Marihuana and Work: Cannabis Smoking on a Jamaican Sugar Estate

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This study examines the "amotivational syndrome," commonly cited as one of the deleterious effects of cannabis consumption, in cross-cultural perspectives. Using data-derived payroll tabulations and from observations of managerial relations on a Jamaican sugar estate, the influence of marihuana (ganja) smoking on the performance of work is systematically evaluated. A comparison of administrative strategies employed in three different farms of the estate demonstrates the degree to which management reinforces its own values with regard to ganja use and productivity.

The explosive increase in marihuana (cannabis sativa L.) use in this country within the last 15 years has generated voluminous social science research. The anthropological studies, while comparatively few, have made a major contribution to this literature in two respects. First, they have discredited some of the commonly held assumptions about marihuana use by putting them to the cross-cultural test. Notions relating cannabis use to boredom and poverty, the "stepping stone" hypothesis, the "drug subculture" concept and the "amotivational syndrome" all have been sufficiently challenged in Jamaica (Rubin and Comitas 1975), Costa Rica (Carter 1980), and Trinidad (Hamid 1980), to cast doubt on their validity when taken out of sociocultural context. In so doing, the overseas studies have raised important questions about the sociocultural factors that influence the nature and extent and effects of cannabis consumption. Second, the anthropological efforts have expanded the clinical and survey studies that typified social science research on drug use and explored cannabis behavior in its natural setting. This is particularly important since marihuana consumption has become an increasingly politicized issue and has assumed symbolic value for various elements of society. Researchers, caught up with either supporting or negating popular claims about marihuana use, often have ignored the sociocultural context of drug use and underestimated the extent to which the behavior and beliefs associated with marihuana are capable of shaping both the clinical findings and their interpretation. Consequently, much of the social science research, subscribing to a specific "camp," has served only to intensify the medical, social, and legal debates surrounding marihuana use and to further confuse policy makers as they continue to wrestle with the issues of regulation and control. This paper proposes to explore two divergent beliefs about the relationship between marihuana use and the performance of work and the way in which the sociocultural context can influence the apparent direction of this relationship.

Although its intoxicant properties have dominated the American perception of marihuana, surveys of other cultures indicate that various preparations of cannabis are consumed for ceremonial, medicinal, and other generally nonintoxicant purposes (Grinspoon 1971:173-75). The use of cannabis for relieving fatigue and promoting work has been reported among manual workers in India (Chopra and Chopra 1957:13), Africa (Bourhill 1913), Mexico and North America (Walton 1938:117), and, more recently, Costa Rica (Carter 1980) and Trinidad (Hamid 1980). The literature from Jamaica, as well, refers to the use of cannabis—or "ganja"—among cane workers for similar purposes. Davison, in a report on the labor force of the Jamaican sugar industry (1973:153), notes:

One estate manager gave it as his opinion that 75% of the labor force on that estate smoke ganja regularly with noticeable effects on the performance of workers in such occupations as tractor driving. On another estate the manager explained that he would never discuss a grievance on Friday or Saturday (pay day and ganja day) because only under the influence of "the weed" was a man likely to become violent.

Few managers appeared to be unduly worried by ganja smoking. Indeed, some of them pointed out that workers claim that it increases their productivity. On premium pay days on some estates the author was told that the workers are "steeped in ganja" to increase their output. Whether or not this is a problem for the estates, it is clearly a social problem.

Observations of cannabis consumption among agricultural laborers and farmers in Jamaica indicate that there is a distinct and consequential relationship between ganja and work activities. Unlike rum and other intoxicants, ganja is widely accepted throughout the laboring class as an appropriate substance for consumption in the work context. Most smokers claim that they began using ganja heavily—that is, in more than just a social context—when they settled into their adult occupational routines. Not only is it then financially feasible to indulge regularly, but ganja smoking is assumed to enhance...
the motivation and the ability to work: as one cane cutter explained, "It's not just the money; it keep encouragin' on work." Thus smokers regularly distinguish themselves from nonsmokers in terms of their capacity for work, and it is not unusual to hear claims that "herb users work harder" and "Dem (nonsmokers) c'yan (can't) keep up to de work me do when me smoke it." Such statements, proclaiming the labor-enhancing value of ganja, are broadly acknowledged but only grudgingly tolerated by estate managers, who maintain a more skeptical view of the ability of ganja to stimulate the performance of work. They claim, in contrast, that smoking "weed" ultimately reduces a man's capabilities, both physically and socially.

An understanding of the conflicting class postures with regard to ganja is central to understanding the differences between managers and workers in their assessment of ganja in the work place. Even in Jamaica, where the use of cannabis is extremely widespread, it nevertheless remains a criminal offense and the subject of great controversy. The cannabis debate is organized essentially along socioeconomic lines: the middle and upper sectors of Jamaican society almost uniformly condemn the use of ganja, claiming that it renders the "laboring class" lazy, irresponsible, even psychotic and potentially violent; ganja users on the other hand, who are drawn primarily from the working classes, maintain that ganja makes them industrious, has a calming influence and far from being mentally disorganizing, induces great wisdom. Indeed, for the latter, ganja has become a symbol of brotherhood, solidarity, and mutual suffering.

