Human Organization, Vol. 68, No. 2, 2009

0018-7259/09/020115-14$1.90/1

Variation in Drug and Alcohol Use among Agricultural Laborers: Watermelon Men in the Rural South

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Agricultural workers in general face the impact of daily structural and symbolic violence, which can lead to excessive use of drugs and alcohol. "Watermelon Men" who dedicate themselves to watermelon harvesting have high use levels owing to the way that accommodations and work are organized over a labor-intensive short season. This article combines data from a risk assessment of 681 individuals in a winter home-base community and multi-site ethnography that generated interviews with 140 individuals to discuss factors that lead to excessive drug and alcohol use during peak season in high-wage crops such as watermelon.

Key words: agricultural labor, home-base communities, work ethos, drug and alcohol use, southern United States

Three decades ago, migrant advocate Robert Coles testified before a Congressional committee that "the most susceptible candidates for substance use in American society" were farm workers (cited in Johnston 1985:215). While he took a position that was rare at that point in time, since few spoke on this issue, Coles lacked data to consider the variability in drug and alcohol use. Although he understood working conditions in agriculture, he lacked a conceptual framework in which to articulate how structural violence (injustices embedded within low-wage labor) and symbolic violence (everyday humiliation; overall neglect due to lack of worker benefits) (Scheper-Hughes and Bourgois 2004) can lead to drug and alcohol use. Given the conditions of uncertain and irregular employment in agriculture, poor job security, and demands for physicality, the way that farm labor is structured creates a show of administrative power (Greenhouse 2005), such as the ostentatious display of vehicle ownership, by those who manage the work force. Managerial control is generated through rewards that include pay bonuses and extra-site travel, and punishments such as assigning less productive rows of a field or an orchard, which serves to discourage stronger, more capable workers (Long and Villarreal 1999), to outright firing to penalize a difficult or recalcitrant worker and, at the same time, to deter the rest of a farm crew from the accentuated problem.

Irregularity and ambiguity, excessive physicality and poor job security, and neglecting to alter these conditions, create structural and symbolic violence that act to "assault basic human freedoms and individual or collective survival" (Scheper-Hughes and Bourgois 2004:22). These forms of everyday violence may lead to personal health risks in the form of drugs and alcohol. In this sense, assault on agricultural worker bodies by structural/symbolic violence is transformed into prolonged bodily trauma through drug and alcohol use. The result is a misplaced strategy that is generated by workers to tamper with the most essential, necessary element of farm labor, namely, the *worker body*, by placing oneself at risk to both immediate as well as long-term damage. Thus, the worker engages in subterfuge, much like one may *mess-up* machinery that produces material goods (Gruys and Sackett 2003), or perform more subtle, common jobsite obstructions such as slow pacing or absenteeism (Halpern 1997) that

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results in lower productivity (Burawoy 1979). Despite an immediate benefit attributed to drugs by workers who use, this false resilience to harsh, demanding conditions creates a potential for on-the-job injury to bodies that are externally pushed to excessive exertion by management and internally coerced into excesses by embedded forms of cultured physicality (Walter, Bourgois, and Loinaz 2004).

Heavy drinking among migratory and seasonal farm laborers has been noted in various studies where neither drug use nor alcohol consumption were a primary focus (e.g., Friedland and Nelkin 1971; Griffith and Kissam 1995; Hintz 1981; Johnston 1985), as well as explored by published studies that focused on drinking in settings where agricultural workers were employed and/or resided (Alaniz 1994; Chi and McClain 1992; Grzywacz, Quandt, Isom, and Arcury 2007; Trotter 1985; Watson et al. 1985). These latter studies did not reveal the extent to which illicit drug use was present among the study populations (for exception, see unpublished dissertation by Morales 1985). In the 1990s, research began to appear on illicit drug use by agricultural workers as part of a growing recognition that greater than moderate use of drugs and alcohol took place in rural communities (Donnermeyer and Scheer 2001; Edwards 1997; Leukefeld 1999). Following this trend in disclosure, Rothenberg (1998) included a few narratives on farm workers who describe use of crack-cocaine during the agricultural season (each fled his respective camp), and Vander Staay (1992) interviewed a man recruited from a city in the Middle South to work on a labor camp in the Lower South where crack was distributed. All three cases by these two authors were included among many other worker narratives collected within the southern United States. Recently, multi-state field research by Bletzer (2004a, 2004b) extended these disclosures to show that crack use on the East Coast has become embedded in populations of farm workers of various backgrounds across a range of settings.

