suburban residential western university	College students	1966-1967	1970-1971	4	1 year	308	T2-100 T3-201 T4-100	Personally administered questionnaires	Alcohol, marijuana, hashish, LSD, meca-line

*The same methods were used in all waves of data collection of a study, unless specific times are indicated.

Characteristics of Longitudinal Studies of Drug Use in Normal Populations Listed by Completion Status, Type of Sample, Age of Respondents, and Year of First Contact.

Part I. Completed Studies: School Samples

Principal Investigator	Population Characteristics	Grade/Age at T1 of Sample Eligible for Panel	Year of First Contact	Year of Last Contact	Total Number of Contacts	Interval Between Contacts	Size of Sample T1 Eligible for Panel	Size of Matched Panel	Methods of Data Collection	Drugs Inquired About
Grupp	Random sample of 18 of students at Illinois State University not reporting marijuana use	College undergraduates and graduate students	1969	1973	3	2 years	127	T2-128 T3-103	Personal interviews at T1, T2; mailed questionnaires for those out of area at T2, and for everyone at T3	Marijuana
Goldstein	Students enrolled at Carnegie-Mellon University (class of 1972)	College freshmen	1968	1972	4	Approx: 9 months 16 months 28 months	778	417	Self-administered questionnaires, outside of class (mail technique preserving anonymity)	Beer, hard liquor, marijuana (incl. hashish), tranquilizers and barbiturates, amphetamines, hallucinogens, narcotics, tobacco
Groves	Full-time students at predominantly white nonspecialized colleges with projected enrollment of over 1,800 (1970)	College freshmen and juniors	1970	1971	2	1 year	7,368	3,961	Mailed questionnaires	Caffeine, alcohol, marijuana, hashish, methedrine, other amphetamines, barbiturates, sedatives, tranquilizers, LSD, other psychedelics, cocaine, opium, heroin, other narcotics, cough syrups
Mellinger	(1) Probability sample of male freshmen of University of California at Berkeley in Fall 1970	College freshmen	1970	1973	2	1 1/2 years	960	834	Personal interviews and self-administered forms; school records; mailed questionnaires	Tobacco, alcohol, marijuana or hashish, amphetamines, barbiturates, sedatives, psychedelics, cocaine, heroin, opium, other opiates, inhalants
	(2) Probability sample of senior men in class of 1971	College seniors	1971	1973	2	2 1/2 years	986	821	Same	Same
Jessor and Jessor	College study--random sample of arts and science university students in a small Rocky Mountain city	College freshmen	1970	1973	4	1 year	276	228	Self-administered questionnaires; school records	Beer or wine, hard liquor, marijuana, amphetamines, LSD, other psychedelics, cocaine, heroin

Schuckit	Random sample of incoming freshmen at:									
	(1) Washington University in St. Louis	College freshmen	1970	1974	4	1 year	150	Not Given	Semi-structured interviews mailed questionnaires to nonresidents	Tobacco, alcohol, marijuana, hashish, amphetamines, speed, LSD, mescaline, psilocybin, STP, MDA, opiates, medicinal drugs
	(2) University of California at San Diego	College freshmen	1971	1975	4	1 year	222	180		
Ginsberg and Greenley	Students enrolled at University of Wisconsin-Madison 1971-1974	College freshmen and sophomores	1971	1974	2	2 years	319	274	Mailed questionnaires	Marijuana
Bodava	(1) College freshmen in an English-language Roman Catholic college in province of Quebec	College freshmen	Not Given (prior to 1973)	Not Given	2	6 months	358	319	Self-administered questionnaires in classrooms	Cannabis, psychedelics, amphetamines, alcohol
	(2) Undergraduates at a small Ontario university in introductory psychology course	College freshmen and sophomores	1972	1973	2	6 months	467	374	Self-administered questionnaires	Alcohol, tobacco, marijuana and other illicit drugs
Ray	Random sample of male students entering Lehigh University	College freshmen	1971	1974	4	6 months	130	68	Self-administered questionnaires, adjective check list, California Psychological Inventory	Marijuana
			1972	1974	3	1-T2,	124	85		
			1973	1974	2	1 year, T2-T3, T3-T4	112	98		
Moore	Entering classes of two universities	College freshmen	Not Given	Not Given	3	9 months 3 years	1,286	T2-886 T3-567	Self-administered questionnaires, outside class	Alcohol

Characteristics of Longitudinal Studies of Drug Use in Normal Populations Listed by Completion Status, Type of Sample, Age of Respondents, and Year of First Contact.

Part 2. Completed Studies: Community Samples

Principal Investigators	Population Characteristics	Grade/Age at T1 of Sample Eligible for Panel	Year of First Contact	Year of Last Contact	Total Number of Contacts	Interval Between Contacts	Size of Sample T1 Eligible for Panel	Size of Matched Panel	Methods of Data Collection	Drugs Inquired About
Lukoff and Brook	Samples of ghetto community stratified for ethnicity, social class, and contiguity with deviance:	(1) Children	1973	1975-1976	2	3 years	403	183	Household interviews	Marijuana, ups, downs, psychedelics, heroin
		(2) Mothers					284	183		
Brunswick	Representative community sample of Harlem youth	16-17 years old	1969-1970	1975-1976	2	6 years	664	536	Household interviews	Alcohol, marijuana, amphetamines, barbiturates, acid, cocaine, heroin, glue
Hieber	19 year old conscripts born in canton of Zurich who report some alcohol/drug use at initial contact	19 years	1971	1974	2	3 years	1,413	841	Self-administered questionnaires T1; mailed questionnaires T2	Alcohol, tobacco, marijuana
Robins	(1) Vietnam veterans random sample of army (male) enlisted males who returned from Vietnam to the United States in September 1971, or (2) a supplementary random sample from all men returning that month whose urine had been detected as positive for morphine prior to leaving Vietnam. T2 sampled from reduced T1 target population restricted to men inducted since 1969 and from the 25 more populous states	20 years	1972	1974-1975	2	2 years	605	571	Interviews; urine samples; military and Veterans' Administration records	Cigarettes, alcohol, marijuana, amphetamines, barbiturates, tranquilizers, hallucinogens, cocaine, narcotics

	(2) Control group at T2--sample of non-veterans matched on Selective Service Board, draft eligibility, age, and education	Matched to veterans	1974-1975	--	1	--	302	284	Interviews; urine samples; Selective Service Records	Same
Cahalan et al.	(1) National probability sample of United States adult population; (2) sampled from reduced T1 target population N=1,818, with abstainers and very infrequent drinkers subsampled at a lower rate	21 and over	1964-1965	1967	2	2 years	1,810	1,259	Household interviews (T1); mail questionnaires	Drinking patterns, practices, and problems
	(2) National probability sample of white males aged 21-59, with oversampling of urban areas	21-59 years old	1969	1973	2	4 years	970	725	Same	Same
	(3) Probability sample of white males, aged 21-59, in San Francisco	21-59 years old	1967-1968	1972	2	4 years	786	615	Same	Same

Characteristics of Longitudinal Studies of Drug Use in Normal Populations Listed by Completion Status, Type of Sample, Age of Respondents, and Year of First Contact.

Part 3. Ongoing Studies: A--Within Adolescence, Adulthood

Principal Investigator	Population Characteristics	Grade/Age at T1 of Sample Eligible for Panel	Year of First Contact	Year of Last Contact	Total Number of Contacts	Interval Between Contacts	Size of Sample T1 Eligible for Panel	Size of Matched Panel	Methods of Data Collection	Drugs Inquired About
Huba and Bentler	Students in the greater Los Angeles area with oversampling of lower socioeconomic schools	Grades 7-9	1976	1980	4	1 year 2 years 1 year	1,614	768	Self-administered questionnaires from the students, parents (T1,T4) and peers (T1,T2)	Cigarettes, beer, wine, liquor, marijuana, hashish, coffee, minor and major tranquilizers, barbiturates, sedatives, antidepressants, amphetamines, non-amphetamines, uppers, LSD, other psychedelics, sniffling stuff, amyl nitrate, nonprescription, sleeping pills, stimulants, cough medicine, cold medicine, cocaine, heroin, other narcotics, PCP, coca paste
Luboff and Brook	Quota sample from 6 states (Connecticut, Kansas, New Jersey, New York, Ohio, and South Carolina). Approximately equal numbers of males and females, blacks and whites of middle socioeconomic status	Grades 9-10	1979	1981	2	2 years	932	Not yet completed	Self administered questionnaires	Alcohol, cigarettes, marijuana, amphetamines, barbiturates, LSD, other psychedelics, heroin, other narcotics, tranquilizers, quaaludes, cocaine, inhalants
Clayton and Voss	Nationally representative sample of men born between 1946 and 1956 inclusive, who registered with Selective Service upon age 18	20-30 years old	1974-1975	1982	2	6-7 years	458	Not yet completed	Personal interviews	Cigarettes, alcohol, marijuana, psychedelics, stimulants, sedatives, heroin, other opiates, cocaine, tranquilizers, inhalants

Part J. Ongoing Studies: B--From Adolescence to Young Adulthood

Carpenter, Lester, Pardina, and Labovitz	Cohort-sequential design--Random samples of New Jersey adolescents-- a) 3 cohorts born 1967-73 b) 3 cohorts born 1964-66 c) 3 cohorts born 1961-63 d) 3 control groups at T4	a) 12 years b) 15 years c) 18 years	1978	ongoing	14 tele- phone 8 onsite	1 year 3 years until age 24; 6 years after age 24	a) 1,350 b) 450 c) 450 d) 150	not yet com- pleted	On-site: -personal inter- views -self-admini- stered question- naires -behavioral tests -blood sample -psychological test -medical exams	Alcohol, cigarettes, marijuana, amphet- amines, barbiturates, LSD, other psych- edelics, heroin, other narcotics, tranquil- izers, quaaludes, cocaine, inhalants, PCP, amyl and butyl nitrate, over-the- counter psychothera- peutics, caffeine
Elliott	National Youth Survey--National probability multi- stage cluster sample of dwellings	11-17 years	1976	1980	5	1 year	1,725	T2-1655 T3-1626 T4-1541 T5-1494	Personal struc- tured inter- views	Tobacco, beer, wine, liquor, marijuana, hallucinogens, co- caine, heroin, medical and non- medical use of amphetamines, bar- biturates
Jessor, Jessor, and Donovan	Young adult follow- up. High school sample--random sample of students from grades 7-9 of 3 junior high schools in a small city in the Rocky Mountains, almost all of Anglo- American, middle class background	Grades 7-9	1969	1981 ^a	6	1 year 1 year 1 year 7 years 2 years	432	Not yet completed	T1-T4--Self-ad- ministered ques- tionnaires in school (high school sample) in small groups (college sample)	Beer, wine, hard liquor, marijuana, LSD, amphetamines, cocaine, heroin, tranquil- izers, barbitu- rates, morphine
	College sample-- random sample of freshman class arts and science university students in a small Rocky Mountain city	College freshmen	1970	1981 ^b	6	1 year 1 year 1 year 6 years 2 years	205	n.t. yet completed	T5, T6--Adult follow-up; mailed self-administered questionnaires	

Telephone
contact:
-major life events
-alcohol and drug
taking outcomes

^aFuture contacts planned, if funds available.

Characteristics of Longitudinal Studies of Drug Use in Normal Populations Listed by Completion Status, Type of Sample, Age of Respondents, and Year of First Contact.