The divergent claims with regard to marijuana use and the performance of work have remained, for the most part, empirically untested. The materials presented here will make at least an indirect test of the opposing assumptions in the context of a single Jamaican sugar estate, fictitiously called Deerfield, by comparing smokers and nonsmokers with regard to their work performance and by interpreting these findings in relation to the specific social context in which they occur.

Deerfield Sugar Estate is divided into seven farms, each with its own managerial staff, labor force, and method of operation. The period of greatest activity for the estate is the reaping season, which ordinarily extends from January through July. During these months a large gang of workers is employed on each farm to cut, load, and transport cane to the factory, which operates 24 hours a day to produce sugar for export. Traditionally, the cutting and loading of cane have been viewed as distinct operations requiring two separate categories of laborers working interdependently. A major disadvantage of this system has been the noticeable impedence to productivity as workers gauge their output in an elaborate system of individual reciprocity and personal patronage (Drehar 1982). The potential for conflict among and between cutters and loaders and the competition within these categories is great and has required constant intervention by management to settle disputes and grievances. Recent years have witnessed the gradual conversion from hand to mechanical loading operations on the three largest farms on the estate, Ipswich, Dover, and Wilmington. With the elimination of loading crews from these reaping gangs there has been not only a reduction in management problems but a concomitant increase in cutter productivity. Therefore, in order to control for the constraining influence of hand loading operations on performance, this analysis will be limited to those three mechanical reaping—or "grabber"—gangs.

The supervisory staff of each mechanical reaping gang consists of a farm manager, or "busher," who has ultimate responsibility for the administration of the farm to the estate; "headmen," who record the amount of cane cut, loaded, and sent to the factory; and assistant headmen, who assign the tasks to the workers. The laboring staff consists of cutters, who are required to work in pairs; the grabber operator and his assistants, called "scrapers," who clean any dropped cane; and the tractor drivers and their "sidemen," who draw the loaded carts from the field to the factory.

The cutters arrive early in the morning and each pair of men marks off exactly four rows of cane in the field which has been burned the previous evening. Theoretically, this is on a first-come-first-served basis and men are not permitted to mark off new rows until the previous day's work is completed. Occasionally there is not enough cane burned for all the men who show up to work and some are turned away. Furthermore, cutters compete for the best four row sections—a good length, thick growth, without vines or gullies or any other condition that would impede the cutting process. To avoid disputes, most workers will wait for approval from the assistant headman before commencing work. Once approved, a man and his partner work their way down the rows of cane, each cutting two rows at once and piling the cut cane in a large furrow between them. The mechanical loader is then driven uniformly up and down the field, picking up cane and loading it into carts drawn by the infield tractor. As mechanical loading gangs, Ipswich, Wilmington, and Dover represent the three best employment opportunities for estate field laborers in Deerfield. While other gangs must reap hillside cane under hand loading procedures, or must work on low lands where production is restricted to the first six weeks of the reaping season because of rains, these farms are almost entirely flat-land farms with an elevation that permits production to continue even throughout the wet part of the season.

The acute effects of ganja smoking on productivity have been objectively examined by Schaeffer (Rubin and Comitas 1975:63-79). In a rural Jamaican community, where men were self-employed as small farmers, Schaeffer analyzed the immediate effects of smoking in terms of energy expended and work accomplished. However, even that carefully executed study carried a note of caution that the results did not provide a basis for projecting productivity over a season or a year or in a different context. Furthermore, in rural Jamaica, agricultural tasks vary daily and are performed in multifarious settings. The general progress of any small farmer is influenced by so many factors outside his control—weather conditions, market fluctuations, availability of land room, and so forth—that his success, or lack of it, is not a fair or sufficient means of evaluating his performance. Thus the difficulties of establishing quantifiable units of work performance or even ascertaining baseline data are profound. On a sugar estate, however, where the tons of cane cut and the number of days worked by each man are carefully recorded for payroll tabulations, it is possible to examine the relationship between ganja smoking and work performance by measuring the output of cane workers in units of tons and dollars, and comparing smokers with nonsmokers in this regard.

