

like satellites on computer malfunction. No. Turner said, the honey has no special qualities. Even though the plants upon which the bees are feeding are 5.5 acres of the finest marijuana in the world.

This is the Mississippi Program, the only U.S. Government marijuana plantation. Just for research, naturally. Outside the garden is a secondary perimeter, a shaggy Arcadian sprawl of persimmon and pine. Further out is the campus of the University of Mississippi, "Ole Miss" itself, where magnolia flowers bloom among the mimic red brick ante-bellum warehouses of learning, and fresh-faced students wander around wearing laundered Levis and Mickey Mouse T-shirts acquired not in head boutiques, but at Disney World.

Carlton Turner—"Call me CT" — is in his middle thirties, and is director of the marijuana project. Responsibilities. Today he was wearing two-tone, brown-and-white shoes and a fanciful bow tie with a design of prancing ponies. Originally from Choctaw, Alabama, he radiates the tough bonhomie of the New South, the Jimmy Carter manner, and right now he is burning with a righteous Carteresque furor.

"You know what they should have said? 'Listen, boy: What do you want? Do you want some of my marijuana? You tell me now. I don't want any of your bullshit. Or else it won't be the police that lock you in jail. I'm going to lock you in jail and throw away the key.'"

It is not, you see, that Turner is rigid. "But think of the rumors. People will tell their folks, 'I can go down and look at the marijuana garden.' And then they tell folks." Trouble in the garden, and, for the results, remember Genesis III. Eviction.

Because all around there are further eyes watching. The pharmacognosy department, within which the project is housed, and the academy of Ole Miss. The bosses in Washington, NIDA, the DEA, NORML. And those silent corporations and conglomerates that just cannot wait until the 600 million, useless dollars spent prosecuting 400,000 marijuana users in 1975 are turned around, and the pot market—a minimum of \$4 billion annually, according to government analysis—comes under proper commercial control. Which may, of course, never happen. A lot depends on what is going on, here and now, down in Ole Miss.

Why in a place that is best known for football and Faulkner? Why in Ole Miss? The decision to locate the marijuana project in the state of Mississippi was made by Dr. Coy Waller, who is now a director of the research institute, with the garden as part of his demesne. Waller is a mild-mannered, reticent man, with a distinguished record in chemistry

research. The sequential birth-control pill was developed under his direction. After 24 years in industry, Waller decided to get back to pure research.

Waller went back to Washington. It was 1968. Annus Mirabilis. The Summer of Love had departed, leaving plenty of bruised and broken blossoms. Year of rumbles and riots. Waller found one subject much on Washington's mind: dope.

“I said, ‘Well, what are you doing on marijuana?’ I looked at the program and said, ‘That’s not much.’ I had grown some marijuana when I was out teaching in the state of Washington in 1939 to 1941, so I knew a fair amount about it. They asked me to draw up a program for an ad hoc committee.”

This was February. Waller spent three months drawing up a program, which he costed at \$130,000. He outlined it to a committee that had been convened by the authority then considered relevant, the National Institute of Mental Health. Word had already come from Congress and from the White House, via HEW.

“The green, green grass of Mississippi... is five times stronger than anything you’re liable to find on the street.”

that something had to be done about the marijuana problem, so the appearance of Waller seemed providential. The program was accepted.

“There was so little known about the botany ... the chemistry,” Waller explains, “that they needed an outside person. I just happened to fall into the slot.”

Mississippi suggested itself for various reasons. For one thing, the Department of Agriculture had been growing Cannabis sativa for fiber there since World War II. “The farmers didn’t know about its drug properties,” Waller says. “They paid no attention.” It was. Furthermore, a long, thin state, rich in soil variety, and the initial program had called for three separate gardens. Also there was a scientist down at the University of Mississippi raring to work on the project: Norman Doorenbos. He was put in charge. Waller waited for developments.

They were not slow in coming, and not all of them were scientific. There were problems with security. Somebody got away with ten plants. Small stuff, but irritating publicity. Nor did Doorenbos himself help with his flair for catching headlines. Some jaunty stuff in Rolling

Stone was the end of it. Doorenbos “resigned.”