Part 3. Ongoing Studies: B--From Adolescence to Young Adulthood

Principal Investigators	Population Characteristics	Grade/Age at T1 of Sample Eligible for Panel	Year of First Contact	Year of Last Contact	Total Number of Contacts	Interval Between Contacts	Size of Sample T1 Eligible for Panel	Size of Matched Panel	Methods of Data Collection	Drugs Inquired About
Johnston and Bachman	Monitoring the Future--cohort sequential design. Successive nationally representative cohorts of high school seniors from 115 public and 15 private high schools; repeated annually; entire senior classes in schools with 100 seniors, and subsamples (N=100) in larger schools	Grade 12	1975-ongoing	ongoing	11 for each cohort	1 year for each cohort (2 yrs for each cohort 1/2 sample)	2,400 (target for each cohort; 1,200 for each cohort 1/2 sample)	Not yet completed	T1--Self-administered questionnaires in classrooms T2, adult follow-ups -- Mailed questionnaires	Alcohol, cigarettes, marijuana, amphetamines, barbiturates, LSD, other psychedelics, heroin, other narcotics, tranquilizers, quaaludes, cocaine, inhalants, PCP, amyl and butyl nitrate, over-the-counter psychotherapeutics, caffeine
Kandel	Multistage random sample of adolescents enrolled in New York public secondary school selected from 18 schools a) regular students b) absentees	Grades 10-11	1971	1980 ^E	3	6 months 9 years	a) 1,321 b) 310	1,081 244	T1,T2--Self-administered questionnaires in classrooms T3--Adult follow-up--Household interviews	Cigarettes, beer or wine, hard liquor, marijuana, hashish, methedrine, LSD, other psychedelics, cocaine, heroin, other narcotics, inhalants, cough syrup, stimulants, sedatives and tranquilizers (medical and non-medical use)

Epstein	Seventh grade students enrolled in 18 of 16 junior high schools of the Houston Independent School District	Grade 7	1971	1981-1982	4	1 year 1 year 9-11 years	9,300	Not yet completed	T1-T3--Self-administered questionnaires T4--Adult follow-up--Household interviews	Marijuana/hashish, barbiturates, inhalants, hallucinogens, amphetamines, tranquilizers, heroin, other narcotics, quaaludes, cocaine
Lauer and Akers	All students in 2 junior high schools, 1 senior high school in small Iowa city	7-12	1980	1984	5	1 year	2,194	Not yet completed	Self-administered questionnaires in classroom Saliva test	Cigarettes, chewing tobacco, snuff, cigars/pipe
Schlegel	Random sample of students in 2 school boards (urban, rural) in southern Ontario	9-12	1974	1980 ²	7	4 months 4 months 4 months 1 year 2 years 2 years	1,781	918	(T1-T4) Self-administered questionnaires in classroom. (T5-T7) Mailed self-administered questionnaires	Beer, wine, liquor, cigarettes, amphetamines, barbiturates, marijuana, hallucinogens, tranquilizers, heroin, glue
Smith	Students and former students in middle-class predominantly white school district in the greater Boston area	Grades 8-10	1967	1981	4-6	1 year 1 year 1 year 1 year 8 years	1,935	Not yet completed	T1-T5--Self-administered questionnaires, peer ratings of personality, school records T6--Adult follow-up - Mailed questionnaires	Cigarettes, beer, wine, liquor, marijuana, hashish, uppers, downers, tripping stuff, cocaine, heroin and other opiates, drug store medicine, sniffing stuff, combination drugs

Future contacts planned, if funds available.

Appendix

D

PARAQUAT ISSUE

Paraquat is a herbicide that is used throughout the world. It is available in an aerosol form, granules, and a water-soluble concentrate. As a result of accidental or suicidal swallowing of the water-soluble concentrate, more than 500 human fatalities have occurred (Harley et al., 1977). In contrast, neither inhalation of the spray nor ingestion of paraquat granules has been shown to be of clinical importance (Fairshter and Wilson, 1975).

About 60 percent of the marijuana consumed in the United States is grown in Mexico. Since 1975, in the attempt to reduce the illegal production of marijuana, the Mexican government has been spraying marijuana fields from airplanes. The herbicide kills the treated plants within 1 or 2 days. Marijuana producers have resorted to harvesting the plants soon after spraying, minimizing exposure to sunshine, so that they are not destroyed. The paraquat persists on the dried leaves. Samples of marijuana confiscated at the U.S.-Mexico border have disclosed that about 21 percent of the confiscated marijuana was contaminated with paraquat in varying concentrations.

Paraquat damages the lungs, heart, kidneys, adrenal glands, central nervous system, liver, skeletal muscle, and spleen. In general, all effects but those on the lungs are transitory. The changes in the lungs of humans after ingestion appear to be dose-related: small amounts of the swallowed chemical may cause modest and reversible lung damage; in contrast, larger quantities cause lethal pulmonary fibrosis. An important element in paraquat toxicity is the fact that it is concentrated in the lungs where it does particular damage to the alveolar lining. In many respects, probably including the mechanism by which it damages the lungs, its effects resemble those of oxygen toxicity but seem to be less reversible (Smith and Heath, 1976).

With respect to marijuana, the use of paraquat as a herbicide entails the possibility or risk to two populations: (1) those who spray the paraquat and the workers in the fields who are exposed to an environment containing the paraquat spray, and (2) the marijuana smoker. To date, no toxic effects attributable to paraquat, per se, have been proved in either population. However, the observations thus far relate to the acute hazards of paraquat inhalation and do

not provide any assurance about the long-term effects. Indeed, observations on other inhaled toxins suggest that exposure for many years may be prerequisite for the development of clinical disability.

An important question with respect to the toxic effects of paraquat on the lungs is how much of the paraquat survives combustion and is transferred in the smoke to the gas-exchanging surfaces of the lungs. Studies conducted by NIDA indicate that as much as 0.2 percent of the paraquat in a marijuana cigarette appeared in a condensate of smoke prepared under laboratory conditions. The results suggested that a typical marijuana cigarette contaminated at approximately 500 ppm—a reasonable degree of contamination—would produce smoke containing up to 1 mg of paraquat. This experimental evidence has led to the prediction that a human smoker of five marijuana cigarettes per day would expose the lungs to approximately 5 mg of paraquat. Laboratory evidence derived from hamsters suggests the possibility of damaging the distal part of the airways (the bronchioles and the proximal alveolar ducts) by this exposure. These experiments and predictions suggest that an individual who continued to smoke paraquat-contaminated cigarettes would be a candidate for serious lung injury. The prospect probably would be greatly heightened by the toxic effects of the combusted marijuana.

There are only a few observations of experimental animals that bear directly on the effects of inhaled paraquat (Kimbrough and Gaines, 1970; Zavala and Rhodes, 1978). These suggest that similar lesions are produced by ingested paraquat and by paraquat introduced into the airways. For example, the introduction of minute quantities of paraquat dichloride intrabronchially, in concentrations ranging from 10 mg to 100 mg, elicited focal pulmonary edema, hemorrhage, and fibrosis (Zavala and Rhodes, 1978). The smaller doses are within the range to which a smoker of marijuana contaminated by paraquat might be exposed. However, the experimental evidence is not entirely relevant on several accounts: (1) paraquat arriving at the lung surfaces by inhalation from contaminated air or after smoking must be carried in the form of smoke, gas, or small droplets, because larger droplets, such as the aerosols used in agriculture, are apt to precipitate out in proximal airways, which are protected by cilia and mucus; (2) the intrabronchial installation of paraquat in a solution provides a different pattern of access to the gas-exchanging surfaces of the lungs than does inhalation of smoke, gas, or droplets; (3) because of its water solubility, paraquat that escapes pyrolyzation during smoking would be expected to be taken up by the tracheal bronchial tree and its branches before reaching the alveoli unless carried in the form of smoke, gas, or small droplets.

In essence, the evidence concerning the injurious effects of paraquat inhaled after either spraying or smoking is too meager for conclusions. The observations available since 1975 have not proved that paraquat, per se, is harmful to the lungs. On the other hand, the clinical experience to date, coupled with the increasing understanding of the biochemical basis for paraquat toxicity, raises the serious possibility that continued exposure to inhaled paraquat is likely to be harmful to the lungs, that the predominant effect

will be diffuse interstitial fibrosis, and that if exposure is sufficiently intense over years, respiratory insufficiency, disability, and death may reasonably be expected to ensue.

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SB

32

file 3

Marijuana today is far m

By ALYCE HANLEY
and FRITZ PETTYJOHN

Attorney Robert Wagstaff asserts that Senate Bill 32 and House Bill 55 are "patently unconstitutional." This assertion is patently absurd.

In *Ravin vs. the State of Alaska*, the court made findings of fact and reached conclusions of law based on those findings. Among its findings, the court found that there was a "...relative insignificance of marijuana consumption as health problem in our society at present." It also found that "most marijuana available in the United States has a THC content of less than one percent." The THC percentage was extremely significant to the court in the *Ravin* decision, as evidenced by its statement that, "...We recognize that more potent forms of cannabis than marijuana are commonly used in other countries and are available on a limited scale here. However, studies of use patterns here do not indicate any great likelihood of a significant shift in use here to the more potent substances. If such a shift were to occur, then marijuana use could be characterized as a serious health problem."

Today it is the more potent variety of marijuana which is in common use. Improved plant genetics and cultivation techniques have led to increasing potency. The marijuana of the '80s has averaged three to five percent tetrahydrocannabinol, THC, as compared to the less than one percent in the '70s.

To determine whether the consumption of marijuana had increased among Alaskan young people, Dr. Bernard Segal, PhD, conducted an extensive statewide survey in 1981 and 1982. This study provided an estimate of the prevalence of drug use among Alaskan students grades 7-12. In comparing the findings with results from national surveys, Alaskan students aged 12-17 exceeded the national sample for every substance. In 1982, of the Alaskan high school seniors surveyed, 70 percent had tried marijuana compared to 58 percent nationwide.

A multitude of studies have been undertaken by physicians and scientists which provide medical evidence of cellular damage, lung impairment, damage to the reproductive system as well as the brain. Today it is these more potent substances which are in common use:

• Dr. Robert C. Gilkeson, M.D., a pediatrician, adolescent neuropsychiatrist and brain researcher, recently released an extensive report on marijuana supporting the thesis of toxicity to human cells. A December 1979 report of the American Medical Association stated the clearest evidence for harmful

changes in physical health involved the pulmonary system. Bronchitis and related inflammatory changes have been shown repeatedly in marijuana users. The higher level of cancer-causing chemicals in marijuana and the methods of deep inhalation are raising grave concerns about new outbreaks of lung cancer in the late 1980s. The use of special pipes, "bongs," and "powerhitters" are all designed to maximize lung exposure to marijuana smoke, thus increasing the risk of cancer and emphysema.

• Dr. Forest Tennant, M.D., of West Covina, California, has stated that marijuana residu-



Artwork from *Narcosis* by Gary Vukobrat. Copyright © 1987, November. Distributed by Los Angeles Times.

more potent and harmful



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als remain in the body for a long period of time and continue to affect the user. He explains that when marijuana is used it releases the body's natural neurotransmitters, dopamine, norepinephrin and endorphines, causing the euphoric and subsequently tranquilization/sedative effect. Replacing these neurotransmitters with drug metabolites is what causes addiction. When a person becomes a chronic user of marijuana, the following complications and symptoms appear: *time distortion* — manifested by tardiness, staying up late, unusual meal times and missed appointments; *lack of motivation* — mani-

COMPASS

POINTS OF VIEW FROM OUR COMMUNITY

festated by poor hygiene, loss of interest in school, job and sports and inadequate diet; *unrealistic self-perception* — of job, school or athletic performance; and *auditory (ear) anesthesia* occurs so as to tolerate loud or irritating music.