Interviews with each member of the reaping crew and
systematic observations both in and out of the work setting were conducted to determine which men smoked and approved of the use of ganja and which did not. Within the sugar industry’s labor force men tend to be either nonsmokers or heavy smokers; the intermediate categories of “infrequent” or “occasional” use that appear in other sectors of Jamaican society (Dreher 1982) are generally absent. Thus, for the purposes of the following discussion, the term “smoker” is used to designate heavy, routine use of ganja (three or more large “sciffs” [ganja cigars] per day, every day) in both work and recreational settings, and “nonsmoker” to designate those men who do not smoke ganja and generally disdain its use, though they may have tried ganja experimentally in the past. Observations from Deerfield revealed that even though ganja smoking is illegal it was practiced extensively, with many workers smoking frequently throughout the day: before work in the morning, at lunch time, and during rest breaks.

Unlike Schaeffer's analysis, which concentrated on the immediate effects of smoking on the amount of work produced, the figures pertaining to tonnage and earnings reported here are not indicative of the amount of cane a worker can cut within a given period of time. The difficulty of measuring work productivity in this sense, even on a sugar estate where production is carefully calculated, has also been reviewed by Davison (1973:132-33):

In the first place it became clear on every estate that it is virtually impossible, given the present organization of the industry, to keep any kind of accurate check on the number of hours spent by a cutter in the field. The work may be half finished by the time the overseer arrives, a system of time clocks would be quite impractical and serve no useful purpose anyway. The fact is that hours are not homogenous—the amount that a man can cut between 4:30 and 6:00 A.M. is quite different from his potentiality between 11:00 A.M. and 12:00 noon when the sun is blazing into the cane field. A measure of hours spent without reference to the period of the day would be of little use, even if the information could be obtained, which it cannot be at present.

Instead, the tabulations of tonnage and earnings for Deerfield laborers reveal how a particular worker compares with other Deerfield workers who are employed in the same capacity, by the number of tons of cane cut and the number of dollars earned over a period of weeks in a specific season. Thus, it is possible to compare workers with regard to their continued performance as earner-producers and relate that performance to their disposition toward ganja. For this purpose data were collected from the payroll stubs of 151 cane cutters on Dover, Ipswich, and Wilmington.2

The averages compiled in Table 1 summarize the quantitative comparison of smokers and nonsmokers for all farms and for individual farms by age, earnings, and production.3,4 The relationship between the amount of cane a man cuts (production) and the amount of pay he receives (earnings) is complex and varies from farm to farm. While cutters in this study were compensated at a rate of 66 cents for each ton of cane, their earnings also reflect compensation for cane cut during “premium time” (Sundays and holidays when the rate is one and a half and double the normal rates, respectively), for “bad cane” (cane located in gullies or thick with vines or “cow itch,” making it difficult to cut), or for additional reaping tasks such as building the fire guard, setting up field tents, and burning cane. Thus, a man’s tonnage alone is not an adequate indicator of his performance as a worker, for he may have been pulled from cutting and reassigned to less well paying work or he may have run into bad cane. On the other hand, an excess of premium cane may serve to inflate the wages of a cutter who may actually be a low producer. Therefore, to obtain the most comprehensive picture of worker performance, both earning (dollar) data and production (tonnage) data were collected.

Three separate indicators—“backpay,” “wages,” and “bonus”—were selected to measure different aspects of estate earning performance. “Backpay” pertains to the additional money received by each worker in settlement of a strike held mid-crop in which estate workers were awarded a four-cent-per-ton increment for cutting cane. As such, backpay is the earning indicator that is most strongly correlated with production as measured by tons of cane cut. Since the workers were paid retroactively from the beginning of the crop, the “backpay” figure represents the worker’s performance on reaping tasks in the first 12 weeks of the season. “Wages” constitute the average weekly pay check for cutters during the first three months of the reaping season. It was calculated for each cutter by dividing his total gross wages paid for that period of time by the number of weeks he worked. This dollar figure reflects not only the cutter’s regular and premium time tonnage, but also includes compensation for any other work performed for the estate. The third earning indicator, “bonus,” is the sum paid to those laborers who worked a minimum of 20 weeks of the reaping season. The bonus varies annually and for the season in question it amounted to 12.5% of the gross earnings for all work done on the estate throughout the reaping season. Thus, while “backpay” and “wages” measure worker performance for the first half of the season when production peaks, “bonus” measures earning performance throughout the entire season.

Because of the many and various factors which influence production, the amount of cane cut in any one week is not an adequate indicator of ongoing productivity. Therefore, two three-week periods were specified to constitute the production performance variable. They comprise the fourth, fifth, and sixth weeks and the tenth, eleventh, and twelfth weeks of the reaping season. During these periods there were no inclement weather conditions nor labor disputes to prevent the workers from being out in full force. Thus, “cane production/period one” and “period two” refer to the average per man tonnage over two three-week periods of time. As such they are the only performance measures that do not include additional reaping tasks.