That drug use exists in agricultural communities and in settings where farm workers reside is not the issue in this article. Rather, the question is how does the structuring of farm labor (Grzywacz et al. 2007) affect which workers experience greater levels of use, and what facets of structural and symbolic violence lead workers to engage in high levels of drug and alcohol use that serve as an "idiom of distress" (Quintero and Nichter 1996) that acknowledges but does not correct the harshness of work conditions within agricultural labor.

Background

Touted as those whose hands first handle food we select from supermarket shelves (Rothenberg 1998), farm workers are employed by one of the three most hazardous industries in the United States. All three (agriculture, construction, and mining) are labor-intensive. Workers in each face physically harsh conditions. Those in farm labor comprise *seasonal workers* who reside within a 75-mile radius of the jobsite, and *migrant workers* who travel to distant areas where they spend more than 24 hours from a *home base*, and persons who perform both.

Agricultural workers are generally hired by labor contractors, who in turn are contracted by a grower, or they may be directly hired by the grower. Men and women enter and exit agricultural employment at one or more points in a lifetime. Some may have worked as children in families where parents and extended kin performed or are performing farm labor; some may seek summer employment in agriculture; and some may seek regular farm labor employment as adults. Good workers may be invited to return to work for a contractor or grower from season to season (Du Bry 2007; Griffith and Kissam 1995; Wells 1996). The ambiguity created by irregular and uncertain work precludes that farm labor will become a means of consistent remuneration or a secure form of livelihood (Friedland and Nelkin 1971; Hintz 1981; Smith-Nonini 1999; Tolnay 1999).

Many workers supplement agricultural earnings by short-term non-farm jobs in rural towns or nearby cities (Griffith and Kissam 1995; Wells 1996) and laborers outside agriculture supplement income by performing occasional farm labor (Friedland 1984, 1981; Griffith and Kissam 1995). Taken as a whole, these fluctuations in farm labor create a mix of workers from various life experiences.

Although workers prefer certain crops with higher pay where experience gives them an advantage against less experienced workers, many work a range of crops across several states. Others dedicate themselves to a single crop. It is one of these groups of "specialists" on which we focus in this article. *Watermelon Men* refers to workers whose dedication to watermelon harvest is associated with a willingness to quit other jobs, as well as to leave family when the watermelon season begins. Despite this intensity, dedication and even personal compulsion to participate in the watermelon harvest, revelry and bodily abandon associated with these Watermelon Men raises issues of concern for their health and safety.

Methods

Data for this article were extracted and blended from two studies. Drug use frequency and home-base work activity were derived from data collected in a four-year epidemiological investigation (hereafter *Risk Study*: the second author was Principal Investigator), and data on drug use onset were derived from a two-year ethnographic study (hereafter *Initiation Study*: the first author was Principal Investigator). Field observations were concurrent with formal data collection and ongoing integrated ethnography was conducted across both studies.

Participants

Participants in each study were current users of one/more illicit drugs and/or alcohol (poly-use reported in both studies; recent use for several men in treatment or recovery recruited for the Initiation Study) and were performing or had performed farm labor in the recent past. Samples in each study included similar proportions of African Americans, Hispanic/Latino, White, and Native American respondents;

Table 1. Sample Parameters Migrant Worker Risk Study and Migrant Worker Drug/Alcohol Initiation Study

	Total	Transnational		U.S.-Born	
	No.	No.	%	No.	%
Risk Study	681	210	30.7	471	69.2
Mean Age 36.1					
African American	341	15	4.4	326	95.6
Mean Age 38.6					
Hispanic/Latino	237	188	79.3	49	20.7
Mean Age 32.9					
White	88	1	1.1	87	98.9
Mean Age 35.7					
Native American	15	6	40.0	9	60.0
Mean Age 33.3					
Initiation Study	140	49	35.0	91	65.0
Mean Age 38.6					
African American	66	5	7.6	61	92.4
Mean Age 39.9					
Hispanic/Latino	47	41	87.2	6	12.8
Mean Age 38.3					
White	23	0	0	23	100.0
Mean Age 34.4					
Native American	4	3	75.0	1	25.0
Mean Age 42.6					

transnational and U.S.-born workers; and similar mean ages by ethnicity at time of interview (Table 1). Four-fifths were between the ages of 21 to 45 in the Risk Study (80.8%) and in the Initiation Study (78.6%). Farm labor experience in both studies ranged from one season to several decades. The most common work activity was field labor, that is, peak season harvesting, land preparation (e.g., laying ground plastic to protect seedlings), and cleaning fields and orchards (e.g., picking weeds, tree pruning).