Interestingly enough, Dr. Harold Voth, senior psychiatrist and psychoanalyst at the Menniger Foundation in Topeka, Kansas, has stated, "There is one truly pernicious symptom — specifically related to marijuana — which seems to be evident in every chronic pot user, youngster or adult. This is the extraordinary refusal to accept the hard scientific evidence about the harmful effects of marijuana. The user will scoff at the evidence, twist it, pervert it, call it 'reefer madness' — anything but look it straight in the face."

In spite of the studies, in spite of the approximately 80 resolutions, in spite of public opinion messages from all over Alaska urging the change of our liberal marijuana law, Chairmen Koponen and Ellis of the House Health, Education and Social Services (HESS) Committee have not yet scheduled a hearing on marijuana and choose to ignore the citizens of Alaska. There are less than 50 days for the House Democrats to decide whether all members of the House of Representatives will have the opportunity to vote on Senate Bill 32 which will recriminalize marijuana. That decision might well be determined by Representatives Koponen, Ellis and Sund and whether, as committee chairmen, they will schedule the bill before the session ends.

If the legislature succeeds in passing Senate Bill 32, it would not be asking the Alaska Supreme Court to overturn the Ravin decision. It would be asking the court to acknowledge the changes that have taken with place with respect to marijuana and its usage during the past 13 years. It would be asking the court to consider the evidence now available which offers scientific proof that marijuana is a serious health threat.

The truly important finding in Ravin is that, "no one has an absolute right to do things in the privacy of his own home which will affect himself or others adversely."

□ Alyce Hanley and Fritz Pettyjohn of Anchorage are Republican members of the House of Representatives.

4-28-88

Anch Times

The untold drug story

Dear Editor:

I am using this avenue of communication to let the public know of the very inappropriate handling of a recent legislative teleconference. On April 14 the House Health, Education and Social Services Committee (HESS) held hearings on SB32 which would recriminalize marijuana in Alaska (once again make marijuana illegal).

The House HESS Committee is co-chaired by Rep. Nillo Koponen of Fairbanks and Rep. Johnny Ellis of Anchorage. The House HESS aide for these two co-chairs is Jim Nordland. These are the individuals responsible for setting up the testimony from the professionals on the morning of the 14th. Two professional names were given to these individuals to be included in the hearings. They were Dr. Forest Tennant, drug advisor for the National Football League as well as many other titles, and Dr. Robert Gilkeson, a psychiatrist who has conducted studies to determine the toxicity of marijuana and its effects on the brain.

In addition the committee leadership also contacted five individuals who are associated with NORML (the National Organization for the Reform of Marijuana Laws). This group's goal is to legalize marijuana. Those contacted from NORML were Norman Zinberg, Lester Grinspoon, Todd Mikuriga, John Morgan and Arthur McBay.

At the time these marijuana hearings were happening in Alaska, I was attending an international conference on youth and drugs in Atlanta, Ga., sponsored by PRIDE (National Parents Resources Institute for Drug Education). Two of the speakers who were scheduled for the 15th were Dr. Gilkeson and Dr. Tennant.

When it was Dr. Gilkeson's time to speak in Atlanta, he arrived on the stage breathless, with suitcase in hand and very, very angry. He was late arriving at the conference because he had canceled a reservation which would have allowed him to arrive earlier. He shared with the 4,000 adults in the audience the reasons for his frustration and anger.

Dr. Gilkeson got a call on Wednesday, April 13, from the aide on the House HESS Committee, Jim Nordland, asking him to testify. Dr. Gilkeson told him he was sorry but he had to go to Atlanta. He got another call back from Jim Nordland asking him to please be on. When asked who else was going to testify, Dr. Gilkeson was given the names of the five NORML "actors." Dr. Gilkeson was astounded because there were 8,000 other credible doctors across the United States that they could have picked from. Why were they including NORML in with the credible, professional testimony?

Dr. Gilkeson thought the representation for the hearing was "lousy", so he canceled his super saver flight to Atlanta. He got on the phone, was not allowed to talk and listened to the erroneous information being given while he frantically wrote

notes so he would be able to refute what they were saying when he made his presentation. He was held on the phone for 2 1/2 hours after which they said there was not time to hear him! Meanwhile, four of the doctors from NORML got to testify. Dr. Gilkeson had lost his supersaver airfare when he canceled him flight, then also missed his next flight to Atlanta from New York because he was on the teleconference line -- after never being able to say a word!

Dr. Gilkeson said "he heard two hours of people purposely deceiving the public about their health!" At the end of the teleconference they called Dr. Tennant in California, who was also standing by to testify and had to leave for Atlanta, and told him they did not need him to testify after all.

There are many, many credible doctors and researchers across the land who are showing that marijuana is indeed a health problem, and this committee leadership did not let that information be presented. How can this happen? Who are they representing -- the drug user? Alaska's legislative process has been nationally embarrassed!

I find this treatment of credible professionals in the field to be a disgrace, embarrassing and absolutely appalling.

Not everyone in Alaska has succumbed to the drug culture. NORML has the ear of the press. Alaskans are not hearing the truth about the health hazards of Marijuana use. We are being duped by the drug culture. The only thing we can do is demand that the professional doctors be allowed to

give the testimony that they were prepared to give! How can the legislature make an intelligent decision on an important issue like this if the correct information is not allowed to be presented?

Legislators are making a reputation for themselves by stifling this bill. Caring, Alaskan parents have had enough of the political games. We are concerned about the health and potential of our future Alaskans. Isn't that also the charge of the Health, Education and Social Services Committee?

- Lynda Adams
Ketchikan

Opinion

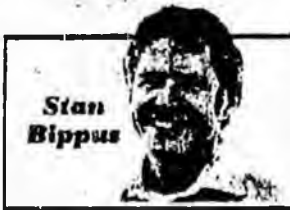
For the children's sake, recriminalize pot

By STAN BIPPUS

The decriminalization of marijuana in 1978 was a big mistake and most people with any common sense know it. Gov. Cowper admits that decriminalization of marijuana 12 years ago was a mistake. However, there are a few die-hards who are hanging tough and continue to protect a law that serves no positive good.

The marijuana law in Alaska allows any adult to possess less than four ounces of marijuana in the home. The personal freedom to grow and possess pot is evidently more important to some adults than the welfare of Alaska's children. The marijuana law only serves the selfish interests of pot-smoking Alaskans.

The law is extremely beneficial to those individuals who lack the self-confidence to deal with their problems in a positive manner. These adults need marijuana to help them deal with the stress and anxiety of everyday living. It would



Views expressed here do not necessarily represent those of the Daily News-Miner.

be difficult for the insecure folks who need marijuana not to have access to the drug that helps them escape from reality for a few minutes.

Reps. Nillo Koponen and Johnny Ellis seem to agree that individuals deserve the right to have access to a drug that will help them cope with life's pressures. They have kept all efforts to recriminalize marijuana from happening by using such stall tactics as looking at the latest findings to see if "marijuana in the

home is outweighed by the ills associated with marijuana use." Koponen and Ellis appear to think a person's right to "get high" at home is more important than the effect marijuana has on children.

The fact that some people want to dispute the short- and long-term effects of marijuana on the mind and body are irrelevant. If some adults want to risk the potential negative effects of marijuana, then so be it.

The difficulty of enforcement is not a justifiable reason to allow adults easy access to a mind-altering drug. The issues presented by Koponen and Ellis to justify their lack of action is simply a smoke screen to protect the rights of selfish adults.

The issue that justifies recriminalizing possession of marijuana is the effect pot-smoking adults have on the youth of Alaska. If there is real concern about kids, then that should be the focus of attention.

There are some people in Alaska, such as Reps. Alyce Hanley and Terry Martin, who feel that there is something wrong when adults exercise their personal freedom and it has a negative effect on children. These representatives are more concerned about children than the rights of selfish adults.

Far too many adults who possess marijuana in the home smoke in front of children. Children model the behavior of adults. Children who are exposed to adults smoking marijuana will assume it's an acceptable way to escape, cop-out, or behave. That reason, alone, should motivate caring adults to fight to recriminalize the possession of marijuana in Alaska.

Very few people like the local, state, or federal government telling them what they can or cannot do. However, the purpose of government is to impose and enforce laws that protect the safety and well-being of the people. Koponen

and Ellis stated they have "... an obligation to pass laws that are constitutional." How in the world anyone can justify a law that serves no positive good except to allow some adults to "get high?"

The concerned Alaskans who are fighting for the rights of children should not be too upset with legislators like Koponen and Ellis. There will always be politicians who are more concerned about protecting individual rights than doing what is morally right. Alaskans concerned about the effects of marijuana on children must remember that pot-smoking adults elect the politicians, not the non-voting children. Sometimes politicians must concern themselves with personal survival by doing something that is popular over doing something that is morally right.

Stan Bippus is an educator in a rural school district who writes a biweekly column on schools and related matters.

Coast Guard toughens stance on pot users

The Associated Press

People who want to get high on the seas by smoking marijuana could find themselves in trouble with the Coast Guard.

The Pacific commander of the Coast Guard has announced a new policy that will have the service prosecuting casual users of marijuana alongside big-time smugglers. Violators could lose their boats, cars and other property.

"My advice is not to take it with you," Costello told the World Affairs Council in Anchorage last week.

"I make no apologies whatsoever for the change," Costello said.

He said the Coast Guard's enforcement policy "totally differs with the state of Alaska," which allows people to consume small amounts of marijuana in their homes.

Coast Guard drug enforcement work has been most active in the southeastern states, where units have tried to stop the flow of illegal drugs from Central and South America.

Costello said intercepting drugs is much more difficult in the Pacific Ocean because of geography. The incoming drugs often are "gourmet items" such as Thai sticks — a highly potent form of marijuana.

In addition to drug law enforcement, the Coast Guard also is responsible for fishery

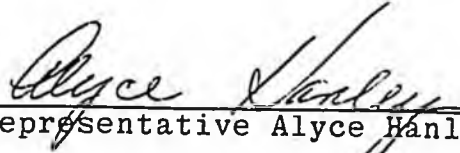
law enforcement, search and rescue and national defense, Costello said.

In other remarks, Costello said the United States' 200-mile exclusive economic zone

in the Bering Sea is being violated by foreign fishing vessels moving in and out of the "doughnut hole," a large area of international water bordered by Soviet and U.S. territory.

Dear Colleague:

Attached article furnished for your Information.


Representative Alyce Hanley

Marijuana

EDITOR, Daily News:

There is one issue surrounding Senate Bill 32, "An Act Relating to the Recriminalization of Marijuana" that has alluded public notice but could be catastrophic for our state and its ability to deal with the whole issue of substance abuse.

In 1986 Congress passed the Omnibus Drug Education and Rehabilitation Bill for which Alaska was allocated \$2 million. At the time resources for those funds were limited and competition for dollars was intense. Congress and the administration looked unfavorably at Alaska and our liberalized drug laws and only after intensive lobbying by Senator Murkowski were the funds finally released to our state.