At that stage, the project itself seemed in peril. Carlton Turner had actually thought the DEA might close it down. Turner comes from Choctaw, Alabama, and he went to the University of Southern Mississippi. A promising career as newscaster and D.J. with a local station —“middle-of-the-road music: Dinah Shore, Dean Martin, Perry Como” —was cut short by a spell in Laos. He got his Ph.D. from Southern in 1969 and wondered what to do with his life. Two specific areas seemed promising to the ambitious young chemist: pollution research and dope. He toyed with the idea of participating in a new pollution control company, but a meeting with Doorenbos proved decisive. In June 1970, he joined the project.

The troubles came, but, no, the feds didn’t close the project down. In fact, says Carlton Turner, they proved quite sympathetic. Duly, in 1971, he found himself installed as director. A “compromise,” he says. There were a few problems to deal with, partly bureaucratic. Turner had, for instance, to hack out his own territory. It had to be made quite plain who ran the project,

for instance, to Maynard Quimby, an Ole Miss professor who maintained his own marijuana herbarium. Even to Coy Waller.

There were also the security problems to be tidied up. The other two gardens, one in the delta and one in the southern part of the state, had been closed down. But, by and large, things had been placid. Extraordinarily so.

"Mississippi," notes Coy Waller, "is a very well-ordered society. The children say 'Yes. Sir' and 'No, Ma'am.' Respect for authority goes very deep here. The University of Mississippi, I'm convinced, is the only university in this country that could have supported this project without student unrest.

"We haven't tried to hide it from our students. We've told them about it time and time again. But we've told them we have to abide by certain federal rules. If you touch it, you can expect to get your hand slapped. But the students have been very gracious to us."

Shortly after taking over, Carlton Turner succeeded in producing that substance for which the project was set up. Grass, clinically graded, with all the relevant data available. Grass of standards, without which research results seemed to be nothing more than so many radiant false dawns or stabs in the bilious dark.

There is a smell in the corridors outside Carlton Turner's office and the laboratories of the marijuana project. These, incidentally, are in the pharmaceutical research building, an oblong structure just across the grass and rhododendron from the Ole Miss Alumni House, the Law Building, the Loyalty Foundation and just down the road from a monument to Our Confederate Dead.

The office is on the third floor. The corridors are pretty standard for such buildings: oyster-colored vinyl floors, acoustic tiling, clocks keeping different times and signs with such uninviting legends as "DO NOT ENTER-CARCINOGENS" and "POISON CONTROL CENTER" ("You can swallow it if you like," I am told when handed a pebble hard pebble of strychnine. "It's quite safe like this. It would go straight through you." I dare say, but no.). The smell, which increased as we approached, was omnipresent, repellent and somehow familiar. It proved to emanate from a roomful of mice, rats, rabbits—all white. Tom Wolfe or Edgar Winter would never get out of there alive—and the interesting thing was that nobody on the project really noticed it any longer. Surreal is in the eye of the beholder. As, perhaps, with the marijuana project itself.

Turner got involved on the telephone almost as soon as I arrived at the office. Some stuff about shipments of marijuana seeds from Hawaii and Afghanistan. (They just come by registered mail, in case you are interested, but they have to be specially picked up. And, no, they haven't lost any en route, though one Pakistani supplier was discovered trying to diddle them out of the paid weight.)

While Turner was involved, I looked around the office, which had a shelf-full of academic stuff, plus plentiful jocular touches. Little statuettes with messages like "Cheer Up! Things Could Be

Worse —You Could Have My Job” and a pink-beribboned Pepsi bottle. There was a print of Desiderata on fake vellum from a laboratory instrument firm, an ashtray from the Day Detective Services of Jackson, framed diplomas, including a Doctorate in Philosophy from the University of South Mississippi (1970), a 1972 award “in recognition of outstanding service” from the Bureau of Narcotics and Dangerous Drugs and a citation dated 1973, which drolly cites him as a “Bachelor of the Year.” This last citation, however, is contradicted by more recent snaps of a duly bouncing baby. All in all, it might have been the office of a hip marketing man.

