CALIFORNIA GEOGRAPHICAL SOCIETY
Volume XXX, 1990

HUMBOLDT COUNTY: ITS RÔLE IN THE EMERALD TRIANGLE

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In a recent issue of *Newsweek*, California was described as an "American dream, American nightmare."[1] It was suggested that California should be subdivided into five different states, each "characterized by [its] own heroes, cultural artifacts, and rates of growth."[2] One of these hypothetical "new" states, The Coast, would range from Oregon to the Mexican border along a narrow, longitudinal band of the Pacific Coast. The intent of this essay is to analyze an isolated part of this nominal, "new" California state relative to its largest cash crop—marijuana. This illegal crop helps define the region, and its impact has permeated not only all of California, but also parts of Oregon. Indeed, marijuana production in parts of the North Coast is a "local dream, local nightmare."

The Setting

For most Californians the name Humboldt County calls forth various images: intimate beaches, fishing, camping, hunting, logging, isolation, Bigfoot, the Samoa Cookhouse, the Carson Mansion and, most pervasively, the magnificent trees that make it the heart of the Redwood Empire. More recently, however, it has become associated with a new place

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name: the Emerald Triangle—along with Mendocino and Trinity counties as shown in Figure 1—the largest marijuana producing region in the United States.

Several factors contribute to the concentration of marijuana production in the northern part of "The Coast." Ray Raphael argues that the geographical setting of the Emerald Triangle contributes to its becoming the hub of marijuana production in California:

> It's back country here, and it always has been. The rugged, disjointed, coastal hills of California seem to discourage any large concentration of human beings in a single space at a single time. It's a basic fact of geography . . . Throughout the years, the peo-

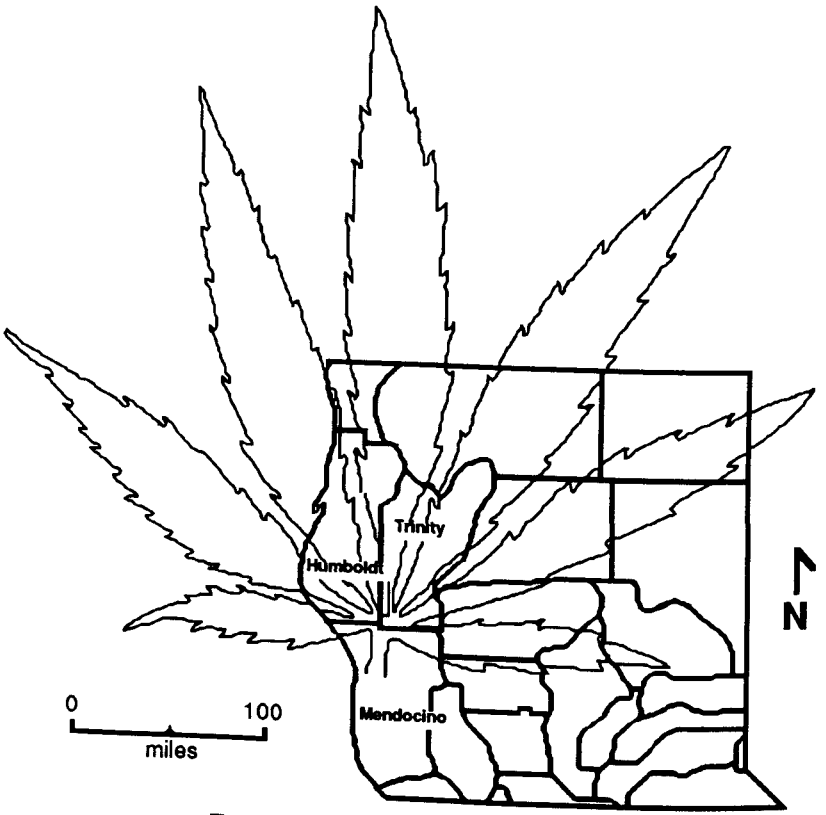

FIGURE 1. *The Emerald Triangle.*

> ple here have lived an isolated existence on the edge of human society, and often on the edge of civility. It's tough here, tough country and tough people. Historically, that's our heritage and our mystique.[3]

Whatever its "mystique," Humboldt County has a very narrowly-defined economic base, a base heavily dependent on primary resources, such as timber, fish, and agricultural products. Its other main industries are government and tourism. A majority of these activities are seasonal, and the county's unemployment rate reflects this. Typically, the winter months have the highest rates of unemployment due to the inclement weather, while the summer to fall months bring peak employment (Table 1).