Now in 1988, the United States Senate has passed SB 2206 which provides emergency funding of \$3.6 billion that will insure the continuation of the 1986 programs. Alaska's share has been targeted at \$6 million. But resources are even more limited today and the pressure is intense in Congress to allocate money to states that deal with the drug issue in a responsible manner. Parenthetically, the recalcitrance of our legislature to abolish the only liberalized drug law in the union has placed us in serious jeopardy of losing \$6 million in federal funds. These funds are urgently needed to combat our growing drug problem.

We take pride that our state is known as the "Last Frontier"; let us not be hoodwinked into being the "Last Fool-tier."

Sincerely
RAY SCHALOW
Anchorage

U.S. Customs cracks down on drugs

SEATTLE (AP) - More than 75 cars and several trucks have been seized as part of "Zero Tolerance," a recent crackdown by U.S. Customs agents on those bringing even the smallest amount of drugs into the United States from Canada.

Most of the vehicles, crowding a lot near Blaine, eventually will be sold at public auction after administrative hearings. A few will be returned to their owners, said Lawrence LaDage, U.S. Customs Service special agent in charge of the Northwest region.

Those caught with drugs also face federal charges and stiff Customs fines.

"We believe we are beginning to get people's attention," LaDage said. "It's a drastic action to take. But judging from the reactions of those people who have been caught, there is lots of remorse, and a lot are wondering if that [marijuana] joint was really worth this kind of aggravation and loss..."

The push began March 21.

Cases for those caught are being heard in Seattle and Spokane, depending on where at the border the arrests took place.

Three people arrested at Blaine earlier this month pleaded guilty Thursday in U.S. District Court in Seattle to misdemeanor drug charges. They received a year's probation.

Ken Parker, assistant U.S. attorney in Seattle, said he expects to file charges later this week in a "substantial" number of cases involving people recently arrested.

"We are sending them a very strong message," Parker said. "We intend to prosecute. We will focus on any amount of controlled sub-

the new program will be charged with misdemeanor drug possession and with felony importation of drugs.

The new hard-line enforcement effort against drug users is part of the Reagan administration's attempt to curb the flow of illegal drugs into the country.

'She and her boyfriend arrived together at the border,' the special agent said. 'But I was told they left separately.'

stance. People who are bringing drugs across the border have to understand that it's a crime. And these crimes will no longer be tolerated."

Until recently, people caught at the border with what is called "user" amounts of drugs usually paid an administrative fine to the U.S. Customs Service and were released.

Parker said people arrested under

Under the program, anyone caught at a border crossing with drugs faces possible arrest on federal charges, regardless of the quantity. Any vehicle found to contain drugs is seized, as is a vehicle carrying a driver or passenger with drugs.

On-the-spot fines range from several hundred dollars to more than \$1,000, and those caught must agree to appear in federal court.

Americans have their passports

seized, while foreigners found guilty in federal court aren't allowed back into the United States.

Those whose vehicles are seized must petition the Customs Service for a non-court hearing. Even then, it's unlikely they will win their case, LaDage said.

In one instance, a truck driver was arrested and his truck was impounded when inspectors found he had one marijuana joint, LaDage said.

Jerry Walker, owner of Walker Transport in Victoria, British Columbia, and owner of the \$120,000 truck, has fired the driver and is petitioning to get the truck back.

In another case, LaDage said, an airline flight attendant who had gone to Canada with her boyfriend and was returning to the United States was shocked when her boyfriend was found to be carrying a small amount of drugs and authorities impounded her sports car.

LaDage said the woman claimed she didn't know about the drugs, and authorities will consider her petition on that point.

"She and her boyfriend arrived together at the border," he said. "But I was told they left separately."

"And on foot."

Why in hell can't our legislators
outlaw drugs entirely?
They claim privacy, all laws infringe
on privacy so why can't they pass it.
I've better get some new legislation
than all bringing drugs to Alaska

Editorial

Little tolerance

There is a push to have the Alaska Legislature outlaw possession of even a small amount of marijuana for personal use. Whether the Legislature acts, Alaskans should be warned that other parts of the country and world are less tolerant. An ounce or less of marijuana can cost the user a motor vehicle if U.S. Customs catches him or her.

Since March 21, customs agents along the western U.S.-Canadian border have seized 75 vehicles whose drivers possessed small amounts of drugs. Some of those motorists had traveled from the United States to Canada on vacation and were nabbed on the way back to the United States. Some may have been driving through Canada on their way from Alaska to the Lower 48. The fact is that origin and destination have nothing to do with it. If agents find even the smallest amount of drugs as a vehicle and its occupants cross the border from Canada to Washington state, the vehicle is impounded for future sale and the people carrying the drugs walk away from the border with a court date. The cost of vehicles these days makes a joint costly.

This follows the crackdown announced by the Coast Guard, which has started making arrests for even small amounts of marijuana aboard boats in Alaska waters.

The debate will go on in Alaska over the issue of allowing small amounts of marijuana (less than four ounces in your home) for personal use. Irwin Ravin, the attorney whose arrest led to the law allowing less than four ounces for personal use, is leading the push to keep small amounts of the drug legal in Alaska for personal use. Irwin was arrested when his car was searched. But even Ravin will lose his car, if not his case, if he tempts the customs agents at the border now.

Alaskans are warned. The rest of the country isn't as tolerant as Alaska toward drugs.

①

temper courthouse plans

committee's new direc-
ashes hopes by court
administrator Art
lon and Anchorage
eaders that the project
o out to bid this year.
oject was estimated to
400 jobs for about 30
; for Anchorage's strug-
conomy.
reduction is so great it
"I'd have to go back
design" the addition,
on said. "It'll take a
m of a year."
0,000-square-foot addi-
ould take care of the
system's needs in the
) to 12 years, Snowden

said. But the courts may have
to come back to the legisla-
ture if caseloads continue to
grow, he said.

"We wanted room for ex-
pansion so we wouldn't be
back here," Snowden said.

On March 1, 1982, the court
system asked architects for
proposals on a \$32 million,
190,000-square-foot addition
"for the expansion needs of
the court system and related
agencies until the year 2010."

But last month, Snowden
said in a report to the Senate
Finance Committee that the
architects designed an expan-
sion "to provide an additional

350,000 square feet of space in
order to meet the court's proj-
ected needs to the year 2005."

Asked to reconcile the con-
tradictory numbers, Snowden
last week said the court sys-
tem was working with pre-
liminary space assessments
when it wrote its 1982 request
for proposals for architectural
services.

Committee members, par-
ticularly co-chairman John
Binkley of Bethel, have inter-
rogated Snowden and other
court system officials for two
weeks about the need for the
larger building. Until Thurs-
day, Anchorage senators

hoped that answers to Bink-
ley's questions would satisfy
the five non-Anchorage mem-
bers of the panel so a bill
could be moved to the Senate
floor for a vote.

But the answers, including
some Thursday about the
work of a Seattle planner,
undermined committee confi-
dence in the project. By the
end of the meeting Anchor-
age's two committee mem-
bers, co-chairman Rick Hal-
ford and Sen. Rick Uehling,
were participating in discus-
sions about scaling back the

See Page B-3, COURTHOUSE



Pot's effects at issue

By HAL SPENCER
Daily News reporter

If there is a fundamental
question underlying the de-
bate over a legislative mea-
sure to junk Alaska's permis-
sive marijuana law, it is
whether or not the drug is a
significant health hazard for
users.

It is, insists Rep. Fritz Pet-
tyjohn, R-Anchorage, one of
several lawmakers seeking to
stiffen the law.

It is not, insists Irwin Rav-
in, the Homer attorney whose
actions more than a decade
ago led to a law that permits
adults to possess and use less
than four ounces of marijuana
in their homes.

The two met Thursday be-
fore a lunch crowd at the
Bartlett Democratic Club to
debate a Senate-passed bill to
toughen the law. But with no
agreement on the basic ques-
tion, and no way to prove
their respective positions, the
two combatants did not de-
bate so much as engage in a
frank exchange of views.



Anchorage Daily News/Bob Halinen

School in Fairbanks this week.

be wary, tighten accounts

r a rate increase

as filed
case, to
ear.

City officials earlier this week said the 54 percent increase would cause the basic charge to downtown residential customers to go from about \$8 to about \$9.30. The increase would be applied across the board, according to the Alaska Public Offices Commission.

The APUC will consider the rate request later this year.

there are some real
as with this utility.
ointed me in a lot of
ns I think I should be
at."

ng the findings:
some cases, services
d to ATU by the city
plicate functions ATU
performs. "For exam-
U maintains its own
el department, yet
charged for the munic-
s personnel costs on
ie basis as other gov-

ernmental units who do not
maintain personnel depart-
ments," the audit says. The
city also bills ATU for data
processing and legal services,
although the phone utility has
internal employees to do
those jobs, too.

- ATU should ask for bet-
ter documentation of city
charges.
- Labor costs account for
more than half the utility's
total operating expenses. The
auditors said the utility

should study whether the
number of employees and the
salaries they are paid are
appropriate in view of the
city's economy and the utili-
ty's business plans.

- Both the Anchorage As-
sembly and the APUC should
more closely oversee ATU's
capital expansion plans.

- A 1986 change in the for-
mula used to distribute ATU
earnings resulted in about a
three-fold increase in the
amount of money given to
city government. In 1986, the
utility paid the city a \$5.5
million dividend, which was
used to soften the tax burden
on property owners. "In com-
parison, the annual dividends
paid during the four preced-
ing years ranged from \$1.3
million to \$1.6 million," the
audit says.

Commission spokesman
Ray Wipperman said the AP-
UC probably will schedule
public hearings on the audit.

d . . . is no good unless it's rolled

*tie up these rules as they
is like a bad deal to me
own people who are just
taxes. ♪*

— Tom Patmor of Clam Gulch

law years and said it was the only way he
could afford to pay his taxes this
year. He said he doesn't know exact-
ly how many pennies are in the bags,
but believes there are more than
enough to cover the debt.

Patmor said Borough Finance Di-

rector Roy Barton discussed the issue
with him for a while, then called him
a name and stuck a closed sign in
front of the cashier's desk.

Barton denied calling Patmor a
name, but said he closed the cashier's
desk when he felt Patmor was being
argumentative. The borough has a
written policy of requiring that pay-
ments in coins have to be wrapped
and counted, Barton said.

"I would not use taxpayers' dol-
lars to tie up the borough staff on
such a project," Barton said.

"I think they make up these rules
as they go along," Patmor insisted.
"It seems like a bad deal to me when
they turn down people who are just
trying to pay their taxes. I'm going to
appeal this thing."

Pettyjohn, a practicing at-
torney and a conservative,
thinks the Alaska Supreme
Court would be ready to re-
vise its 13-year-old opinion
that adult possession or use of
marijuana in the home is pro-
tected by the Alaska Consti-
tution's privacy guarantee.

The court in 1975 so ruled
after determining that mari-
juana for personal use in the
home posed no significant
health or safety threat, and
therefore was not behavior
that should be controlled by
the state.

Ravin brought the case af-
ter arranging to have himself
arrested with marijuana in
his pocket in December 1972.

"I am convinced," Pet-
tyjohn said Thursday, "that
at the minimum there is a
consensus among the health
community that marijuana is
a health hazard, that it im-
pairs learning, memory and
intellectual performance. I
think those things are true
not only from studies but
from my own observation.

"I would have no hesita-
tion at all in taking (the
Senate-passed bill) or some
other version of it before the
Supreme Court and arguing
that the facts have changed
from what they were 13 years
ago," Pettyjohn said.