As shown in the table, both smokers and nonsmokers are found on all three gangs but in varying proportions. Ipswich men are fairly evenly distributed between the two categories with 53% of the workers being smokers and 47% being nonsmokers. The Dover gang, on the other hand, has almost twice as many smokers (65.5%) as nonsmokers (34.1%), while Wilmington has twice as many nonsmokers (65.4%) as smokers (34.6%). These differences in the prevalence of ganja smokers from farm to farm are often invoked by management to account for variations in both productivity and manageability. Dover, with its high proportion of ganja smokers, is consistently cited as a managerial trouble spot where performance is low; disputes about paychecks are rampant; and cutters often refuse to work, quarrel with the tractor drivers, and complain to the headmen. Wilmington and Ipswich, on the other hand, with the lowest rates of ganja use for the entire
estate, are regarded as the most "hard working" and "polite" gangs.

Comparing the three farms, a one-way analysis of variance reveals that there are, indeed, significant differences among and between Ipswich, Dover, and Wilmington in each of the five variables. A priori contrasts show that Ipswich workers are significantly higher than Dover and Wilmington workers in backpay (p < .001 for both), wages (p < .001 for both) and cane production/period one (p < .001 for both). In cane production/period two the difference between Ipswich and Dover continues to be significant (at p < .001), although the difference between Ipswich and Wilmington was just not significant (p > .07). A priori contrasts further reveal that Wilmington workers are significantly higher than Dover workers in backpay (p < .01), bonus (p < .05), and cane production/period two (p < .001). Differences in wages and cane production/period one are not statistically significant (p > .8) and (p > .5), but follow the same trend. These findings appear to substantiate management's claims that the heavy-smoking Dover gang is poorer in worker performance than the other two gangs.

On the other hand, the table also demonstrates that there are, in fact, no significant differences between smokers and nonsmokers in the mean worker performance on any one of the farms or on all farms. This rather dramatic finding thus fails to substantiate the beliefs held by management that ganja smoking impedes the performance of work or, for that matter, the claims of smokers that ganja enhances productivity. In order to understand this discrepancy it is necessary to turn to the qualitative data describing the structure and organization of reaping operations on each farm. A comparison of the managerial context in which each of the three gangs functions suggests an alternative explanation for interfarm differences in productivity and manageability and exposes the social context in which ganja consumption and worker performance are often linked.

As flatland farms using mechanical loading gangs, Ipswich, Dover, and Wilmington are technologically similar. Never-

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**TABLE 1. SUMMARY OF WORKER PERFORMANCE FOR ALL FARMS AND FOR INDIVIDUAL FARMS**

### All Farms

<table>
<thead>
<tr>
<th></th>
<th>Mean age (n = 151)</th>
<th>Mean back pay (n = 128)</th>
<th>Mean wages (n = 119)</th>
<th>Mean bonus (n = 117)</th>
<th>Mean cane production: First period (n = 128)</th>
<th>Mean cane production: Second period (n = 125)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All persons</td>
<td>45.5 years</td>
<td>$16.16</td>
<td>$13.79</td>
<td>$37.38</td>
<td>59.8 tons</td>
<td>60.0 tons</td>
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<tr>
<td>Smokers</td>
<td>42.9 years (n = 76)</td>
<td>$15.92</td>
<td>$13.53 (n = 53)</td>
<td>$36.07 (n = 56)</td>
<td>67.0 tons (n = 65)</td>
<td>60.2 tons (n = 63)</td>
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<tr>
<td>Nonsmokers</td>
<td>48.1 years (n = 75)</td>
<td>$16.41</td>
<td>$14.00 (n = 66)</td>
<td>$38.39 (n = 61)</td>
<td>57.6 tons (n = 63)</td>
<td>59.7 tons (n = 62)</td>
</tr>
<tr>
<td>p-values</td>
<td>(p &lt; .01)</td>
<td>(p &gt; .52)</td>
<td>(p &gt; .44)</td>
<td>(p &gt; .34)</td>
<td>(p &gt; .26)</td>
<td>(p &gt; .87)</td>
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### Ipswich Farm

<table>
<thead>
<tr>
<th></th>
<th>Mean age (n = 55)</th>
<th>Mean back pay (n = 49)</th>
<th>Mean wages (n = 44)</th>
<th>Mean bonus (n = 39)</th>
<th>Mean cane production: First period (n = 49)</th>
<th>Mean cane production: Second period (n = 47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All persons</td>
<td>46.4 years</td>
<td>$18.96</td>
<td>$15.27</td>
<td>$50.28</td>
<td>76.2 tons</td>
<td>67.4 tons</td>
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<tr>
<td>Smokers</td>
<td>45.6 years (n = 29)</td>
<td>$18.54</td>
<td>$14.70 (n = 20)</td>
<td>$50.11 (n = 18)</td>
<td>76.7 tons (n = 27)</td>
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<td>47.3 years (n = 26)</td>
<td>$19.43</td>
<td>$15.75 (n = 24)</td>
<td>$50.43 (n = 21)</td>
<td>75.7 tons (n = 22)</td>
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<td>p-values</td>
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<td>(p &gt; .47)</td>
<td>(p &gt; .34)</td>
<td>(p &gt; .94)</td>
<td>(p &gt; .89)</td>
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### Dover Farm