For the Risk Study, 681 participants were interviewed one to five times in a county of the Lower South (565 men, 116 women; 1,279 interviews completed; 301 men/women interviewed in four field stations are excluded here). These 681 persons reported lifetime onset of 2,303 drugs and/or alcohol (mean: 3.40 for U.S.-born, 3.36 for transnational workers).

For the Initiation Study, a total of 140 participants were interviewed one to four times across six sites in three states (122 men, 18 women; 171 interviews completed). These 140 persons reported a lifetime experience with 528 drugs and/or alcohol (mean: 4.18 for U.S.-born, 3.07 for transnational).

Procedures

Participants in the Risk Study were recruited from the local area by three means: (a) some were accompanied by participants already recruited; (b) some were screened in the field and recruited by outreach workers, who were trained and supervised by the first author; and (c) some self-presented at an un-marked research site (office-trailer renovated with clinical facilities). Potential participants were formally screened by an intake worker and interviewed in the research site that was chosen to maximize anonymity of interviewees. Interview data were entered into SPSS-compatible software in the field by local staff trained by the first author.

Most men and women interviewed in the Initiation Study were recruited by the first author. Participants occasionally recommended persons whom they knew would qualify as active/once active farm workers, who once engaged/were engaging in drug use. Some persons self-recruited for the study. Most interviews were 80-90 minutes but a few ran close to three or four hours. Longer interviews typically were with workers that had more experience in agriculture. Questions varied from primarily open-ended to a few semi-structured on a thread of inquiry such as drug/alcohol use onset and seasonal variations in employment.

Data Collection

All interviews were conducted in the field. Local women and men were hired as interviewers for the Risk Study; they were co-trained by the research team led by the second author and supervised in the field by the first author. All Risk Study interviews analyzed in this article were completed in the home-base community in the project office-trailer. The first author conducted all interviews for the Initiation Study across various settings, such as a local park, in an automobile, treatment program communal room, or interviewee residence.

The median number of months between entry-baseline and follow-up interviews of the Risk Study was six months. The interval between the first and second interviews was less than three months for 13.8 percent and greater than eighteen months for 7.2 percent of the participants. The use of crack-cocaine, powder cocaine, or heroin within the previous 30 days and recent (usually the disabled workers) or current agricultural labor were enrollment criteria of the Risk Study, whereas the criteria for the Initiation Study were current/recent agricultural labor and any form of drug or alcohol use, including, for a few, consumption of only alcohol (legal). Follow-up interviews for the Initiation Study were completed whenever possible over the two-year study.

During ongoing fieldwork across both studies, findings began to "emerge" (Johnson 1990) on variation in rates of pay and respective influence on lifestyles. Informed by these emergent findings, the first author reviewed the activities that Risk Study respondents earlier reported, comparing them to descriptions that he was eliciting in the Initiation Study (e.g., preferred crops, seasonal participation) and field observations that were accruing through the ongoing ethnography.

Analysis

Statistical analysis for this article compared frequency data, using SPSS versions 10 and 12. Number of Days (over 30 days) and Times (occasions in 30 days) were aggregated

from entry-baseline/follow-up interviews. Some persons reappeared in distinct agricultural activity categories from one interview to the next. Agricultural labor other than farm or orchard work includes packing, truck or tractor driving, and disability or temporary farm labor unemployment. Analysis of Variance (ANOVA) and Independent Sample t-tests were used to examine the drug-alcohol survey data.

Narrative data for the Initiation Study were coded for salience in reference to activities such as work and drug/alcohol use. Quotations were further clustered by themes (e.g., daily wages, most ever earned) and drug use onset (e.g., context of initiation), and themes and activities were examined for similar and dissimilar elements, and for the frequency of appearance of key themes. ATLAS.ti 4.3 was used for management and analysis of both the narrative and observational data.

Cultures of Work

"Get it off the truck as fast as you can."
"The more trucks, the more money you earn."
"The next day to do it all o'er again."

The culture of seasonal farm work and of migratory labor emphasizes physical prowess (Griffith and Kissam 1995; Thomas 1995; Wells 1996). As such, farm labor is one of several forms of employment with emphasis on an ethos of self-celebratory masculinity (Gregory 2006), where the core feature is strong, physically resilient bodies (Brandth and Haugen 2005; Walter, Bourgois and Loinaz 2004). Watermelon work is distinguished from that of other perishable crops by large containers (i.e., trailers and/or trucks) to deposit what is harvested which adds to the mystique of physical capacity; separate housing that is secured off the worksite (generally motels rather than labor camps), which provides the opportunities for diverse recreation near or in rural towns; and wages paid at the end of the day which in turn provide expendable income for daily purchases.