Regardless of the status of the local economy, Humboldt County's unemployment rates are usually 2 to 6 percent higher than those of either California or United States national averages.[4] Humboldt's limited population (approximately 118,000) and its isolation (in both absolute and

Table 1. MONTHLY UNEMPLOYMENT RATES FOR HUMBOLDT COUNTY

	1982	1983	1984	1985	1986	1987	Avg.
January	18.2	18.9	14.5	13.2	10.8	11.2	14.5
February	18.3	17.9	14.6	13.1	12.5	10.1	14.4
March	18.4	16.5	13.9	12.5	12.0	9.6	13.8
April	17.5	13.8	12.0	10.6	10.0	7.5	11.9
May	15.9	13.0	10.3	8.8	8.2	6.6	10.4
June	14.7	11.9	9.5	10.2	7.7	6.3	10.1
July	18.1	11.0	11.6	10.0	8.8	6.7	11.0
August	17.1	11.6	10.0	9.4	7.3	6.1	10.3
September	14.7	9.9	10.1	9.2	7.0	6.1	9.5
October	16.1	9.3	9.5	9.4	7.5	6.6	9.7
November	17.8	11.7	11.9	9.8	8.6	7.4	11.2
December	18.0	12.4	11.5	11.0	9.3	7.9	11.7

SOURCE: David Wagner, Job Service Representative, EDD, Eureka Field Office, Eureka, California, December 18, 1989.

relative terms) are also contributory factors in making it the capitol of marijuana production. Recently, local fisheries have been hurt by a shortened commercial season, while both local fishing interests and environmentalists have fought the threat of offshore oil drilling. The timber industry is facing a possible loss of timberlands, especially if spotted owl breeding lands are placed off limits to harvesting. The local employment situation has narrowed due to Louisiana Pacific's announcement that it will build a new drying mill in Baja California and barge Humboldt County timber there for processing. In short, it is safe to say that Humboldt County's historic, resource-dependent economic base has been eroding. Consequently, just as in a few other economically depressed regions of the United States, some people have turned to an illegal, but potentially lucrative, alternative economy—marijuana.

With that turn, a new thread has been woven into the agricultural tapestry of Humboldt County's economic landscape. In 1988, the county's total agricultural production exceeded $200,000,000.[5] There were just four "million dollar" crops: cattle and calves, nursery products, milk, and timber (Table 2). If one assumes that Humboldt County generates 37 percent of all marijuana produced in California (Table 3) and that the estimated annual value of state marijuana production is $2.5 billion, then the value of county marijuana is just under $1 billion.[6] Even if this estimate is high, the value of marijuana in comparison to the value of all legitimate crops, including timber, is staggering.

Marijuana is derived from an annual, woody shrub, *Cannabis sativa*, which has dioecious flowers. *Cannabis*, commonly referred to as hemp, originated in Southeast Asia and subsequently has been widely diffused throughout the world. Traditionally, *cannabis* has been cultivated for three primary purposes:

1. Fiber—from which a variety of products are derived including twine, rope, cloth, and hats

Table 2. LEADING 1988 CROPS IN HUMBOLDT COUNTY BY PRODUCTION AND VALUE

1.	Milk	$25,947,353
2.	Nursery Products	10,760,000
3.	Cattle and Calves	5,366,000
4.	Potatoes	910,000
5.	Silage, all	769,000
6.	Sheep, Lambs and Wool	734,000
7.	Grass and Clover Hay	155,000
8.	Alfalfa Hay	82,000
9.	Apples	63,000
10.	Beans (Green)	42,000
	Timber Production	$149,392,000

SOURCE: John E. Falkenstrom, *Humboldt County 1988 Agriculture Crop Report* (Eureka, Calif.: Humboldt County Department of Agriculture), p. 7.