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<th>Mean back pay (n = 38)</th>
<th>Mean wages (n = 34)</th>
<th>Mean bonus (n = 37)</th>
<th>Mean cane production: First period (n = 39)</th>
<th>Mean cane production: Second period (n = 37)</th>
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<tr>
<td>All persons</td>
<td>41.5 years</td>
<td>$13.21</td>
<td>$12.97</td>
<td>$26.65</td>
<td>49.4 tons</td>
<td>48.7 tons</td>
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<tr>
<td>Smokers</td>
<td>39.9 years (n = 29)</td>
<td>$13.34</td>
<td>$12.71 (n = 21)</td>
<td>$26.21 (n = 24)</td>
<td>51.0 tons (n = 26)</td>
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<tr>
<td>Nonsmokers</td>
<td>44.7 years (n = 15)</td>
<td>$12.92</td>
<td>$13.38 (n = 13)</td>
<td>$27.46 (n = 13)</td>
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### Wilmington

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<tr>
<th></th>
<th>Mean age (n = 52)</th>
<th>Mean back pay (n = 41)</th>
<th>Mean wages (n = 41)</th>
<th>Mean bonus (n = 41)</th>
<th>Mean cane production: First period (n = 40)</th>
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<tbody>
<tr>
<td>All persons</td>
<td>47.9 years</td>
<td>$15.56</td>
<td>$12.88</td>
<td>$34.80</td>
<td>49.9 tons</td>
<td>61.6 tons</td>
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<tr>
<td>Smokers</td>
<td>43.7 years (n = 18)</td>
<td>$15.83</td>
<td>$13.00 (n = 12)</td>
<td>$34.92 (n = 14)</td>
<td>52.6 tons (n = 12)</td>
<td>62.4 tons (n = 13)</td>
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<tr>
<td>Nonsmokers</td>
<td>50.1 years (n = 34)</td>
<td>$15.45</td>
<td>$12.83 (n = 29)</td>
<td>$34.74 (n = 27)</td>
<td>48.7 tons (n = 28)</td>
<td>61.2 tons (n = 28)</td>
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<td>(p &gt; .72)</td>
<td>(p &gt; .85)</td>
<td>(p &gt; .94)</td>
<td>(p &gt; .28)</td>
<td>(p &gt; .73)</td>
</tr>
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</table>
theless, the policies and organizational strategies that govern reaping operations are highly decentralized and determined to a great extent by the individual busher.

Ipswich and Mr. Piedmont

One of the primary influences on the amount of cane a worker can cut is the policy held by each busher regulating the ratio of laborers to the work to be done. Despite having the largest amount of acreage to reap (1,300 acres planted in cane), Mr. Piedmont, the manager of Ipswich, prefers to employ a small reaping gang of 60 men. On the first day of the season, he announced to his gang, "na carry, na bring come," indicating that the cutters must select their partners from within the existing gang. When one of the younger workers protested that he did not want to work with "old men," Mr. Piedmont replied that every year the company pressures him to employ 75 men for the Ipswich gang but that he is holding it to 60 for the benefit of the workers. According to this busher, small gangs are more easily managed because the men earn more money and worker satisfaction is high: "they will say, 'Piedmont the mos' baddest man,' but the Ipswich gang made more money last crop than any other gang."

While it is acknowledged among workers throughout the estate that "Mr. Piedmont gang a money gang," it is also recognized that one must work much harder for money earned on Ipswich because of Mr. Piedmont's policy of not reaping bad cane. Contending that the additional cost in time and money required to cut a small section of cane that is thick with vines is out of proportion to its value, Mr. Piedmont instructs the men to leave it standing and work around it. If laborers worked continuously and had unlimited cane to cut, this policy would be to their advantage. However, because individual assignments are restricted to certain rows each day, workers usually find that by leaving out bad cane, their rows are shortened and their daily tonnage rates affected. On the other hand, if they proceed to reap the cane, as many do, they can expect to work much harder without the additional compensation that would be awarded on another gang. Hence, workers on Ipswich frequently complain that Mr. Piedmont "prefer cane styan up in de field...him na wan fe see we mek money." Mr. Piedmont also holds overtime production in check through minimal burning of fields on Friday and Saturday evenings. According to an Ipswich headman, "Busher na give anyting. Him save de estate money an get bonus. Him look pleasin' and nice, but no' him...him bring starvation to the people."

Finally, to accomplish the additional tasks that accompany reaping operations such as burning cane or building the fire guard, Mr. Piedmont routinely selects men from a pool of six favored cutters. Because these men are often required to interrupt their cutting in order to perform this other work, they are awarded the privilege of marking off their next rows of cane in advance of the other men and before they have completed the one in which they are working. Since they are thus almost always assured of a good piece of cane, these favored workers can secure substantial tonnage as well as increase their earnings through the performance of additional tasks.