A giant sidled in with a slightly daffy smile, and about an acre of Big Smith green coverall. He introduced himself as Jim Urbanek, a sometime linebacker with the Miami Dolphins, currently in charge of the garden — Namely, security.

Turner gets off the telephone. He is still aggrieved about the security, though less, it appears, about the actual incident than the abdication of responsibility. “You shouldn’t have called anybody else in,” he says. “We have full authority.”

Urbanek muttered and chewed on a white vinyl-tipped cheroot as we walked outside to a Chevy pickup in which we were driving back to the garden. “You’ve

opened the floodgates,” said a still fretful Carlton Turner, slapping the lobster-colored pickup to a stop at the garden gate.

Today the garden was shimmering in a haze. Turner-got to his knees, fondling the leaves paternally. The harvest, he explains, is hand picked, flowering top by flowering top. “The THC content is higher in this young leaf here than in this bigger, older one,” he notes, “and the question always arises: Is there the same amount in each leaf? Hell. I don’t know. To me it’s an academic question. Like, in cold weather you’ll see broader leaves. And as the weather gets hotter, the leaves get finer. Hell! Nobody knows why. It’s the genetic code of the plant.”

We passed a clump of plants that had missed the harvesters. Mexican material. “When you’ve got people you’re paying by the hour, they’re gonna miss things.” Turner said. “They’re not as closely associated with it as you’d like them to be. But you see this one?” —he grabs a stem —“See. they got this one. And it’s doing just what we want. It’s branching out again, and we’ll have another top. In another week or two. we’ll be able to come out again. And hopefully” —a note of steeliness —“they will be a little more skilled in what they’re doing.

“But it’s the first time we worked like this. Before, we took the leaves. Now. we take the young growths, where the THC content is highest. We need particular THC contents for our batches of cigarettes. We can harvest and come back for more. Every week ... every week and-a-half. We are. in effect, stealing from the plant.”

We plowed through some more of the thigh-high stuff and reached a positive copse of plants, obliterating the sun. These plants. Turner said, were Turkish, fiber-type and weak in THC. but deceptively vigorous in appearance. “This is a male plant.” he observed, gripping a stem as thick as a wrestler’s thumb and burgeoning with blooms. “See! It’s totally open. In all theory, this plant has died. The pollen has been transmitted into the air. and the plant is gradually dying.

"And you can see its fiber-type. It's got this hollow stalk." He sank a thumbnail deep into the trunk. "The drug type is usually solid. Not always, but usually. And the layman wouldn't be able to tell the difference.

"If we were to take 50 people off the street and say. Go in and harvest anything you want! I would bet that they would come in and harvest this, because it's the tallest. And then, if they've read the literature, they know that marijuana has the highest THC content when it's flowering. And they would see these flowers. But this is a fiber-type male." Dr. Carlton Turner smiled, with a certain grim expertise "The least valuable of all."

We moved on across the garden. Small acronyms painted on signs explained the origins of various plants and the dates of planting. There has been. Turner admitted. a fair amount of aberration.

"The rule of thumb that you've got for cannabis is not hard and fast. You can always find an exception. This here is a good typical marijuana leaf" —he snipped a leaf off a Mexican plant and handed it to me —"serrated edges... palmately compound."

Which, it turned out. means that the leaves spring from the same section of stalk. Usually, for that matter, there are an odd number of leaves, but not always.

"Here's four ... six ..." Turner said, investigating the undergrowth. "And come here! Here's something very interesting!" What the interesting thing turned out to be was a plant in which the leaves did not spring from the same section of stalk, but consecutively in a sort of spiral.

"And it's got ten leaves." Carlton Turner said, brimming. "It's difficult just from reading the literature to get the full concept of what's really going on with marijuana. It's a very unstable plant. Mark this plant and get herbarium specimens on it. Jim. And get some photographs of it. That's a good plant."