2. Seed—from which a rapid drying oil for the arts is produced, and [for use as a] constituent in commercial bird seed
3. Resin—for the active principle in the resin in the dried, flowering tops of both staminate and pistillate plants[7]

Within Humboldt County and the Emerald Triangle, marijuana is produced exclusively for resin and its resultant hallucinogenic effects.

Indeed, Humboldt County has become notorious for its especially potent marijuana called sinsemilla. Various types of marijuana are often named after their places of production. Examples include "Acapulco Gold," "Colombian," "Panama Red," and "Maui Wowwie." These names are usually given to the "best" marijuana available (*i.e.*, chemically most potent, commanding high price) at a given time. Today, Humboldt County and sinsemilla are interwoven. Sinsemilla does not refer to a specific place, however, nor does it represent a new type of marijuana; rather it is the result of a new type of cultivation technique. The resultant product is most commonly referred to as sinsemilla.

Table 3. CAMP 1987 CUMULATIVE REPORT

Counties	Team Days	No. Plants	Wgt. Lbs.	Arrests	Sus-pects	Helo Hrs.	Camp Flts.
Butte	16	4,604	4,210	8	4	39.2	1
Colusa	2	400	340	0	0	10.6	
Del Norte	3	958	3,990	2	0	0	
El Dorado	1	228	150	0	0	2.8	1
Fresno	5	1,259	2,708	6	10	18.8	13
Glenn	2	1,768	5,590	1	0	6.4	
Humboldt	124	53,775	256,205	22	39	547.8	46
Lake	2	707	2,015	0	0	3.4	5
Lassen							6
Madera							3
Mariposa							1
Mendocino	87	40,245	106,639	23	15	339.4	22
Merced							1
Modoc	1	31	155	0	1	5.9	
Monterey	6	1,700	2,126	0	0	37	27
Sacramento	1	90	50	1	0	0	
San Luis Obispo	6	1,700	2,126	0	0	24	
Santa Clara							3
Siskiyou	4	625	1,550	1	3	18.3	2
Sonoma	15	6,287	11,095	10	2	51.7	
Stanislaus							3
Sutter	1	416	980	0	0	2.9	
Trinity	51	17,444	28,310	7	34	173	
Tulare							2
Yuba	3	1,152	1,680	0	0	8.2	1
TOTAL	343	144,661	489,250	83	115	1,341.3	151

SOURCE: *CAMP Final Report: 1987* (Sacramento: CAMP Headquarters, 1988), p. 17.

Sinsemilla Production

The Emerald Triangle as a whole is noted for production of sinsemilla, which in Spanish means "without seeds."[8] This marijuana product results in an exceptionally high concentration of the mind-altering cannaboid, delta-9 THC:

> The technique, which has been tested successfully in many climates, is that a female marijuana plant puts out at least 40 percent of her energy into making viable (growable) seeds once it has been pollinated by a male plant. By not allowing the female plants to become pollinated, the plant becomes larger and does not yield seeds. Instead of producing huge amounts of seeds, the female plant will produce an inordinate amount of sticky, heavily laden THC resin, in an effort to have some male pollent stick to and pollinate it. This resin has the highest concentration of THC of any part of the plant. By forcing the female plant to continue producing resin rather than seeds, extremely potent marijuana can be produced.[9]

The potency of Humboldt County sinsemilla has gained it a high-profile notoriety and a consequent high price in the market. The technique results in a "high quality seedless variety of marijuana, deemed by many as the best pot to be found anywhere in the world."[10]

Though sinsemilla growers tend to favor individual cultivation methods and particular seed types, a more or less typical generic seasonal cultivation cycle would progess roughly as follows:

1. Seed Selection: in Humboldt County, seeds are usually of the indica type as they mature before major rains or early winter.
2. Preparation of Soil Mix (or "Recipe"): since marijuana plants are not deep rooted, special preparation of "recipes" is required.
3. Germination: there are various methods of germination, but most involve seeds that have been soaked in bleach, then sprouted on moist paper starting in early March.
4. Early Growth Period: plants are placed in locations that have maximum solar exposure and this period lasts from germination through May or early June.
5. Site Selection and Preparation: actual in field preparation for transplantation of seedlings.
6. Transplant Young Plants to Field Sites: done in May to early June.
7. Sinsemilla: to promote the growth of resin in female plants,

male plants are identified as early as possible and pulled out.