Watermelon workers in both studies calculated the number of trailers and trucks they were required to fill rather than number of boxes, buckets, or bushels they removed from a field. By language, these worker specialists were drawing on an ethos of labor where physical ability enhanced personal prestige by improving the capacity for higher earnings than workers in other crops. Land preparation and planting for many crops require teams that perform individual activities dependent on cumulative effort generally supplemented by mechanization (Friedland 1981; Heppel and Amendola 1992; Thomas 1985). Watermelon, in contrast, is one of the few crops that rely on active synchronization of harvest tasks among work teams to load the crop onto trucks and trailers to transport it from field to market, and in turn reverse that process at agricultural markets, where the crop is unloaded from trucks onto conveyer belts and into stalls. The same skills (i.e., ground-to-waist lifting; short-distance tossing; rapid-paced stacking) occur in both settings. In his study of truck farming and perishable field/orchard crops in southern California, Travis Du Bry (2007:108) writes, "Working in watermelons is one of the hardest in agriculture…requiring strength and stamina…experience and knowledge to judge which melons are ready for harvest."

Similar to other communities of practice where daily activities form the potential to generate a sense of communal coherence (Wenger 1998; Lave and Wenger 1991) and basis to negotiate meaning by various forms of participation, farm workers create their own preferred practices and speech communities, with a set of rules that distinguishes what they do from what is done in other forms of labor outside agriculture. Crop specialization further inculcates workers into a distinctive ethos of work, particularly for crops where activities are difficult but financially rewarding or require a synchronization that is a requisite to performing the required field tasks. Language expressions build on the cultural forms (Benson 2008) that are embedded within the social relations of crop production (Benson 2007). Narrative material from farm workers with experience in watermelon, for example, were intensive vignettes of loading semi-trailers and trucks where the passers and packers worked in teams of two to three persons in rural markets and packing sheds (unlike crops where work is individualized), and cutters, loaders, and passers worked in teams of three to five in watermelon fields that generally surrounded these rural markets.

Task intensity in watermelon work is celebrated. The person in the middle works the *heat row*, since he sends (delivers) and receives (catches) and generally works harder than the man on the *outside* who delivers to the broad heat row or the man that works the *bumper row* who tosses to the man who packs or "bumps" the melons on the truck. Men in the heat row occasionally might ask for relief, so the men rotate positions, to enable the whole crew to continue working without stopping the truck moving through the field. The truck moves *steady* [constant] to ensure the quickest means to complete the field, so workers rotate the positions to maintain vehicle movement. They can estimate time to complete a field against the potential amount of harvest. When a field renders little, they joke with each other: "Man lou' hai' [lookie here], I'll sure be glad when we git to this other field, cause this other one got more." "I hear you," is the reply. Sometimes, when the day is hot and melons are heavy, men may pass out: "Bodies go into shock," is how Jason, an experienced worker, described it. Watermelon fields are harvested in two to four passes. The third and fourth passes are reserved for a *pinhook labor contractor* who leases a field from the grower. In effect, a "pinhooker contractor" pays for the right to sell remnant crop that he and his crew take from a leased field that has already been harvested by crews organized by labor contractors formally hired by the grower.

Given the strenuous demands of working in teams, men recognize the importance of having partners who will contribute to work that is enjoyable and ergonomically appropriate,

that is, individuals who know how to work at their maximum effort at the same time they can minimize extraneous movement that might lead to injury (Grzywacz et al. 2007). As Jason advised, "Depends on how a person delivers a watermelon, whether you can work all day and have no problem, and return the next day to do it all o'er again." Wrists and backs were sites that workers most noted as stressed with lifting/placing and tossing/catching, corroborating formal investigations that outline "sprains and strains" (28%) and "hands and fingers" (32%) as types of injury and body sites most often listed in worker compensation claims in agriculture (Pacific Northwest Health and Safety Center 2006). With several years experience, Jason could calculate the work load and what a field might be worth: "Average watermelon is forty or fifty pounds a piece, and you steady [constant activity]. You got a thousand you got to do in a day. That might mean a truck load per hour."