We passed on to yet more diminutive beds. "CZ is for Czech," Turner explained. "That there is Hungarian. And right behind Jim there is some of what we call Little India. It's a fragile looking plant, but very good. Loaded with chemicals. Just damned near any cannabinoid that you find in any other plant, you'll find in that Little India."

The Russians are. apparently, less satisfactory. "We got sent 14 varieties by our colleagues in Moscow, and all of them are fiber-type. These here are female plants. You can get a good idea of the bract." The bract is the covering of the seed and the single part of the marijuana plant highest in THC content. "See those little glistening things? Those are the multicellular hairs where the cannabinoids are secreted. Smell that resin! The old conception is that the plants that produce a lot of resin produce good marijuana, but this plant would produce a very impotent marijuana." He added, dismissively. as one who despises street hash as understrength and overpriced, "It would have to be used for hash."

We crossed to a shed. It was filled with what appeared to be the usual humdrum implements. A deseeder, which works by vibration, and drums full of drying grass. "This is what the material

looks like," Turner said, running his hands into it. "Smell this! It's got a different odor. There's nothing sloppy about this.

"The cigarette machine will cut it to the right particle size. When it's young, it'll be nice and green, but right now you've got this good dark color, and it's good stuff. You see this greenish tint? I could wash my hands off. but I'd get a positive test and put myself in jail for possession." He laughed uproariously. "All our hippie friends would give their front row seats in hell and their right testicle for this stuff."

Would they? There seem to be problems here! Neither Carlton Turner, his fellow scientists nor Jim Urbanek will admit to having ever tried grass (though Urbanek admits that its use was not unknown among his fellow Dolphins). Theoretically Ole Miss produces the "best grass in the world." But would one allow teetotal chemists to run vineyards, and —on the strength of chromatographic mass spectrometric analysis and whatever —choose one's wine cellar? Consider also the word best. There are nuances in Turner's approach to grass that are subtle without being entirely unexpected. He will speak of an unusually "good" marijuana, meaning one high in THC content. The use of the approving word has much in it of the enthusiasm of the scientist, even for something of which the results may allow outside his personal comprehension—a "clean" H-bomb— and even a bit of the fascinated ambivalence with which the policeman regards the criminal. But. no. says Turner, he is. at this moment, neither for nor against. "If I were a crusader." he says, "it would interfere with my objectivity."

No doubt because of this same necessary objectivity, the smoking of grass is not encouraged on the project. "There was a case in 1970." Turner remembers. "We had a girl work here, and I heard her husband was having pot parties. He was picking her up in the labs. She knew that I'd heard. She resigned.

"But I don't care if people have smoked. We had a girl come in the other day. Right away, I knew. I've studied psychology. I said. 'Do you still smoke marijuana?' She didn't know what to say. I hired her. But I said, 'If you ever smoke again, I'm going to find out about it. And I'm gonna have your butt right out of here.' "

He ran the stuff through his fingers reflectively. No. he doesn't feel that not having a marijuana smoker on the staff handicaps research. All the results convince him of the excellence of the green, green grass of Mississippi. That it is anywhere up to five times stronger than anything you're liable to come up with on the street, but —decrim or no decrim—crop improvements are not precisely what the Ole Miss marijuana project is all about.

Consider the scant interest with which Turner passes by Maynard Quimby's plot: a small allotment in the middle of the garden wherein the professor cultivates esoteric sorts of cannabis. "I don't even want to put these into my catalog." Turner declared. "These are just herbarium specimens. I've got to have some consistency. We had to wipe everything out here and start over."

The Ole Miss project is necessarily pragmatic, practical. Note the interest in the present from the USSR. "What we're doing with the Russian plants is this. You hear all the time about Russian marijuana being a different species. *Cannabis ruderalis*. Some people say that there are three species of cannabis. *Cannabis sativa*, *Cannabis ruderalis*, and" —he gesticulates toward the dope-packed Little India patch — "*Cannabis indica*."

"Botanists mostly agree that there's only one species. But it just hasn't ... settled down. Dick Schultes from Harvard says there are three species, and we've got all three here. The law only reads *Cannabis sativa*. Schultes appeared in some cases and won a few. Dick's a nice fellow; I enjoy talking to him. But I don't agree with him. He appeared against a guy in New Jersey called Billy Braniff. and Braniff tacked Dick's hide to the wall."