8. Water Cut-back: in late August, the amount of water given to each plant is reduced and typically, in mid-September, all watering is stopped entirely.
9. Harvest: usually in late September or early October.
10. Drying: branches are placed in dry areas and hung from rafters, clothes lines, or placed on drying racks.
11. Clipping, Manicuring, and Packaging: once the branches have sufficiently dried, final processing occurs.
12. Sales of Final Product.*

Although marijuana originated in Southeast Asia, it is readily adaptable to almost every Humboldt County climatic regime. Since *cannabis* needs substantial quantities of water, especially during the growing season, gardens are located as close as possible to water sources. Most gardens are nucleated; and, at least in 1981, large patches of fifty plants or more were the norm (Figure 2). This pattern has changed as law enforcement agencies have become more aggressive, especially in their use of aerial surveillance. Patches are now smaller, more camouflaged, and more widely diffused. Growers used to prefer southern aspects to maximize solar radiation, but this situation has changed as producers seek to avoid predictability on the one hand and the threat of exposure from law enforcement agencies on the other. Recently, growers have begun to use isolated areas of steep relief and to avoid locations close to roads or trails. The rugged, rural, mountainous nature of the Emerald Triangle greatly facilitates selection of suitable patch sites. Most growers prefer to use public land, such as United States Forest Service or Bureau of Land Management lands. If they use private land, growers tend to prefer land owned by the major timber companies. The rationale for this will be discussed later.

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*For complete details, see: Edward E. Parsons, *Humboldt Home Grown: The Golden Age* (Eureka, California: Egret Publishing, 1985).