He said there was a "great
deal of evidence" generated
in the last decade showing
that marijuana is a "serious
health problem" and a "very
severe problem among the
youth of the state." Pettyjohn
said the drug is showing up in
increasingly potent form.

Ravin, however, asserted
that there are no new findings
that marijuana is a signifi-
cant health problem in Alas-
ka or elsewhere.

In fact, he said, Alaska
could be a useful laboratory
to determine whether the
weed is a health threat since
100,000 Alaskans have been
using it legally since 1975.

"We've got a perfect place
for research right here, so
let's look at the facts in Alas-
ka," Ravin said.

He went on to assert that
there hasn't been a single
hospital admission of some-
body "overdosing or freaking
out or getting in any kind of
trouble" on marijuana.

"Nobody's been beaten up
in Alaska by somebody

POT: Lawmaker, attorney at odds

Continued from Page B-1

freaked out or crazed by marijuana. Those things do not happen. They do happen with other drugs, but marijuana is unique and our Supreme Court found it is unique," Ravin said.

Ravin said Pettyjohn's point that today's marijuana typically contains four to 10 times more tetrahydrocannabinol (THC) is irrelevant because users smoke it until they reach a high and then stop. Typically, he said, users who would smoke a whole joint of weak marijuana will smoke only a little of a joint if it contains more THC.

Pettyjohn said marijuana is particularly destructive to adolescents. "Haven't you all seen kids who have gotten on dope and it has an extreme adverse effect on their development? I don't think there is any question about it. I've seen it," he said.

Ravin, however, noted that it already is illegal for people under 18 to possess or smoke marijuana.

Yes, Pettyjohn said, but the more permissive law for adults sends the wrong message to juveniles. "I have

three sons who I feel very deeply about. I want them to say no when they're offered marijuana. I want to give them a whole laundry list of reasons," including that it is against the law for adults also.

But, responded Ravin, "that would confuse the kids ... when you stick it (marijuana) in the same bag as the really bad stuff."

Ravin said the proposed recriminalization is driven by politics rather than reason.

"The transitory political winds that are blowing have gotten our legislature to a point where they feel it is necessary to invade on our privacy so they can pass a law criminalizing marijuana. At the stroke of a pen they are going to turn 100,000 Alaskans into criminals, for no reason," he said.

The Senate bill, now in House committee, would make possession of marijuana a crime punishable by as much as 90 days in jail and a \$1,000 fine.

The Senate bill's prospects in the House are uncertain, but Gov. Steve Cowper has said he would not veto a bill if it reached his desk.

ing some unusual — but practical — skills.

First there is the tea-making contest. Each of the three young women must build a fire on the snow, melt enough snow to make one cup of tea, boil the water and make the tea.

Then there is the snowshoe race. There's not much call for 3-inch high heels in this secluded community of less than 700 people on the banks of the Yukon River in north-eastern Alaska.

skinning a snowshoe known in some parts of Alaska as a "lowbush moose."

In other respects, the test is similar to the America pageant. All contestants must display some special talent, answer impromptu questions and appear in evening gown.

The coronation ceremony planned for March 28, including the new queen to reign over carnival activities planned through April 2.

COURTHOUSE: Senator

Continued from Page B-1

building.

"Questions were raised that brought up other questions, that brought up potential problems, that added new ways to continue the ongoing debate," Halford said.

Uehling, suggested that the committee put a limit on how big the addition can be. "We just don't have the money now to go for the grandiose plans we had in the past," he said.

Planning for the courthouse addition started at the height of the oil boom, said committee member Willie Hensley of Kotzebue. Now that state revenues have diminished and population is

declining, it's difficult to believe that all that space is still needed, he said.

"I still believe that the numbers reflect the men of five or six years ago. We never thought the thing would never end," Hensley said.

Hensley's comments allowed committee scrutiny of consultant's estimates for amount of space that would be needed to accommodate the District Court, Superior Court, Supreme Court, other parts of the courthouse. Snowden defended Michael Wong of Space Management Consultants as one of the most respected court planners in the United States.

But committee members were shocked to learn

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New evidence may burn cigarette makers

By JOHN KING
The Associated Press

BOSTON — Evidence presented in a New Jersey court that cigarette makers were aware up to 40 years ago that smoking might cause cancer and other ailments will lead to a flood of tobacco-liability cases, attorneys said Saturday.

The attorneys, including one involved in the New Jersey trial, said they expected the documents would lead to the first verdict against a tobacco company in a product-liability case. And now that the documents are a matter of public record, their availability will substantially reduce the cost of pretrial proceedings in other cases, the attorneys said.

"This is a product that is as dangerous as alcohol and as addictive as heroin," said Professor Richard Daynard of the

Tobacco Products Liability Project at Northeastern University. "The evidence shows that."

The project, which assists attorneys involved in suits against tobacco companies, brought together lawyers involved in more than 100 tobacco liability cases nationwide as part of its fourth anniversary conference.

A lawyer for cigarette maker Philip Morris Cos., one of the defendants in the New Jersey case, said Daynard and other attorneys at the conference were taking the documents out of context. The attorney, Charles R. Wall, also criticized the group for discussing them while the New Jersey case was still under way.

"These issues will be decided in the courtroom where they should be decided," Wall said. "We disagree that there

has been proof that cigarette smoking causes lung cancer."

Daynard and others at a Northeastern news conference said past cases blaming smoking for deaths have failed because of insufficient evidence that tobacco companies knew smoking was or possibly was a health hazard.

The documents gathered for the New Jersey trial include internal tobacco industry memos dating back to 1946 in which researchers for cigarette makers discuss growing evidence of a link between smoking and lung cancer and heart and respiratory problems.

They also include verification that cigarette makers developed less dangerous cigarettes, and memos in which the companies are advised that marketing those products would amount to an admission that other cigarettes were dangerous.

Hawaii's pot crop flourishes despite official crackdown

By CHRISTINE DONNELLY

THE ASSOCIATED PRESS

HONOLULU - Nestled in the lush jungles of the Hawaiian islands is a multibillion-dollar industry that the local growers protect, the government destroys, the visitors bureau rarely mentions and tourists often overlook on secluded mountain trails.

It is marijuana, and despite the government's best efforts to eradicate it, the state's largest cash crop continues to flourish and enjoy the reputation as some of the best "pakalolo" in the world.

The government destroys more pot plants here than anywhere else in the United States, but still the crop thrives, nurtured by year-round, near-perfect growing conditions.

"A prayer goes into the ground with every plant," said Roger Christie, spokesman for the Marijuana Political Action Committee in Hilo and a member of the Cambridge, Mass.-based Cannabis Corp. "These islands are a magic place for growing pakololo. The sun, the rain, the energy of the volcano all combine to create the right conditions."

The islands' light, misty rain, which was considered a blessing by ancient Hawaiians, is also a boon to pot growers, Christie said, adding that the year-round sunshine is rarely intense enough to scorch the plants.

"Oh, the stuff here is definitely legendary," said George Auflick, agent in charge at the Drug Enforcement Agency here. "Hawaii pot is so highly prized that a lot of growers from other Pacific islands ship their stuff to Honolulu first, just so it can go to the mainland with a Hawaii postmark. It's just got sort of a mythical reputation."

That reputation is reflected in the price, Auflick said. Locally grown marijuana goes for about \$150 an ounce on the islands, he said. But on the mainland, what is known as Maui Wowie, Kona Gold and Puna Butter sells for about \$300 to \$500 an ounce, with the highest prices on the East

Coast. In comparison, an ounce of Mexican or Californian marijuana fetches \$60 an ounce in Los Angeles, with Colombian selling for about \$200 an ounce, according to the Narcotics Division of the Los Angeles Police Department.

Prices here rise after each big raid, and lately the going rate has been steep. That pleases Capt. Richard Carter, the head of the criminal investigation unit of the police department on the "Big Island" of Hawaii, where an estimated 66 percent of the state's crop is grown.

In 1987, 1.25 million marijuana plants and 752 pounds of dried pot were seized on the Big Island alone, Carter said. Each plant is considered to be worth \$1,000, which means more than \$1.2 billion worth of marijuana was recovered last year on the Big Island alone.

Authorities figure about 1.8 million plants were destroyed throughout the state. But for every plant destroyed, two or three were left to flourish.

But the authorities' increased efficiency has forced growers to be more careful about camouflaging their crops. Still, many growers are not secretive at all, and plant marijuana at the edge of papaya or sugar cane fields, Carter said.

That kind of defiance has some officials on the mainland worried about whether Hawaii are really doing all they can to rid the state of a drug trade that is said to bring in more than \$4 billion a year, second only to the tourist industry.

But others, like the Marijuana PAC's Christie, believe the state is giving up a valuable source of revenue in its zeal "to dictate the public morality."

Eradication of marijuana is "not an issue of the government caring for the people," Christie said. "If that were the issue, they'd ban the shot glass and the beer mug."

"The bottom line is that more people than ever want the stuff," he said, "and there is plenty of it here."

marijuana illegal

On alcohol and marijuana

I find Committee Substitute for Senate Bill 32 an amazing document.

While the legislature is dealing with this serious problem, I wonder why the same attention is not given to the use of alcohol? If one reads through CS for SB 32 and thinks alcohol in this state so far surpasses the use and abuse problems related to marijuana that to carry on with criminalizing marijuana without giving the same attention to alcohol would make SB 32 absolutely absurd.

There is much to be said for giving serious attention and concern to marijuana. There is an even more critical mandate to give that same serious attention and concern to alcohol use in this state.

Why separate the two? I am aware of the alcohol lobby. I understand the economic impact of alcohol sales. I also see the victimization of innocent children, of women and men, of gainful employment, of domestic violence, and of meaningful productivity related to alcohol use in this state.

If one makes any attempt to be objective (not political, not economically astute, not consumed with one's own addiction), one cannot but deal with alcohol and marijuana in the same vein, however it is attacked and dealt with.

And where does that leave judgment about SB 32? It appears to be a witch hunt for a junior witch when there are astronomical and agonizing costs accruing to the other witch. How can intelligent people deal with only one of these "societal" problems without giving some attention to the other?

Come, let us be reasonable. What is good for the goose is good for the gander.

— Carolyn V. Brown, M.D.

Felson



The Associated Press

Ravin says there are no grounds to change the ruling.

Marijuana defenders hold firm at hearing

By SUE CROSS
The Associated Press

JUNEAU — For 13 years Alaska has served as a laboratory for studying the effects of marijuana, and nothing during those years has justified making its use illegal again, say supporters of the state's current marijuana law.

Irwin Ravin, the Homer attorney whose arrest for possession of marijuana led the Alaska Supreme Court to uphold private use of the drug in 1975, told legislators Wednesday they don't have any grounds for overturning the court decision.

"It has been legal for adults to smoke marijuana in their homes for 13 years," Ravin said. "Now if this hysteria and this kind of panic happening have any basis in fact, what we would see over the last 13 years, we'd see that our jails would be full of people that committed crimes under the influence of marijuana."

"It's true we have a drug problem in this state, but (it) is an alcohol problem. It's not a marijuana problem," he said in testimony before the House Committee on Health Education and Social Services.

The committee is hearing a Senate Bill (SB32) that would make it a crime to possess marijuana. State law now makes it illegal to transport, sell or use marijuana in public, but allows possession of up to 4 ounces of the drug.

The sponsor of the bill, Kenai Republican Sen. Paul Fischer, contends marijuana is more potent — and thus more harmful to health — than it was when the Supreme Court said its use in the home was protected by Alaska's constitutional right to privacy.