Which the government is to state is not obvious. funding The Mississippi project is in the interests of pure botanical science. As we walked back toward the gate, we passed a bare unplanted half-acre of terrain.

"This is reserved for the Hawaiian," Carlton Turner said. "Who knows what's going to happen? Suppose next year the Mexican connection is replaced by the Colombian connection? Or the Jamaican? Then, under the auspices of the national program, we would want to be ready to run it through for the basic chemical profile."

"And we'd say, Gentlemen, this is what we've done.' We have to have something that is relevant.'"

He paused. Urbanek walked toward us from the potting shed and handed Turner a small polyethylene bag filled with dried weed. Turner examined it in the sun briefly before turning back.

"Also," he added, "we want to be certain that we're ready, should the occasion arise that we get involved in patent infringements."

Patent infringements? I was a bit baffled.

"Some people have patented some basic processes for making THC." No, he couldn't say who. "If we were to get into a situation wherein synthesizing THC for the program became a hassle and a political football, then we just go to the marijuana variant that has the best THC content and extract it naturally. That's the best defense against a patent situation. You see," explained Turner, "it's not an illegal process to make THC. It's illegal to handle it."

We bundled back into the pickup and drove toward the labs: passing another garden enclosed in a wire grille fence. A marijuana annex?

"No. That was Doorenbos's last project. Now it's used for growing potatoes."

The Mississippi project has been budgeted at something between \$250,000 and \$300,000 a year. The annual harvest has been between three and five tons, and some 500 separate

projects in the United States and Europe have submitted form 222C, a white form with elegant brown scrollwork, to the Drug Enforcement Administration, been checked out and duly profited from Turner's carefully standardized crop.

"I know just how much we have here," said Glendell. Turner's secretary. "I have to account for it. Down to two decimal places." The marijuana seeds arrive by mail, but duly registered, and the dried, processed weed is shipped to its legal recipients by air freight clearly labeled "Agricultural Plant Material."

Ninety percent of this is disposed of to duly deserving projects. "Sixty percent goes on animal studies." says Bob Willette at the NIDA in Washington, "and about twenty percent on humans." Ten percent, however, remains in Ole Miss in a capacious storeroom on an upper floor, so that Carlton Turner and his team may perform experiments of their own. The team is a small one, just half a dozen right now. It includes Dr. Steven Bilitz, who specializes in gas chromatographic mass spectrometric analysis, the same finely tuned instrumentation that recently was questing for life in the red dust of Mars.

Bilitz, incidentally, is filled with admiration for the technique of the dope culture: "Many of the people on the street who use and abuse drugs are really very capable chemists. They know. They know how to get morphine out of paregoric. Magazines like High Times tell them how to do it.

"One of the street legends was that you could enhance the potency of marijuana by burying it and allowing it to be attacked by a fungus. Moldy marijuana, the legends say, creates a better high than fresh. Well, we had a research program here that proved that certain microorganisms improved the psychomimetic activity of marijuana five times."

Research right now is being focused on cannabinoids and, increasingly, the alkaloids: the active, multifarious ingredients of this most mysterious plant. In one lab, for instance, the grass is being processed through translucent intestinal sections of glassy tubing and bulbs, silver-paper-covered globes. The powdered marijuana is dunked into solvent under the direction of Mahmoud El Sohly, a Cairo B.A. with a Ph.D from Pittsburgh, and converted to hash oil.

"All these five gallons." he noted, tapping a glassy orb like a gargantuan Mr. Coffee, "come down to two pints." He picks up a container full of brown, viscous goo, which exudes an odd greenish afterlight.

Upstairs are other projects. Bilitz is working on his analyses and Farouk El Feraly (coincidentally another Egyptian) is working on the alkaloids.

"I'll sort it out on the chromatograph," Bilitz was saying. "Use only one crystal." said El Feraly..