One of several contacts over extended fieldwork was Pointer, another experienced worker who gave a lengthy narrative of his experience in working "melons" (shortened form of *watermelon*) in fields and packing sheds across the eastern United States. His commentary emphasized collaboration among workers and strategies of negotiation between workers and management:

> Melons range in different sizes. Okay, now you putting yours off and I put mine off from two trucks on this side. (inhale) It might be another man on the opposite side of the belt that got his trucks in too. Other words, you got two different crews. That's on big belts. Adding the melons to that belt, they each are working different trailers from different farmers…. All belts and all trailers are full. All you do is unload whatever they have on the trucks. You unload it from trucks to the belt. (inhale) As fast as you do this, the faster you can get to catch the next truck that come in.

Women in contrast worked in packing sheds, assigned to the less demanding tasks of putting boxes together or packing watermelon in cartons. Melinda was another contact during fieldwork; compared to her experience in field crops like peanuts and oranges, she considered packing boxes and box-making "easy" at the shed. "You're in the shade most all the day," she explained.

Workers were adept at calculating amount of time it might take to unload a truck, against the pay rate that was offered on a specific day. Pointer was raised in a migrant family that had moved from the Upper to the Lower South (northern state within the South to a more southern state). Before working as a Watermelon Man in several states, he had performed work in perishable ground crops and in citrus groves. Describing labor arrangements for wages in a farmer's market, he explained how a worker would shrewdly calculate how to make the most effective use of working time in the market.

> Maybe you got a big truck that pull up in there, trying to get watermelons from field to market, before rains come (inhale). It has a couple of wagons hitched to it. Everybody [loaders] is trying to catch trucks coming 'n get there before the next person can get to it, because the more trucks you sew up an' everything, the more money you earn…

Potential for increased earnings depends on worker skills and willingness to negotiate with the drivers and owners of the trucks. Pointer described it thusly,

> We come to an agreement. You say "I ain't gonna give you two cent for it. I got this ten-wheeler and two trailers hooked to it and if you want to do it, I'll give you a cent a melon." So, every melon that I pick up and unload off your truck, that's a penny. (inhale) If the truck were in the range of, say, fifteen hundred, sixteen or seventeen hundred, (inhale) then I'll unload that truck. I'm saying to myself, "I can make sixteen, seventeen, eighteen dollars for that truck." Right after that, I do a trailer. That'll put it in the range of twenty, twenty-five, thirty dollars for two jobs. (inhale) Come another one; I do that. Now I'm in the range of thirty-five to forty dollars. I unload three vehicles in an hour, maybe less than an hour. I'm in a good range for what I get. You get it off the truck as fast as you can, so you can get the next truck coming in.

At times, strategies utilized by the experienced watermelon passers and packers were aggressive. Dexter, whose work experience included computer technology after high school (having a father who worked for a large construction company initially dissuaded him from physical labor), became a Watermelon Man in his late 20s. It was first choice in the agricultural home-base community, given potentially good pay and few opportunities for work in technology in states where he had lived. He acknowledged the business angle in a watermelon assignment:

> If we have a confrontation over unloading, the driver might say, "I ain't gonna give you but half a cent a watermelon," I would say, "No, I don't want that, y-you can give it to them." He might go around to twenty or thirty men 'n find that nobody will unload it for that amount. Then he comes back. Now he will offer pretty good money, more than he offered the first time, before that.

Drug and Alcohol Use

"Guys on watermelon season don't have no money, jus' uh good time…"
"No one wants the headache of housing us."

Across both studies, the three common drugs of current and lifetime use among male and female agricultural workers were alcohol, marijuana, and crack-cocaine. Nearly everyone who reported experience with alcohol and/or crack was a current user. A small proportion of those with lifetime experience in marijuana were current users (Table 2), and even smaller percentages of those with lifetime experience in cocaine or heroin were current users (less than forty percent, less than five percent, respectively—not shown here). Sixty-five Initiation Study participants were current poly-users of

Table 2. Drug and Alcohol Use by Respondents, Ranked by Crack-Cocaine Use, Migrant Worker Risk Study, and Migrant Worker Drug/Alcohol Initiation Study

	CRACK-COCAINE				ALCOHOL				MARIJUANA				
	Lifetime		Current		Lifetime		Current		Lifetime		Current		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Risk Study													
Total >	597	87.8	567	83.4	591	86.9	565	83.1	630	92.6	496	72.9	681
African American	300	88.0	288	84.5	323	94.7	310	90.9	307	90.0	223	65.4	341
Hispanic/Latino	203	85.7	191	80.6	229	96.6	221	93.2	224	94.5	199	84.0	237
White	81	92.0	76	86.4	84	95.5	79	89.8	76	86.4	55	62.5	88
Native American	13	86.7	12	80.0	15	100.0	15	100.0	13	86.7	9	60.0	15
Initiation Study													
Total >	106	75.7	102	72.9	109	77.9	64	45.7	112	80.0	74	52.9	140
African American	61	92.4	39	59.1	61	92.4	38	57.6	58	87.9	39	59.1	66
Hispanic/Latino	23	48.9	15	31.9	47	100.0	23	48.9	32	68.1	20	42.6	47
White	22	95.6	19	82.6	23	100.0	19	82.6	19	82.6	14	60.9	23
Native American	0	0	0	0	4	100.0	1	25.0	2	50.0	1	25.0	4