See Page E-3, MARIJUANA

Anch Daily News April 14, 88

MARIJUANA: Law under fire

Continued from Page E-1

The effects of marijuana justify setting aside the right to privacy for the larger public good, Fischer said, such as the state has done in allowing communities to ban use of alcohol by local option.

But Ravin and other defenders said that argument won't hold.

Alaska had a statistical trail of violence, deaths and social disruption to follow in proving alcohol's harm in the state, said Don Clocksin, a former legislator who is presi-

dent of the Alaska Civil Liberties Union.

Proving marijuana harms individuals is not enough to make it illegal again, Clocksin said. He believes opponents will find no proof of harm to the society.

The other side of the argument was made by Dwayne Otis, U.S. Customs Service district director for Alaska.

Otis explained Customs' efforts to arrest everyone coming into the United States with even the smallest amount of marijuana or other drugs.

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FACTS ON marijuana dangers elusive

By Robert Laurie
Times Juneau Bureau

JUNEAU — Following hours of testimony from national experts with conflicting, sometimes-confusing claims about the health effects of marijuana, Rep. Bill Hudson, R-Juneau, asked "where do we go for the truth?"

Hudson is one of seven members of the House Health, Education and Social Services Committee which is working on a measure that would recriminalize marijuana.

The panel is trying to ascertain whether 20 "legislative findings," or statements of fact in the bill, are indeed true and can justify the changes the bill would make in Alaska's laws.

While few, if any, give the bill any chance of final passage this session, by virtue of its passage by the Senate in February, it has moved farther through the legislative process than has any marijuana recriminalization measure since the landmark "Raven" decision 13 years ago.

In 1975 the Alaska Supreme Court ruled that barring any overriding evidence of danger to public health and safety, the state constitution's guarantee to a right to privacy in a person's home allowed the possession of small amounts of marijuana by adults for personal use. Possession by juveniles remained illegal.

The court made its ruling in the case involving Homer attorney Irwin Raven, who had been convicted in 1973 of possessing marijuana. The court's decision overturned his conviction.

Raven was in Juneau last week to plead his case before the legislature. He argued that recriminalization of marijuana would be another erosion of the freedoms that brought many to Alaska.

"You've got your liberties going one by one," Raven said.

Committee co-chair Rep. Johnny Ellis, D-Anchorage, says his panel is focusing in on the findings and penalties outlined in the bill.

"It's on the medical findings
See Findings, page B-5

Findings

Continued from page B-1

that we have to decide whether this would pass constitutional muster or not," said Ellis. "And it's a very difficult area; the scientific-medical area, for laymen, essentially seven average citizens, to weigh the evidence."

Ellis said it's clear the bill is "a mess," and needs extensive work before it leaves his committee. Many of the findings cited in the bill, he said, simply don't hold up.

Rep. Alyce Hanley, a strong supporter of the measure agrees "two or three" of the findings should be thrown out.

The Anchorage Republican plans to go through the findings one by one to make sure they can stand up in court.

Of the testimony the committee has received so far, the experts agree on only two findings. Marijuana use damages the lungs and can harm the heart.

Rep. Randy Phillips, R-Eagle River, has yet to make up his mind on the issue. He says he'll base his decision on whether the health and safety considerations outweigh the right to privacy.

"It's a classical situation," Phillips said. "Basically, we have two truths colliding . . . and we're trying to determine, at least in my mind, which truth is superior."

SINCLAIR APR. 17 ANCHORAGE TIMES

People's Forum

More readers reply to the question: Should marijuana be recriminalized?

A Law didn't work before, and it won't work now

If recriminalization ever occurs, as it might next year when election year politics forces our political heroes to grasp any stance that could get them elected, the real effect will be minimal. It should be obvious that a law that did not work 10 years ago certainly will not work any better now.

Using even the federal government's sadly erroneous statistics, the number of people who smoke marijuana at a minimum equals the number it took to elect Ronald Reagan. There is a force at work here that will not simply disappear under a new law.

We do need a new marijuana law, one that recognizes the existing realities and doesn't cater to the media hysteria usually supported by politicians.

The advantages to legal marijuana are overwhelming. If such a law was passed we would finally have the necessary instrument to bring the drug under control. Being able to license, tax, collect, inspect and create regulations preventing the sale to minors are all easily possible once the initial step is taken.

Since it is nearly impossible to believe such a drastic revision in thinking will take place, one can only assume that the people of this state are in for a lot of tedious and ultimately unsuccessful debate on this issue.

The status quo is infinitely preferable to a return of a law that never worked. Until we finally realize the time has come to stop enforcing hypocritical laws, the best advice we can follow is this: If you think smoking marijuana is bad for you, then don't use it. If you are concerned that drugs are a problem with your children, concentrate your efforts on getting them to stop.

— Mark Phillip Archer

A People aren't getting the truth about marijuana

The past and present attitudes about marijuana are based on ignorance and fear caused by misleading government reports that are so exaggerated that they are almost outright lies. It is incredible that our government can get away with deceiving the people like that.

From the people I have talked to, the police realize that alcohol causes many, many more problems and dangerous situations than pot. I believe that if people knew the truth about the drug they would not be afraid to

will give a long-awaited blow to our crime overall.

— Patrick Doyle

A Use revenues for benefit of the people

During the pipeline boom, the state government, always astute in their search for possible future revenue, legalized a future rich harvest: marijuana. I'm sure there are other rich future pastures for the state government to graze in also.

Most people resent being told what is good for them, but I side with the government, for indeed, they do know what is best for the people. I would vote to recriminalize marijuana, providing the revenue is used conspicuously for the people's benefit, for they are the ones who will be paying the fines.

— Paul S. McGiboney

A Home-grown products keep money in state

No! It is hypocritical to criminally punish users of marijuana while legally sanctioning the use of alcohol. Alcohol creates more social and medical problems than marijuana.

In Alaska the marijuana law was issued by the courts, not the people; so it's always being fought. People are realizing that fighting marijuana is a losing battle. It seems like the government is spending a lot on its hysterical anti-marijuana message.

Factors may point to advantages for the pro-cannabis crowd. Alaska, a state without significant manufacturing or agriculture, depends on the exports of its smaller number of natural resources to bring in revenue. Home-grown products — even marijuana — keep vital money from leaving the state.

— Michael Hootch, Palmer Correctional Center

A Changing law won't stop flow of drugs

It's hard to believe that after all the legal battles fought for the present law, someone wants to spend more money to change them. It's a well known fact that the government seizes only 10 percent of the drugs coming into the country, so changing the law won't stop the flow. Spend the money on education



SEE NEXT PAGE

(Two-thirds of the offenders in Alaska's jails are there for alcohol related crimes.) If legislators need something to do may I suggest something be done to alleviate our obvious problems rather than restrict what we can do within our own homes.

— Dave Lloyd

A Industry should be regulated like any another

Recriminalization sounds simple enough, doesn't it. But let's look at some of the ramifications.

Fact: At the present time, it is unlawful for any juvenile to possess or in any way be associated with marijuana. This is reasonable; minors are also prohibited by law from association with alcohol or tobacco. Recriminalization of marijuana would in no way

Abuse, Dr. Max Fink reported new evidence failed to show any signs of brain damage or other significant differences between users and non-users. "The evidence is fairly clear that chronic cannabis use is not accompanied by the things written in the medical literature in the 1930's and 1940's."

Another scientist on the panel, Dr. Thomas Bryant, president of the private Drug Abuse Council in Washington, said decriminalization "makes sense on the basis of the evidence that's in."

Dr. Robert DuPont, head of the National Institute on Drug Abuse, reported, "There is no question that alcohol and tobacco are causing us far more health problems than marijuana does," and that marijuana "lacks the 'lethal effects' of either alcohol or tobacco."

People supporting recriminalization should rethink their antiquated concepts before passing a bill that would have such deleterious effects on our society.

Marijuana bills get legislative hearing

By KIRK McALLISTER

THE JUNEAU EMPIRE

The first salvos of the legislative drug war of 1987 were fired this week when a joint legislative committee heard testimony on bills that would make possessing marijuana a criminal offense in Alaska.

Similar bills have been introduced in both the House and Senate that would make possession of any amount of marijuana illegal in the state.

In a joint meeting of the House and Senate Health, Education and Social Services committees on Wednesday, lawmakers were advised that if they pass a bill making pot illegal again, the issue will more than likely be decided in the state supreme court.

That's because the high court in a 1975 ruling known as the Raven case ruled that the right to privacy in the Alaska constitution protects the possession of small amounts of marijuana in the home.

The reason pot is protected by the right to privacy while stronger drugs such as heroin and cocaine are not is

there was no overwhelming evidence of the detrimental effects of marijuana introduced in the Raven case.

Backers of the new bills (SB32 and HB55) say that times have changed and there is now more medical evidence of the adverse effects of marijuana.

According to the one of the findings of the bill, the marijuana in circulation today is much stronger than was available 10 years ago. While the THC (the active ingredient in pot) content of a marijuana cigarette was 1 percent 10 years ago, it may be as high as 10 percent today.

The findings also say that marijuana, among other things, causes schizophrenia and hallucinations, may cause lung cancer, affects the reproductive organs, can cause birth defects, loss of memory, anxiety, paranoia and psychosis.

Some of those findings were disputed by Paul Grant, an attorney for the American Civil Liberties Union in Alaska.

Grant called the findings of the bill "extremely simplistic" and in

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Marijuana...

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some cases, a "misrepresentation of the facts." He also said the fiscal note of the bill being zero was unrealistic as there would be added court system costs to deal with marijuana cases.

"We (ACLU) object to making something illegal that you have no intention of enforcing and creating a new class of criminals in Alaska," Grant said. "We encourage the committee to seek out scientific evidence supporting your case, but there is no scientific evidence that I'm aware of since Raven that would justify the government telling consenting adults what they should put into their bodies."

Local attorney David Crosby, a member of the Juneau City-Borough Board of Education and the father of two teen-agers, said he strongly supported the recriminalization of marijuana because it would aid the fight against drugs among youths.

Possession and/or use of marijuana is already illegal under existing state law for anyone under age 19.

"If it were only adults we were talking about I wouldn't be here," Crosby told the committee. "The tolerant attitude towards marijuana by adults is partly responsible for kids thinking it's OK."

In the next few months, the committees are expected to hear a parade of witnesses on the scientific evidence surrounding marijuana and the legal arguments concerning the right to privacy that go with it.

If a bill is passed it will likely be challenged on constitutional grounds and end up before the Alaska Supreme Court.

But bill sponsor and Senate HESS Committee chairman Sen. Paul Fischer, R-Soldotna, said that was fine with him. High courts change with public sentiment and there is only one justice left on the supreme court that rendered the Raven decision in 1975.

Hanley plans to sponsor bill to recriminalize marijuana

By Catherine Stadem
Times Staff

An Anchorage legislator who is a member of the recently formed Alaska Runaway and Endangered Children Strike Force said she will see that a bill recriminalizing possession of marijuana is introduced during the upcoming legislative session.

"I intend to make sure that's introduced, whether I introduce it or not," said Rep. Alyce Hanley, R-Anchorage.

Hanley said she is concerned that Alaska's liberal marijuana laws may make it difficult for the concerned citizens' strike force to get federal grant money to fight drug abuse.