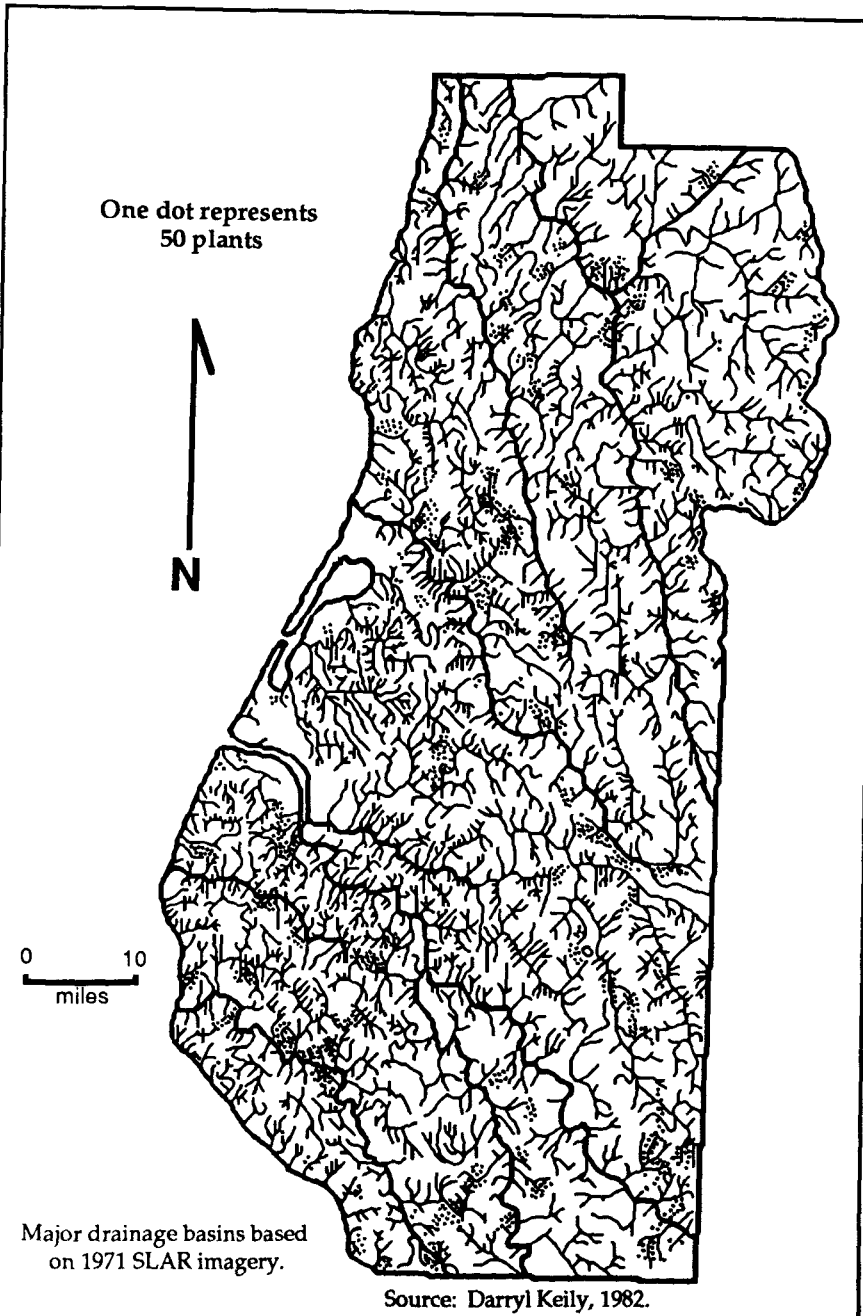

FIGURE 2. ***Marijuana in Humboldt County, 1981.***

Law Enforcement Efforts

By value, marijuana is the number one cash crop in California, despite its illegal nature.[11] To combat this problem, California, in 1983, formed CAMP: the Campaign Against Marijuana Planting. CAMP is a combination of local, state, and federal law enforcement and resource agencies which work cooperatively toward their common goal, namely: "to diminish significantly the cultivation and trafficking of marijuana in California by seizing and destroying sinsemilla before it ever reaches the urban markets throughout the state."[12] Most of the state has been divided into five regional administrative units under CAMP (Figure 3). The number of regions and counties involved has changed through time, but the joint commitment has not wavered:

> During its five years of operation, CAMP has eradicated a total of 651,179 sinsemilla plants weighing 3,013,682 pounds, with a total estimated wholesale value of $1.6 billion. In addition, a total of 3,302 sites were raided, 957 suspects arrested and identified and 1,386 firearms confiscated.[13]

The major focus of 1987 CAMP raids was the Emerald Triangle, and the majority of raids were concentrated in Humboldt County (Table 3). Relative to the proportion of team days expended by CAMP, 36 percent of the total were used in Humboldt County. From a total of 144,661 plants confiscated, 37 percent came from Humboldt County. By weight, plants confiscated in Humboldt County comprised 52 percent of the total weight of all plants confiscated by CAMP in 1987. This is functionally related to the number of helicopter hours and CAMP raids in the Emerald Triangle as compared to the rest of the state. The percentage of fixed-wing aircraft flights by county are not available; but of seven operational CAMP raid teams in 1987, four were based in Humboldt County, two in Mendocino County, and one in Trinity County.[14]

The estimate of total known plants cultivated (Table 4), has dropped considerably since CAMP became operational.

FIGURE 3. **C.A.M.P. *1986 Regions.***

Several important considerations relate to this. First, in terms of plants eradicated, CAMP has waged a successful campaign against marijuana. Second, growers who have managed to harvest their crops have reaped the benefits of higher prices. As fewer "buds" (processed parts of plant with resin) were available in the market place, the average price per pound of marijuana rose from $2,000/lb. in 1983 to

Table 4. CALIFORNIA MARIJUANA STATISTICS

Year	Number of Plants Eradicated	Percent Known Sites Eradicated	Estimate Plants Not Eradicated	Estimate Total Known Plants Cultivated
1983	303,089	34.0	588,349	891,438
1984	256,976	74.4	88,421	345,397
1985	309,001	92.6	24,693	333,694
1986	223,529	87.0	19,447	242,976
1987	272,564	85.0	49,500	343,064

SOURCE: *CAMP Final Report: 1987* (Sacramento: CAMP Headquarters, 1988), p. 17.