one/more drugs (54.6%) and nearly three-fourths of the 65 crack users in the Risk Study were poly-users. Since "hard drug use" was an enrollment requisite for the Risk Study, crack users were expected in that investigation more than in the Initiation Study. Overall, use percentages from Risk and Initiation samples were similar to those for marijuana and alcohol use by summer-demand farm workers reported for a study conducted in the Upper South, but varied for crack, cocaine, and heroin from that study (Inciardi et al. 1999).

Equal to a worker's eagerness and calculation skills to make the most money in a short time was a concern for how one would spend their earnings when not at work. One man from a county adjacent to the study community in the Lower South, when encountered at a highway motel that housed a watermelon crew in the Upper South, replied to a question on separate housing for watermelon workers, off the watermelon farms, "No one wants the headache of housing us." "Tip," as the men called him when he was on the road, reinforced what the other respondents in their life stories mentioned: staying in a motel guarantees better accommodations. Worker responsibility for meals and Laundromat equipment took these worries from labor contractors. Several motels near watermelon farms in the Upper South had an informal rule that they would rent no more than 40 to 50 percent of their rooms to migrant crews.

Parallel to better accommodations and local resources was the increased availability of recreational pursuits that were generally limited on a farm. Dudley gained extensive watermelon experience for close to ten seasons throughout the Middle and Lower South that followed childhood experience in vegetable work with his family in the Northeast and Upper South. He talked about "good times" that came with watermelon work in the home base communities where he lived and when he migrated on the season: "Guys on the watermelon season don't get no money, jus' uh good time... Mo' money you make, more you spend." He told how workers would become abusive with drugs that were available seasonally:

> Contractors say, "You got 300 dollars to save, don't spend it on drugs." But going down the line, if you hooked on drugs, what they say don't mean squat. I'm an addict; deep down inside, I pay no attention to what he saying. So that's the way the contractor got you on a book. Some tell you, thinking they got a good face: (register shift) "We'll save some of your money now." (regular)) How they going to save some of your money? He knos each week what you done made. He was putting three or four rocks to you every day of the week.

Comments from Tip and Dudley illustrate effects of a work ethos that prescribes how one should meet the challenge of demanding field work by day through hard living by night that encourages practices of bodily abandon with drugs/alcohol.

Drinking was reported more frequently than either crack or marijuana use across the main work activities encountered in the winter home-base community. The number of days per 30-day period reported by men and women in the Risk Study suggests a pattern of use that extends beyond four weekends per month, as represented by a few that reported a negligible number of days per 30-day period, versus many that reported use levels that often extended to a full 30 days. Mean differences across work categories extend to no more than three to four days for crack and alcohol, and less than two days for marijuana. Overall, the watermelon workers reported the number of times they used (equivalent to twice per day) that were double the number of days that they reported per 30-day period.

African Americans predominate among watermelon workers; the levels of use they report for watermelon work

Table 3. Drug and Alcohol Use by Ethnicity and Work Activity, Ranked by Days Used Crack-Cocaine, Migrant Worker Risk Study