Mr. Piedmont neither supports nor contests the smokers' position regarding the effects of ganja on productivity. He is, however, fully aware of the significance of ganja smoking among working-class men and regards it as a routine problem that accompanies labor administration. During a discussion with another manager, Piedmont facetiously remarked that the only way to get hillside cane reaped was to "plant one entire hill in ganja and let them (the laborers) in there when the cane done." Though Ipswich workers do not hide their ganja when Piedmont enters the cane piece, they generally "show respect" by "outing" a lighted "cliff" before approaching him directly.

Despite Mr. Piedmont's proclaimed existential stance on ganja smoking, all but one of the men whom he has selected for extra income tasks are nonsmokers. Although they are not particularly fast workers, compared with other men on the gang, the additional tasks and secure tonnage raise their wages until they are commensurate with or even surpass the leading cutters on the gang. For example, even though the differences in the table are not statistically significant, nonsmokers on Ipswich are consistently lower than the smokers in tonnage; yet they are higher than smokers in dollars earned. Of the seven men on the Ipswich gang who averaged over $20.00 per week, putting them into the highest earning category, five are nonsmokers and all five are in Piedmont's exclusive group selected for extra income tasks. Likewise, of the six men who constitute the highest backpay category, four are nonsmokers and all four are favored cutters. The backpay for these four was based to a large extent on tasks in addition to cutting, while the backpay of the two smokers was based solely on cutting performance.

Dover and Mr. Ferguson

At the other extreme, Mr. Ferguson, the manager of Dover, employs 58 men to cut cane on approximately 600 acres, a ratio of 10 acres per man on Dover, compared with 20 acres per man on Ipswich. Dover is the most recent farm to initiate mechanical loading. Unwilling to interfere with existing partner relations or to show partiality in his selection of men from the former hand-loading gang, Mr. Ferguson has tried to accommodate as many of the workers as possible in converting to mechanical loading. Hence, the amount of work each laborer can be assigned is necessarily limited in comparison with Ipswich. Unlike Mr. Piedmont, Mr. Ferguson does not cut back on weekend production and many of his cutters weigh in nearly as much cane on Sunday and Monday morning as they do for the entire week. Furthermore, Ferguson directs the men to reap bad cane and pays the additional compensation. Mr. Ferguson's more lenient position in regard to premium time and bad cane imposes additional costs on the estate, which he justifies as compensation for the limited work assignments that accompany a large gang in transition.

Mr. Ferguson is the most popular busher with the workers. Though the men often complain that they don't make much money on Dover, they praise Mr. Ferguson regularly for his fairness and impartiality; as one worker commented, "Busher Ferguson de best busher. To him every man is just a man." In contrast to Mr. Piedmont, Mr. Ferguson tries to avoid situations in which he could be accused of favoritism, contending that it kindles resentment among the men and encumbers management. For example, he does not request specific
workers to leave their cutting in order to perform other reaping tasks. Rather, he employs three men as special year-round workers who do all the special procedures that Piedmont distributes among six favored cutters for extra income.

Ironically, in his attempts to be fair, Mr. Ferguson increases the potential for conflict on his gang. By distributing the quantity of work among as many workers as possible, all are discontented with their pay. By authorizing the reaping of bad cane—a more equitable policy from the worker's viewpoint—Ferguson intensifies worker dissatisfaction; differences in opinion between cutters and headmen in estimating the proportion of bad cane in a cutter's work, errors made in the field both in recording and reporting bad cane, and mistakes made in the accounting department or in the computer are regular sources of complaints from workers, voiced at the Friday paybill. Thus, despite the overwhelming popularity of Busher Ferguson, the Dover gang is the most irascible and difficult to manage.

In contrast to Ipswich men, Dover workers were observed not only to address Mr. Ferguson with ganja in hand but jokingly to ask if he wanted a draw or if he would bring them some weed to smoke. When asked about Mr. Ferguson's position on ganja, one of the men commented typically, "him just jocular... busher sit down next to we... him seh, 'well boys we ain't got any rum but we got a little tot'... busher tek two selfif from him shirt pocket and give to we." Ferguson asserts, however, that he is not convinced that it really steps up productivity. He attributes the extensive use of ganja among his workers to an overrated faith in the efficacy in the drug, "Since they believe it will make them work, it does." As with Ipswich, the highest ranges in tonnage are consistently occupied by smokers, but because there is apparently less discrimination against smokers in the day-to-day operations on Dover, the relationship between tonnage and earnings is fairly uniform across the two categories of workers. The somewhat higher average weekly wages and bonus payments for nonsmokers, despite their lower tonnage, reflect the earnings of one cutter who worked in the factory at night; thus, his wages were much greater than the other men on the gang. If the average weekly wages and bonus payment of this cutter were eliminated from the calculations, the mean for nonsmokers would drop to $12.50 for average weekly wages and $26.10 for bonus payment, therein consistent with the other figures for Dover.