$3,100/lb in 1987.[15] Third, growers have adapted to CAMP aerial surveillance. Today, more gardens are planted under existing trees, while others are camouflaged to avoid detection. Gardens also tend to be located in more isolated areas of steep relief, and most outdoor patches tend to have fewer plants. In addition, growers are experimenting with new crop types, especially those that mature earlier in the hope of avoiding accidental discovery once the deer hunting season has opened. Finally, growers are trying to develop smaller plants, with the intent of minimizing possible detection from the air. Smaller plants are also more adaptable to being kept in buckets or plastic bags and moved around, rather than being planted in permanent holes. CAMP raiders have even reported some plants being suspended from branches—or located in the forks of tree branches—as high as fifteen to twenty feet above the ground.[16]

Violence has been, and continues to be, associated with marijuana growing. CAMP raiders have encountered many garden sites which were booby trapped. Some of the devices used include pungi stakes, rat traps with shotgun shells, fish hooks, razor blades, hypodermic needles, pipe bombs, dynamite, and even a steel cable stretched across the landing zone used for CAMP helicopters. Not all of the violence, however, is directed toward law enforcement officials. Not

infrequently, violence is directed at other growers, at "patch pirates," or even at people—who purposefully or accidentally—find gardens. Many "patch pirates" want to obtain marijuana, process it, and then market it without undertaking the many months of work and risk involved in its cultivation. Other "patch pirates" are hunters who find a garden while stalking game. Some of these simply destroy the gardens by cutting off the buds from which resin is extracted. Whatever the rationale of "patch pirates," some growers have resorted to drastic methods of protecting their crops; and many violent incidents go unreported.[17]

Retrospect and Prospect

Despite the efforts of CAMP, Humboldt County continues to be the hub of California marijuana production. Indeed, production of marijuana actually rose during 1987. This occurred as some growers sought to profit from higher prices of marijuana which resulted from CAMP's success in eradicating plants.[18] Humboldt County's population base is unlikely to increase in the near future and its narrow economic base is unlikely to broaden. Timber production is up, but the remaining mills have become more automated and need fewer workers. Accordingly, jobs which pay an adequate salary are hard to find in the county (Table 5). It bears noting that starting a marijuana patch does not require in-depth agricultural knowledge, a significant amount of capital, or even one's own land. Consequently, at contemporary prices of $2,800 to $3,200/lb. for sinsemilla, a small investment of capital, occasional inputs of seasonal labor, and the successful avoidance of legal authorities and "patch pirates" can produce a very lucrative, albeit illegal, return.

CAMP's activities have prompted some movement of marijuana production to other communities, especially north into Oregon. Oregon authorities have reported more gardens in recent years, and Oregon does not yet have any organization comparable to CAMP. Some authorities in

Table 5. JOB OPENINGS LISTED WITH THE EUREKA OFFICE OF EMPLOYMENT DEVELOPMENT DEPT., JULY 1987 THRU JUNE 1988

Number of Jobs	Percent Total	Salary
1,562	48	$3.35 to $4.00
900	28	$4.01 to $5.00
510	16	$5.01 to $7.00
126	4	$7.01 to $9.00
113	3	$9.01 and above
55	2	Other than salary

SOURECE: David Wagner, Job Service Representative, EDD, Eureka Field Office, December 18, 1989.

counties adjacent to the Emerald Triangle have, in fact, criticized CAMP for being too effective and thereby forcing growers into their counties. The alleged phenomenon of growers moving their operations from the Emerald Triangle to Shasta or Tehama counties is called displacement. "The number of total arrests reported by the surveyed counties and the number of non-residents arrested," however, "does not support the displacement theory. Of the total of 388 arrests only 35 (9.9 percent) were non-residents of the county in which they were arrested."[19]