Hanley and fellow strike force member Marge Hall said that in addition to supporting recriminalization of marijuana, the citizen's group will encourage formation of a juvenile drug enfor-

cement unit at the Anchorage Police Department.

As envisioned, the unit would be "pro-active," instead of "reactive," Hall said. This means that investigators assigned to the unit would work closely with all other drug enforcement and juvenile agencies in developing cases, rather than only responding as drug offenses come to their attention.

Other proposals for the unit include establishing juvenile information networks about drug usage and distribution, and developing a Crime Stopper program through police-school liaison officers that would encourage anonymous reporting of drug buys. The cost of setting up and maintaining such a drug unit has not yet been estimated.

In a recent written statement, Hall cited a 1983 survey of Anchorage high school students that

indicated at least 36 percent of all students had used cocaine and marijuana. "All indications are that the use by our students in our school system is even higher today," she said. "In 1963, we were three times the national average."

Hall and Hanley said that the strike force would look to one of three funding sources for such a drug unit: the state legislature, the municipality, or recently appropriated federal anti-drug funds.

"It's time to give drug enforcement officials the help they need to keep drugs away from our children," Hall said. "We intend to make all efforts necessary to seek out and obtain federal and state funding, where possible, to allow the development of a drug unit that will specifically target those distributing drugs to Alaska's youth."

State senators vote to recriminalize marijuana

By SUE CROSS

THE ASSOCIATED PRESS

The state Senate voted today to make marijuana use a crime again in Alaska, the only state where it is legal.

"If you look at public opinion polls, surveys, they're generally 3-to-1, 2-to-1 against marijuana. They're insisting the legislature respond," said Sen. Paul Fischer. The Soldotna Republican was prime sponsor of the criminalization bill.

But even supporters say technical questions about the measure could kill it in the House and - if it does become law - would guarantee its defeat in court.

The bill (CSSB32) would make possession of marijuana a crime punishable by up to 90 days in jail and a \$1,000 fine. Current law bans the sale, transport and distribution of marijuana, but allows adults to possess four ounces or less.

The Alaska Supreme Court ruled in 1975 that Alaskans' constitutional guarantee of privacy covers their right to smoke small amounts of marijuana in their homes.

Though marijuana has some bad effects on health, they aren't serious enough to warrant letting the government intrude in people's homes, the court said. The state must prove a compelling social interest in order to overcome that standard.

Many people say the Fischer bill won't meet the court test.

"I would be surprised if no one would file a lawsuit against this (proposed) law. It seems like they're asking for a lot of legal hassles, not necessarily by us but by somebody," said Jamie Bollenbach, executive director of the Alaska Civil Liberties Union in Anchorage.

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Bollenbach said the Alaska Constitution includes a stronger and more explicit right to privacy than any other state or the federal Constitution.

"I think it's about time the legislature starts paying attention to it," he said.

Senate Judiciary Chairman Jay Kerttula said the findings of harm from marijuana listed in the Fischer bill won't convince a court to overturn the privacy ruling.

"The findings in this bill are overstated and, in some cases, wrong," Kerttula said.

The Palmer Democrat cited part of the bill that says marijuana may cause schizophrenia, even though medical experts say there's no clear evidence of such a link.

The bill also links the drug in marijuana - tetrahydrocannabinol, or THC - to birth defects and alcohol overdoses.

Judiciary Committee attorneys noted many of the findings are

based on a House Research Agency report done at the request of Rep. Terry Martin. The Anchorage Republican has proposed a bill (HB55) matching Fischer's measure.

In the letter backing up the report, the legislative analyst said, "As you requested, I have not included any research which disputes the findings set out in the bill."

The Judiciary attorneys said the context would make it difficult to defend a law based on the one-sided findings.

But Fischer said the state Supreme Court will be more likely to agree to a marijuana ban now than in 1975.

"The whole case isn't whether you're for or against use in the home but it's over how much its use has changed in 13 years," Fischer said.

"You have different people on the court now. The mood of the nation has changed. That's why we're even more optimistic now," he said.

The Senate voted 17-1 for the

bill, but could bring it up for reconsideration Thursday. The sole "no" vote came from Sen. Ken Fanning, R-Fairbanks.

Sens. Dick Eliason, R-Sitka, and Bettye Fahrenkamp, D-Fairbanks, missed the vote.

Fanning objected to the breach of privacy rights and to the cost of enforcing a law that he says is unlikely to change anyone's behavior.

State agencies had predicted the proposed law would cost millions of dollars over the next few years in legal fees, court and prison costs.

But the Senate Finance Committee decided it would not attach any cost to the bill. Committee Co-chairman John Binkley, R-Bethel, said troopers told him they would not change their enforcement efforts if the bill becomes law.

Considering that and the theory that passage would discourage marijuana use, it's unlikely many people will go to court or jail for marijuana possession, he said.

The few cases that come up, he said, will be covered in agencies' regular budgets.

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MARIJUANA: Senate to vote on possession

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ADN 2-17-88
**Senate
to decide
pot bill**

By JOHN LINDBACK
Daily News reporter

JUNEAU — State senators may find 4-ounce bags of parsley on their desks today when they vote on a bill to recriminalize marijuana.

"Have you ever seen 4 ounces of marijuana?" asked Sen. Paul Fischer, a conservative who has been pushing for four years to again make all marijuana possession a crime. He held his hands apart as if he was boasting about the length of a good-sized trout.

"It's a lot more than people think it is. I'm going to try and have 4-ounce bags of parsley on everybody's desk tomorrow so they can see," he said.

State law allows adults to possess up to 4 ounces of marijuana in their homes. Fischer, R-Soldotna, predicted Tuesday that the Senate will overwhelmingly support his bill to make possession of anything up to 8 ounces a criminal misdemeanor. Violators would face maximum

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penalties of 90 days in jail or a \$1,000 fine.

The bill faces an uncertain future in the House. But Fischer predicted that the House may not be able to withstand public demand to make any marijuana possession a crime. "There's too much of a grass-roots effort out there to see this thing go," he said.

Gov. Steve Cowper has said he would sign such a bill if it reaches his desk.

Other senators suggested that Fischer may be right about the outcome of today's vote. Democrats such as Sen. Joe Josephson of Anchorage and Bettye Fahrenkamp of Fairbanks said they expect to vote yes, even though marijuana use may not diminish among adults or teen-agers.

If a legislator votes no, a future opponent could charge that the incumbent is soft on crime, they said.

"I'm voting yes with doubts about constitutionality and a feeling that we're grossly underestimating the costs and overestimating the benefits" of recriminalization, Josephson said.

Both Fischer and his co-sponsor on the bill, Senate President Jan Faiks, said they want to eliminate the mixed message that Alaska's law sends to children and teens.

Possession of a small amount of marijuana is now illegal under federal law but it's allowed under state law, Fischer said. And, state law tells kids that using marijuana is both OK and evil for adults; small amounts are OK

but a larger amount is illegal, he said.

"I don't believe we should be sending a message to our youth that it's OK to smoke marijuana. And we do now," Faiks said.

A broad spectrum of organizations back making marijuana possession a crime, according to the testimony collected by Fischer. Many cite the mixed-message argument as the prime reason for their support. They include the Alaska Peace Officers Association, Association of Alaska School Boards, the Anchorage Chamber of Commerce, Boys and Girls Clubs of Alaska, Rotary International, Cook Inlet Council on Alcohol and Drug Abuse, the Anchorage Assembly, the City and Borough of Juneau, and the cities of Ketchikan, Galena, Togiak, Saxman, Valdez and Haines.

As Josephson suggests, the biggest problem for the bill may well be constitutionality. The Alaska Supreme Court in 1975 ruled that a law barring adult Alaskans from possession and smoking marijuana in their homes violated their constitutional right to privacy. Irvin Ravin, now a Homer lawyer, argued that his right to privacy outweighed the state's right to enforce a law barring home possession of what was seen by the court as a relatively harmless drug.

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Fischer sent senators a legislative research report that cited a variety of scientific studies on marijuana in the past 10 years, including information about marijuana and lung cancer.

Leaders of the Alaska Civil Liberties Union were calling senators Tuesday to lobby against the bill with both constitutional and practical arguments.

"Mostly we see this as a privacy issue," said Jamie Bollenbach, executive director of the ACLU. "We want to ensure that the government does not interfere and violate people's fundamental rights to privacy, particularly when there does not seem to be a compelling state interest."

Alaska's constitution includes one of the strongest privacy rights provisions in the nation, he said. Also, the effects of marijuana can be compared to the effects of tobacco and alcohol, Bollenbach said. But the state doesn't make use of either a criminal offense, he said.

Law enforcement organizations back the bill, even though they acknowledge that they don't have the manpower to actively go after small-time users of the drug. Commissioner of Public Safety Arthur English said he expected most charges would be incidental to other offenses committed by criminals.

"We're not going to go out and arrest everybody who has a small amount of marijuana. We're not going to have the manpower to do something like that," English said. But the state should conform with federal law and eliminate the mixed message to kids on drug use, he said.

4 1

Proposed bills draw a bead on basic rights

There is a wise old saying in politics. It goes like this:

"You can't win wrestling with a pig. You'll get muddy and the pig will just have a good time."

This is a true saying. But when the pigs are all around and closing in, a little pig wrestling may be the only thing an honest man can do — mud or no mud.

And there are pigs aplenty out there at the moment, citizens.

Two examples surfaced last week in Juneau in the form of legislative bills. One comes in the form of Sen. Paul Fischer's half-baked plan to recriminalize marijuana. The other is Rep. Terry Martin's government-in-your-bedroom bill about pornography.

What makes these bills such pigs (Actually, they're turkeys. But who ever heard of wrestling a turkey?) is that opposing them is essentially a no-win proposition. Despite their obvious failures as legislation, each addresses a motherhood kind of issue. That makes opponents reluctant to speak out.

Each pretends to be based on reason rather than simple reflex. The fact that each fails at that tends to get lost in the glow of the patriotic fireworks and the hymns of the choir.

Opposing these bills is not an argument for marijuana or pornography. I've encountered both in my life and



**howard
weaver**

discovered I didn't have a continuing taste for either. If I ran the world, I'd rather neither existed.

But I don't run the world. One of the main differences between me and certain legislators is that I realize that and they don't seem to.

Of these two backward proposals, the marijuana criminalization is by far the most complex. It may very well prove true that we ought to invoke some penalties for use, mainly to register society's disapproval. But what is involved, whether senators want to recognize it or not, is a matter of constitutional principle.

The Supreme Court of Alaska has ruled unambiguously that the right to privacy keeps the government out of our homes unless the government has proved it has a very damned strong reason to get in there. Without showing compelling reasons to the con-

trary, we all have a right, the court ruled, "to be left alone."

Supporters of recriminalization have tacked together a report suggesting that there's hard new evidence to support their action. Maybe there is, but this crummy report doesn't prove it and won't hold up under the examination the courts gave this issue the last time around.

The report and the bill are both part of that dangerous "Do something! Anything!" urge that seizes unimaginative legislators in election years.

The fact that I think marijuana isn't good for you and Paul Fischer thinks marijuana isn't good for you is not enough. If the legislature passes a recriminalization bill with no more authority than that, the court seems certain to smack it down again — and the senators know that.

That doesn't enforce respect for law; it cheapens it. That's what makes the bill such dangerous posturing.

Rep. Martin's ill-considered grab-bag of a bill is easier to dismiss. It is so conclusively unconstitutional and unenforceable that not even Alaska legislators could pass it.

Could they?