Despite his casual, accepting, even encouraging approach to the use of ganja among workers, five of the six men whom Ferguson promoted to assist the loader operator as "scrapers" were nonsmokers. According to this busher, these men were promoted to this highly desired employment opportunity because, in his opinion, they were the most "reliable," "conscientious," and "polite" workers on the gang and would not "embarrass" him in their new jobs.

**Wilmington and Mr. Darrity**

The manager of Wilmington, Mr. Darrity, uses a strategy that is different from the other two bushers. Currently employing 66 men to cut approximately 800 acres, Mr. Darrity's ratio of men to land (1 to 12) is only slightly better than that on Dover. In contrast to Ferguson, however, who is temporaril
most evident in the differences in bonus payments, since these reflect earnings over an entire season: the bonuses paid to Ipswich workers ranged from $25.00 to $75.00 while the range was only $15.00 to $58.00 on Wilmington and $13.00 to $45.00 on Dover.

Managerial policies link productivity to labor relations and influence the extent to which workers express dissatisfaction. Both Piedmont and Furguson are agreed that an earning gang is a manageable gang. Their operational strategies to meet this objective, however, differ. Piedmont puts the onus of responsibility on the worker to cut more cane, while Furguson shifts responsibility to the estate to pay more money. Thus, while their total earnings are less, Dover men are actually compensated at a higher rate than Ipswich men for work accomplished. This disparity in rates is revealed if we assume, for a moment, that the figure for mean wages represents only tonnage and then divide that figure by the average weekly tonnage (one sixth of the mean cane production, both periods). By this formula the average rate of remuneration for cutters on Ipswich is 73 cents per ton compared with 75 cents on Wilmington and 81 cents on Dover.

Despite the higher rate of pay on Dover, its large proportion of young workers, its absence of selection criteria, and its policies for additional reimbursement invite resentment, dissatisfaction, and routine labor skirmishes. Piedmont, on the other hand, minimizes labor disputes through a managerial logic—by keeping the size of his gang small, eliminating potential sources of conflict (such as compensation for bad cane), and turning liabilities into advantages as in the assignment of additional reaping tasks. In contrast to Piedmont and Furguson, Darrity reasons that an old gang is a manageable gang and thus maintains an oversized gang of older men who are less likely to object to small work assignments and limited premium cane.

This comparison of administrative strategies governing the reaping operations suggests the extent to which the managers themselves are responsible for the interfarm variations in worker performance that they commonly attribute to the use of ganja. Thus, while management will argue that the two gangs, Ipswich and Wilmington, that are lowest in prevalence of ganja use are highest in per man production, those are also the two farms on which optimal conditions exist for worker productivity and worker compliance. Furthermore, interfarm variation in the amount of conflict and belligerent behavior, which management claims results from the men being "black up with weed," also may be traced to administrative strategies that induce frustration in the workplace. Interestingly, the perceptions of management regarding the number of ganja smokers on each gang are based to a large extent on the visibility rather than the actuality of cannabis consumption on each farm. In fact, in describing each farm, estate administrators had grossly underestimated the prevalence of ganja use on Wilmington and Ipswich—mainly because smokers on these gangs are more circumspect—and were surprised to learn that fully one-third and one-half of the men, respectively, were ganja smokers. Itself an artifact of managerial policy, the visibility of ganja use is important because it demonstrates the way in which the disposition of each farm manager toward ganja influences and then is influenced by the apparent configuration of ganja and work.

Although they varied in their stated tolerance of ganja at the work site, in actual behavior all three bushers demonstrated their disapproval through worker selection and promotion. Mr. Piedmont's selection of the most "well mannered" (e.g., nonsmoking) men for the best jobs, and even Mr. Darrity's attempts to exclude younger, ganja-smoking men from his highly desirable gang, are just a few examples of the ways in which managers reinforce their own values through their actions. Thus, not only does administrative decision making circumscribe productivity for all workers, but each manager controls to some degree the number of ganja smokers on his farm, their visibility, and the extent to which they are permitted to produce and advance. If nonsmokers are consistently recruited and promoted over smokers on the basis of an alleged greater reliability or manageability for the most lucrative jobs or for any job at all, it would be surprising not to find this tendency reflected in higher rates of production and better jobs among nonsmokers. Indeed, any attempt to evaluate the absence of significant differences between smokers and nonsmokers in worker performance on Deerfield Estate must take into account the very systematic attempts by management to classify and segregate workers and limit the opportunities available to smokers.