	CRACK Mean Number Past 30 Days			ALCOHOL Mean Number Past 30 Days			MARIJUANA Mean Number Past 30 Days		
	N=	Days	Times	N=	Days	Times	N=	Days	Times
AFRICAN AMERICAN	569	[w] 15.65	[x] 33.48	599	18.69	39.39	333	[y] 8.94	[z] 15.61
St. Dev.		10.785	53.568		11.403	67.612		9.142	35.947
Watermelon Work	52	[a] 22.21	[b] 58.25	51	[c] 23.29	[d] 62.88	26	7.85	14.88
St. Dev.		10.008	49.649		10.492	60.790		9.129	24.950
Commercial Sex Work	65	[a] 18.60	[b] 56.69	49	[c] 16.47	[d] 22.51	26	7.15	19.73
St. Dev.		10.944	105.106		12.097	25.782		8.038	58.487
Agricultural Labor (controlled)	368	[a] 14.47	[b] 27.37	400	[c] 18.93	[d] 41.59	219	8.97	15.24
St. Dev.		10.408	40.927		11.370	76.540		9.308	36.652
Non-Farm Labor (controlled)	84	[a] 14.44	[b] 25.95	99	[c] 17.23	[d] 31.46	62	9.84	15.84
St. Dev.		11.028	34.363		11.118	36.498		9.047	23.798
WHITE	118	[w] 15.34	[x] 39.28	123	20.53	46.13	78	[y] 10.41	[z] 14.28
St. Dev.		10.008	49.649		10.492	60.790		9.129	24.950
Watermelon Work	4	[a] 27.50	[b] 95.00	4	[c] 17.50	[d] 55.00	2	15.50	15.50
St. Dev.		5.000	55.678		14.640	84.198		20.506	20.506
Non-Farm Labor (controlled)	19	[a] 16.68	[b] 28.32	20	[c] 23.55	[d] 60.95	15	13.67	16.67
St. Dev.		11.762	31.626		9.741	89.597		11.248	14.296
Commercial Sex Work	118	[a] 15.34	[b] 39.28	123	[c] 20.53	[d] 46.13	78	10.41	14.28
St. Dev.		10.940	71.926		11.156	64.683		10.782	17.017
Agricultural Labor (controlled)	67	[a] 12.70	[b] 22.60	83	[c] 21.70	[d] 48.00	55	9.13	13.25
St. Dev.		10.015	27.247		10.413	61.404		10.398	18.057
HISPANIC/LATINO	292	[w] 13.62	[x] 22.30	339	19.33	39.47	292	[y] 14.35	[z] 24.25
St. Dev.		10.902	33.447		11.620	65.886		11.584	33.984
Watermelon Work	7	[a] 15.57	[b] 37.00	6	[c] 26.67	[d] 108.33	5	23.40	47.40
St. Dev.		10.358	29.983		5.164	94.110		12.157	34.261
Non-Farm Labor (controlled)	26	[a] 14.35	[b] 27.00	36	[c] 17.44	[d] 27.17	33	13.30	20.61
St. Dev.		10.837	31.666		12.984	29.182		11.978	28.055
Agricultural Labor (controlled)	255	[a] 13.54	[b] 21.60	293	[c] 19.52	[d] 39.95	252	14.40	24.43
St. Dev.		10.942	33.895		11.469	68.136		11.494	34.697
Commercial Sex Work	4	[a] 10.50	[b] 10.50	4	[c] 11.75	[d] 11.75	2	3.00	3.00
St. Dev.		13.077	13.077		12.971	12.971		1.414	1.414
TOTAL	997	14.91	30.52	1087	19.12	39.87	715	11.33	18.92
St. Dev.		10.870	51.118		11.427	65.998		10.686	33.543

ANOVA:
[a] Crack-cocaine – days, F (df 3) = 14.877, p > .0001
[b] Crack-Cocaine – times, F (df 3) = 21.381, p > .0001
[c] Alcohol – days, F (df 3) = 5.839, p > .001
[d] Alcohol – times, F (df 3) = 5.938, p > .001

[w] Crack-cocaine – days, F (df 3) = 3.730, p > .011
[x] Crack-Cocaine – times, F (df 3) = 5.114, p > .002
[y] Marijuana – days, F (df 3) = 14.324, p > .0001
[z] Marijuana – times, F (df 3) = 4.307, p > .005

Note: N= refers to number of interviews by activity category for each drug.

are higher than when they are working other crops during the off-season or performing jobs outside agriculture. Controlling for watermelon work and controlling for commercial sex work across activities helps to distinguish higher levels. These two activity categories show crack and alcohol use at levels consistently higher in both mean number of days and mean number of times per day. This gives a representative picture of the intensity found across the variations in drug and alcohol use in the agricultural community generated by administrative organization of farm work. Generally speaking, workers of distinct ethnicities used at higher levels during watermelon season than during off-season (Table 3).