Now Terry Martin himself often seems like a level-headed fellow. More than once, I've found myself agreeing with his positions. But this bill just transcends reality.

His bill would ban the sale of "sexual devices." It would invoke penalties for cussing a referee at a ball game. It would add penalties for graffiti writing if what you wrote were dirty words.

He said he thought passage would just about wipe out pornography in Alaska. He's gotta be kidding.

The fact is the proposal tramps on so many well-established rights of expression and privacy that it would be almost criminal thick-headedness for lawmakers to take it seriously. But even if they ignore the Constitution (and legislators do, all too often) they must know how pointless it is to pass laws against graffiti or swearing in public.

You could deputize every Sunday School class in Alaska and not get enough Porno Police to enforce a law like that, Terry.

But his bill, along with Sen. Fischer's, seems certain to get some time in the legislative spotlight, if only because nobody wants to seem like he's approving marijuana or pornography.

You wouldn't expect pig wrestling to be popular in Juneau anyhow. But sometimes the squealing's just more than a person can take.

□ Howard Weaver is managing editor of the Anchorage Daily News.

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Marijuana issue makes lawyer burn

Ravin asserts proposed law is unconstitutional violation of privacy right

Associated Press

Irwin Ravin thinks a push by Alaska legislators to ban home possession and use of marijuana by adults is phony and fruitless.

Ravin, 48, is a familiar name to lawmakers looking to dump the law permitting adults to possess up to 4 ounces of marijuana in their homes for personal use.

The Homer lawyer in 1973 arranged to have himself arrested with marijuana in his pocket. He wanted to challenge marijuana laws. His case went to the Alaska Supreme Court, which ruled in 1975 that the law banning home use and possession of marijuana by adults

violated a constitutional right to privacy. "Nothing's changed," he said this week. "It wasn't constitutional in 1975, and it won't be constitutional now. I think they're passing a law they know is unconstitutional."

Ravin, who said he smokes marijuana "very rarely," called silly the assertion of some lawmakers that marijuana has been shown since the court ruling to be dangerous to health and safety.

"How many crimes, and how many hospital admissions have occurred as a result of our marijuana laws?" Ravin asked. "I would bet you there are none."

"There isn't any 'new' evidence that

marijuana is dangerous, except that any time you put something in your lungs, it's bad for you."

Whether marijuana represents a serious medical or safety threat for adults using it at home is a crucial issue in the debate.

The high court in 1978 ruled in an Anchorage cocaine case that the right to privacy did not protect the accused because cocaine is a health and safety threat.

Rep. Terry Martin, R-Anchorage, and other lawmakers assert that new research suggests marijuana causes maladies ranging from schizophrenia to birth defects.

"There is no new research," Ravin said. "There just isn't."

The lawyer called another issue in the debate a red herring. The issue is the presumed message Alaska's permissive law sends to young people. Martin and others contend the message is that it's OK to smoke marijuana.

"Teen-age kids aren't allowed by law to smoke marijuana now," Ravin said. "This issue is getting old. They (lawmakers) bring it up every year."

"What they're going to do is take many, many thousands of people who have been smoking legally and turn them into criminals. They probably should have a lot better things to do."

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ADN 2-17-88

Senate to decide pot bill

By JOHN LINDBACK
Daily News reporter

JUNEAU — State senators may find 4-ounce bags of parsley on their desks today when they vote on a bill to recriminalize marijuana.

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MARIJUANA: Senate to vote on possession

Continued from Page A-1

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Marijuana: Under state law, you can't even give it away

Continued from page A-1

marijuana and another drug, and 193 cocaine-only arrests during that time.

Anchorage police brought a total of 230 charges against an unknown number of people in 1987. The annual number of charges has hovered between 200 and 300 through most of the 1980s.

Charges against juveniles, at 84 in 1987, have dropped, while charges against adults, at 173 in 1987, are more than double the figures for 1984 and six times the 27 arrest charges brought by Anchorage police in 1980.

In contrast, 1,322 charges of driving while intoxicated were filed by police during 1987.

Most actual arrests of adults around the state on marijuana charges are for selling or intending to sell the drug, according to law enforcement officials.

"We are not out looking to bring charges against users," Swanson said.

"Probably for the last two years our efforts . . . have been primarily directed at the street-level distributor in Anchorage," Anchorage Police Chief Ron Otte said.

But selling marijuana isn't the only crime on the books.

Marijuana has its own place in the criminal statutes at the bottom of six schedules of drugs classified according to decreasing degrees of dangerousness.

You can't legally drive around with marijuana in your car, according to what's written in those statutes.

You can't smoke it on a city street or have it in your pocket in a public place.

Driving with it and smoking it on a city street both carry the potential penalty the recriminalization bill would extend to simple possession.

Carrying less than an ounce of marijuana in a public place is not thought of as a crime because it can't land you in jail. But, it is still technically a violation of the law, punishable by citation and a fine of up to \$100.

Anchorage police issued 46

Marijuana seizures legal, even under 4 ounces

By Paul Harper
Times Writer

If Alaska State Troopers are in your home with a search warrant and spot several ounces of marijuana, they will confiscate it, said Sgt. Carl Swanson, who is in charge of the Statewide Narcotics Unit of the Alaska State Troopers.

They will confiscate it even though keeping up to 4 ounces of marijuana at home is legal in this state.

"We're going to seize that marijuana under federal law at the direction of federal authorities," Swanson said.

That's because possessing any amount of marijuana is illegal under federal law.

"We can't ignore federal law," Swanson said.

It's unlikely the person would be charged. Michael Spain, U.S. attorney for Alaska, said he's no more interested in

prosecuting possession for personal use than state authorities are.

But state officials do work with federal agents on marijuana cases, and sometimes, though rarely, they are prosecuted in federal rather than state courts. The focus for both is dealers, not users.

"Occasionally the receipt or possession of relatively small amounts of marijuana would be prosecuted," Spain said. But Spain said he doesn't think there has ever been a case where he tried to prosecute someone for possession of small amounts at home, the only thing really protected by Alaska law.

"About three years ago, we had a whole bunch of cases where people were having marijuana mailed to them from Hawaii," Spain said. The amounts ranged between 1 and 10 ounces, he said. Those seven to ten cases were prosecuted in federal court.

Last year just one marijuana case was prosecuted in federal court. There is one before the court now.

Attorney William Bryson, who has represented many defendants charged with drug offenses, said he's seen law enforcement officers play the state and federal laws to their best advantage.

"Where there's a significant growing operation in the home, I have seen in a number of instances, the state brings in DEA (the U.S. Drug Enforcement Agency) so they can prosecute it in federal court without the problems state law can bring for them," he said.

Bryson said he questions whether troopers really have the right to confiscate marijuana as Swanson has said they do.

"There's a real question in my mind about whether state agents acting free of any federal involvement can enforce federal law," he said.

marijuana citations last year, which are included in the total of 230 charges.

"You can't smoke in the hallway of an apartment complex," because that's considered a public place, Anchorage District Attorney Dwayne McConnell said. But, no one seems sure whether it's legal to light up in your front yard.

"That's really an unanswered question," McConnell said. But he said it probably was legal under the wording in the statutes.

You can't give marijuana away.

"If I just want to give it to you because I like you, that's a crime," said McConnell, who also said for the record that he does not use marijuana. "No money has to change hands at all."

The potential penalties for giving marijuana to someone range from a citation to 10 years in prison depending on whom you give marijuana to and the amount involved.

The 10-year term is the toughest under Alaska law. It's reserved for the crime of giving marijuana to someone under 19 if you are three or more years

older than that person.

Selling even a huge single amount of marijuana to an adult carries a lower potential penalty of five years in prison and a \$50,000 fine.

Being in your own home doesn't necessarily mean you're not breaking the law despite privacy protections.

For instance, the prohibition on giving marijuana away covers passing a joint to a friend in your living room. That's a violation, potentially punishable by citation and fine.

"Magic brownies" could get you in more trouble, theoretically, according to McConnell. That's because putting marijuana in a brownie mix could put you over the 4-ounce legal weight limit for possession at home, which is actually for marijuana or any "preparations, compounds, mixtures, or substances" containing marijuana.

Having more than the legal weight limit but less than a half-pound is a misdemeanor punishable by again 90 days in jail and a \$1,000 fine.

Still, "I'd hate to have a cop bring that over to me," McConnell said of the hypothetical magic brownie.

The penalties in Alaska for actions considered crimes are not as severe as they are in many states, according to Jeff Edwards, Assistant Director of NORML, the National Organization for the Reform of Marijuana Laws.

But, "Tennessee is the only state where possession of any amount is still considered a felony crime," he said. That's also the only state in which prostitution and gambling are both legal.

"Overall, Alaska has the most lenient position on the private use and cultivation of marijuana in the country," said Edwards, whose organization is trying to have marijuana decriminalized nationwide.

Ten states and the Trust Territory of Micronesia have "decriminalized" the drug, meaning there is no jail threat for personal use or private possession of small amounts, Edwards said. Other states have laws that in effect are as lenient, at least for first-time offenders, he said.

Oregon, one of the states that formally has decriminalized marijuana use, allows for up to a \$100 fine for possession of up to an ounce. Ohio has decriminalized up to 3½ ounces.

In Virginia, one of the states that has not decriminalized marijuana, possession of up to 5 pounds for a first offender is punishable by only zero to 30 days in jail and a \$500 fine, according to NORML, whose information is based on a 1985 survey of state laws it conducted.

Possessing more than a pound of marijuana in Alaska is punishable by up to five years in prison.

But, five years is also the maximum punishment in Alaska for possession for sale of any single amount of marijuana. In Virginia, if intent to sell can be proven, you could be put away for between five and 30 years.

Edwards said there is no easy comparison between the actual severity of the punishments for marijuana crimes in various states. "There is such a wide variety of statutes regarding marijuana," he said.

Also, judges use a great deal of discretion in handing down sentences. What's on the books may not have much relationship to the actual penalties handed out, Edwards said. And there are no ready sentence statistics here or elsewhere to draw on for comparisons.

In Alaska, the reality is that

law enforcement in the state isn't interested in aggressive arrest or prosecution of users, so it's unlikely that people would be arrested for some of what's laid down in law, according to McConnell, Swanson and Otte.

The resources of law enforcement agencies used to catch marijuana crimes are targeted at suspected drug dealers.

One example is the plan of state troopers to increase efforts to eradicate major marijuana-growing operations, which they say have been springing up in recent years. The federal government helps fund that program.

Troopers seized 3,204 marijuana plants between July 1, 1986, and June 30, 1987, from 18 growing operations, Swanson said.

Swanson and other law enforcement officials are supporting the effort to recriminalize marijuana, even though they don't intend to shift the focus of enforcement to catching users. A number of organizations representing them actually are urging that citations and fines be the penalty for possession rather than the jail time now part of the bill being considered by the legislature.

Swanson said he thinks the debate over whether marijuana is really dangerous to adults or not probably will continue indefinitely.

"It becomes something that I don't know if we'll ever solve," he said.

But, Swanson is convinced from his work that use of marijuana is destructive.

"We run headlong into an awful lot of young people — this is a tremendously debilitating substance for them," Otte agreed.

"Drug abuse among our junior high and high school kids is 2½ times the national average," he said. "It's a frightening statistic."

Marijuana is the main drug used by young people here, he said.

"The thing which has always bothered me a great deal is the hypocrisy which has always surrounded marijuana in this state," he said. "It's embarrassing."