"Wow! You've given me the world supply here." Bilitz said, gingerly handling a small glass container and removing himself to his own quarters.

The crystal was a newly sorted-out cannabis constituent, entitled cannabispirun. "It looks like this," said El Feraly, handing me a model that resembled a knight on horseback, cunningly constructed from matchsticks.

"Every black dot is a carbon." El Feraly said. "Every red is an oxygen. And the bits sticking out are hydrogen atoms. We isolated it, and determined the structure by x-ray crystallography."

Okay. But what does it do ?

"A medical chemist synthesized it recently and proved it has estrogenic activities. After a certain amount, some men may develop breasts. Or it will inhibit spermatogenesis."

In plain language? "It seems that, one way or another, marijuana is going to affect your sex life." A comparison, for instance: "A birth control pill contains a hundred micrograms of an estrogen. And a single marijuana cigarette ... Okay, let me estimate that for you ... a cigarette could have something like 50 micrograms. "Maybe," he stressed, "maybe." In a word, maybe.

There was a girl in Turner's office crying bitterly on my last day. She worked, it turned out, for the student newspaper, and she had written an article dealing with the marijuana garden. He had flatly refused to let her publish it.

"I'm closing the garden up," he told me. "tight as a tick. No more visitations."

The odd DEA or government man will be allowed in from now on, just to see what the weed actually looks like. And there is a long-planned visit from the United Nations, which has been demonstrating interest, not to say a certain amount of anxiety—in the absorbing problem of whether marijuana is one plant or a hundred, and what to do about it in any case.

There are also private projects of Turner's. A marijuana bibliography that he has been working on and a book of photographs with correct botanical indexation. To be followed, perhaps, by an opus on cocaine.

As to the future—After Decrim—his vision is both broad and surprisingly detailed. "I hear there are now over 200 brand names of heroin," he said, "and that the pushers not only guarantee the effectiveness of their brand but will give a refund, or another package, to a dissatisfied customer."

' I think you're seeing the same thing happen in the cannabis trade. You are seeing a connoisseur cult develop in marijuana, the same as you have in wines. Different marijuanas do have different tastes, too, according to the way they're harvested. Just as if it's not a French wine of a good year, known to have excellent grapes. That is happening with marijuana.

"I can take the same marijuana plant and harvest it four to five different ways, all products that we call marijuana. If I wanted to hawk them, I would call one Acapulco Gold, one Panama Red, one Mississippi Green—as I notice some people referring to it, as a U.S. government grade—and I would get different prices for each of them."

"I don't think the potency makes a dime's worth of difference. I think it's the smoothness of it and the taste. Even the fragrance is different. I may be a hundred percent wrong, but I think this is what it all boils down to."

So those tobacco companies with their farmlands allegedly waiting in the Deep South may, one supposes, be a hundred percent right. Quality control will — Turner cautions — be something of a problem. Unlike nicotine or alcohol, the dope content of marijuana is highly volatile. Prepare and package your cigarettes precisely right, but moistness and age will wreck their will. "Some people will leave it in a storeroom perhaps, and what was two percent THG when they got it will be one percent."

We table enter landscape, here a vague topography and unpredicted problems. It is. Of course, for the purpose of dealing with problems that research programs are created, and the Mississippi marijuana garden has obviously played its part. But its future, after the visit of the United Nations group this fall, seems, at time of this writing, hazy.

There may well be no harvest in 1977. Carlton Turner theorizes. "It may not be necessary," he explains. "We may have enough material for our needs."

Harvest problems continue to occupy the mind of the man who created the project, Dr. Goy Waller. "You see, we can't use insecticides," he explained to me. "We don't know what effect they would have on human subjects. If we had an outbreak of insects we'd be licked."

Other imponderables lap round him. The project is useful, but not, he says delicately, indispensable. "Other agencies can work out the protocols, the standards. And other nations."

"Everything comes to an end," he said, with a falling cadence. "All projects end."

He sounded not dissatisfied at all.



Two Ole Miss students deseed and manicure part of the garden's 1976 harvest.

heirloom indica? OCR scan email me fo corrections