Despite higher contemporary production levels, the impact of marijuana is actually less obvious today than it was several years ago. Back then, after harvest time, many stores and restaurants in the small towns of Humboldt County posted signs indicating that they would not handle transactions involving bills in denominations of $50.00 or higher. At the start of a new year, these signs would be taken down. If one looks carefully, however, a few signs of marijuana's local impact are still discernible. Some stores regularly stock sandwich baggies which have the outline of a marijuana leaf pattern imprinted on them. Another popular sandwich bag

has the logo "Product of Humboldt County" imprinted on it. Typically, once it has been trimmed and manicured after drying, marijuana is packed in one-ounce baggies. A brand of small scissors used during the preparation process has its highest sales volume in the early fall, a time when many local merchants stock this particular scissor near their check out stands. Garden shops often feature specific types of exotic fertilizers, PVC pipe, small pumps, and generators. Recent trends support increased sales of indoor gardening equipment, such as full spectrum lighting with CO_2 injection, as well as sophisticated hydroponic growing equipment. Local, rural school districts report high absentee rates during harvest time. Car salespeople frequently mention prepaid, cash orders for four-wheel drive vehicles with special, custom equipment.

Discussions with alleged growers, à la Studs Terkel, yield interesting commentary, especially about evolving techniques to avoid CAMP raids. Many producers complain about the need to move to ever more isolated areas of steep relief. Some now utilize several smaller and more scattered patches, instead of the large multi-plant patches depicted in Figure 2. Some use less fertilizer and smaller holes to minimize disturbance and avoid detection from aerial surveillance. Many plants are kept under heavy natural vegetation; and while this helps avoid detection from above, it also cuts down on the amount of sunlight available to plants, thus reducing the number of buds produced per plant. Most growers—fearing forfeiture of land and personal property under federal law that allows authorities to attach assets connected to the cultivation and sale of illegal drugs—will never use their own land, hence the preference for public lands and large tracts of corporate-owned land. Many large-scale growers fear the IRS and try to avoid showing large amounts of unexplained income.

Growers have become much more sophisticated in utilizing techniques aimed not only at achieving higher prices,

but also at avoiding detection by a state-wide, mobilized, inter-agency campaign against marijuana planting. The resulting interplay between growers and the law has generated a rapid evolution of patch size, location, techniques, and—most regretably—a higher confrontational level in the form of lethal booby traps. As a topic, marijuana production needs considerably more research in a number of veins, including botanical and biogeographical lines, comparative production methods, distributional systems, civil liberties, and legal aspects.

NOTES

1. Jennifer Foote and Michael Reese, "California: American Dream, American Nightmare," *Newsweek*, Vol. CXIV, No. 5 (July 31, 1989), pp. 22-29.
2. Ibid., p. 25.
3. Ray Raphael, *Cash Crop: An American Dream* (Mendocino, Calif.: The Ridge Time Press, 1985), p. 5.
4. *Annual Planning Information: Humboldt County: June-1989* (Sacramento, Calif.: Economic Development Department, Employment Data and Research Division, Northern Area Labor Market Information Group, MIC 57, 1989), pp. 3-7.
5. John E. Falkenstrom, *Humboldt County 1988 Agriculture Crop Report* (Eureka, Calif.: Department of Agriculture, County of Humboldt, 1988), p. 1.
6. K. A. Estabrook, Jr., and Dave Kirkman, "Camping in the Emerald Triangle," *Osprey*, Vol. 1 (Fall, 1987), p. 11.
7. John Rosevear, *Pot: A Handbook of Marihuana* (Seacacus, New Jersey: The Citadel Press, 1967), pp. 16-17.
8. *Sinsemilla: Public Awareness Program* (Sacramento: Department of Justice, Bureau of Narcotic Enforcement, June, 1984), p. 1.
9. John T. Maher, *Cannabis sativa* (Washington, D.C.; U. S. Department of Justice, Drug Enforcement Administration National Training Institute, September, 1976), p. 1.
10. Op. cit., note 6, p. 11.
11. Op. cit., note 1, p. 22.

12. *CAMP Final Report: 1984* (Sacramento: CAMP Headquarters, 1985), p. 1.
13. *CAMP Final Report: 1987* (Sacramento: CAMP Headquarters, 1988), p. 3.
14. Ibid., p. 17.
15. *CAMP Final Report: 1986* (Sacramento: CAMP Headquarters, 1987), p. 26.
16. Ibid.
17. Op. cit., note 13, p. 19.
18. Ibid., p. 21.
19. Ibid.