In order to understand the relationship between ganja smoking and the performance of work, it first is necessary to understand its role in the wider society. In Jamaica the smoking of ganja is one of the institutions that distinguish the various social segments; it is praised and vindicated within the working class but subject to social censure and jural-legal penalties from the controlling section. In this context both perspectives not only are adamantly defended but easily rationalized, even in the presence of apparent empirical contradictions. For example, explanations offered by smokers for a poor performance by a ganja-smoking worker include theories that such individuals are nutritionally deficient ("weed is a t'ing dat require plenty good food"), that they smoke in the hot sun or on an empty stomach, or that there is some inherent problem with the user himself, perhaps his brains are "too weak," or he is too young—inhibiting the "conscious" (conscientious) use of ganja. On the other hand, when members of the managerial middle class are confronted with the high-producing, hard-working ganja smoker, they claim that such an individual would be an even stronger worker if he did not smoke ganja and that both his strength and his interest in working will diminish more quickly, thus shortening his most productive years. Consequently, despite the host of opportunities for a more realistic evaluation of ganja use by both smoking and nonsmoking elements of Jamaican society, ganja continues to be a polarizing issue. For the most part, the controversy surrounding its use is not based on any objective assessment of ganja-related behavior (nor would it be significantly altered by such an assessment), for it is the expression of a stratified society in which ideological opposition serves to distinguish the sections and identify one's position therein.

On the other hand, class-linked values are continuously altered, shifted, manipulated, and differentially applied to meet the demands of particular situations or further individual interests. Thus in spite of their expressed negative views on the effects of marihuana on worker performance and manageability, those in estate administration not only acknowledge the worker's perspective but selectively act upon it. Most
bushers permit the use of ganja by workers and, according to numerous reports, some use ganja to entice and encourage workers. Early in the crop, men are usually anxious to work, having accumulated debts from the dull season. During this early period bushers generally have little difficulty attracting the necessary labor force for reaping. Later in the season, however, when debts are paid, the weather is hot, and the 20 weeks necessary to qualify for a bonus have been completed, workers become scarce. During this time of labor shortage, bushers are alleged to drive through the villages in the evening, seeking out workers and buying them a rum in the shop or distributing ganja to some of the more influential laborers as an inducement to come to work and to inspire their co-workers. Likewise, if production appears to be lagging, as it often does during the middle of the week, bushers have been said to procure ganja for their men in order to stimulate them to work faster and harder. In this respect, ganja has replaced some of the former methods of entertaining workers, such as food and rum. So while expressed values may be easily correlated with socioeconomic levels, the configuration of actual behavior associated with ganja exposes a highly complex interplay between sections or classes. These examples demonstrate, ironically, that while the upper elements vociferously register their objections and disapproval of ganja, they indirectly support its use by employing it as a reward for services rendered by members of the ganja-using population.

This study does not answer the obvious questions surrounding the direct effects of ganja smoking on productivity. Such questions can only be addressed by a controlled comparison of productivity in relation to the amount of ganja consumed, using a carefully selected sample. This study does, however, demonstrate the difficulties involved in evaluating the association of cannabis with work performance in a society in which opposing views symbolizing different social factions are keenly held and, to a large extent, self-fulfilled. Whatever the real or perceived effects of ganja on productivity, the folk beliefs regarding ganja and work in Jamaica are institutionalized—acknowledged and manipulated by both workers and management—and produce apparent correlations that further confound inquiry into the relationship between cannabis and work. Indeed, the fact that these ideologies cannot be empirically substantiated does not mean that such beliefs are inconsequential in the study of substance use. Their value lies much less in their accuracy for directly predicting substance-related effects than in their indirect consequences of guiding the behavior of those who hold those beliefs.

NOTES

1 The names of all places and persons used in this paper are fictitious.
2 Since payroll tabulations were made available to the researcher only after the reaping season had been completed and the information was no longer of any use to the estate, some of the payroll information had been lost or destroyed. Therefore, a worker was included in the study only if data could be obtained for at least three of the five designated earning-production variables. Using this criterion, the sample presented here comprises at least 80% of the men on each of the three gangs though the n's are different for each variable, reflecting the missing data.

Independent t-tests were performed on each variable to compute the levels of significance for differences between smokers and nonsmokers.

Because managers and headmen frequently report that younger men are faster workers and have a greater capacity for productivity than older men, the mean ages for smokers and nonsmokers were computed for all farms and for individual farms. Independent t-tests revealed that while there was a significant difference (p < .01) in the mean ages of smokers compared with nonsmokers for all farms, the difference in mean ages between smokers and nonsmokers on individual farms was found to be not significant.

According to workers and union organizers, bonus payments are awarded to those farm managers who reduce costs or maintain them at a low level.

This attitude was clearly illustrated when, after receiving approval to conduct fieldwork on the estate, upper management scheduled Wilmington and Ipswich as the first farms to be surveyed because the gangs were "better mannered" and "more cooperative."

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