Crop data further indicate that work activity was a stronger influence on alcohol and crack use than ethnicity,

Table 4. Drug and Alcohol Use by Perishable Crop Work: Ranked by Days Used Crack-Cocaine, Migrant Worker Risk Study

	CRACK Mean Number Past 30 Days			ALCOHOL Mean Number Past 30 Days			MARIJUANA Mean Number Past 30 Days		
	N=	Days	Times	N=	Days	Times	N=	Days	Times
Watermelon	63	21.81	58.22	61	23.25	66.84	33	10.67	19.85
St. Dev.		10.030	49.018		10.395	66.082		11.401	28.036
White	4	27.50	95.00	4	17.50	55.00	2	15.50	15.50
African American	52	22.21	58.25	51	23.29	62.88	26	7.85	14.88
Hispanic/Latino	7	15.57	37.00	6	26.67	108.33	5	23.40	47.40
Citrus	67	15.99	34.48	76	20.66	45.66	53	6.57	11.02
St. Dev.		11.330	49.014		11.121	60.229		7.858	19.868
African American	52	16.48	39.96	55	21.44	44.82	34	4.59	8.26
Hispanic/Latino	14	15.14	16.43	18	17.83	38.61	16	11.13	17.75
White	0			2	30.00	150.00	2	4.50	7.00
Vegetables	340	14.17	22.25	366	19.92	40.17	252	12.62	20.10
St. Dev.		10.589	24.512		11.163	67.566		11.110	28.259
African American	152	15.07	24.29	164	20.51	43.59	85	9.32	13.78
Hispanic/Latino	137	13.80	21.12	163	19.09	38.96	143	15.19	25.09
White	22	13.09	19.77	26	21.23	33.85	18	9.78	14.83
Tomato	71	13.15	22.18	75	22.51	50.81	64	14.58	23.81
St. Dev.		10.615	34.602		10.552	92.294		10.684	29.877
African American	7	21.14	57.57	7	21.14	34.00	5	15.80	31.80
White	2	21.00	21.00	3	30.00	30.00	2	3.00	3.00
Hispanic/Latino	62	12.00	18.23	65	22.31	53.58	57	14.88	23.84

N= refers to number of interviews by specified crop.

Table 5. Drug and Alcohol Use: Watermelon Work and Perishable Crop Work Compared Ranked by Days and Times Used Crack-Cocaine, Migrant Worker Risk Study

	CRACK Mean Number Past 30 Days			ALCOHOL Mean Number Past 30 Days			MARIJUANA Mean Number Past 30 Days		
	N=	Days	Times	N=	Days	Times	N=	Days	Times
(A) Experienced Watermelon Workers	115	19.65	44.97	116	18.97	50.46	95	5.59	9.81
St. Dev.		11.15	45.59		12.33	60.94		9.47	20.87
(A) Other Perishable Crop Workers	968	13.02	26.08	1,077	17.25	34.80	936	8.09	13.45
St. Dev.		10.98	49.85		12.67	64.17		10.38	29.97
(B) Watermelon Season (matched)	43	22.16	53.42	42	18.86	52.40	37	5.54	6.81
St. Dev.		10.95	43.52		13.38	60.76		9.78	12.86
(B) Non-Season Activity (matched)	41	18.83	28.29	43	16.91	32.40	31	4.35	7.32
St. Dev.		11.02	28.50		12.38	42.28		7.77	17.27

N= number of interviews. (A) Forty-nine persons with watermelon work experience were interviewed 115 times (65 times over the harvest season, 30 times for other crops, 20 times non-agricultural activities), compared to 497 persons without watermelon harvest experience. (B) "Matched" data were extracted from these 49 persons over watermelon season and during watermelon off-season (matched), some one/more times for one or the other, or both; includes three men who worked a reduced fall season, and two men who started early for regular spring season. Watermelon season in the study community typically starts the first week of April and extends into June. Since data were collected for the past 30 days, interview dates were selected one month later than start and end of the watermelon season.

since workers of varied ethnicity reported higher use when working watermelon than working other crops the rest of the nine-month agricultural season. Perishable crops were generally similar in levels of use and no perishable crop had a level of use that was higher than that of those individuals when they were working in-season watermelon (Table 4). Workers in watermelon during the season reported higher levels of crack and alcohol use than when these same individuals were performing off-season work (Table 5).

Farm labor is available year-round, if a worker chooses to travel to work at sites that offer seasonal employment over staggered harvest times or to work local crops other than those in which they customarily work. Most agricultural jobs increase in hours worked during the warm summer months, when workers travel outside their home-base communities (Griffith and Kissam 1995; Heppel and Amendola 1992; Mehta et al. 2000). Calendar time reflects seasonal variation in work availability and corresponding patterns of use. For the Risk Study, levels of use for alcohol and crack rose steadily from the fall to winter to spring, when they peaked, by occasions workers used crack and alcohol per previous 30 days.

Thus, crack and alcohol use intensifies during watermelon season. This is a short season over fewer weeks than for most other crops. Watermelon season in the home base ends around the time that workers depart for seasonal work, when men and women in mostly southern regions (Griffith and Kissam 1995) leave the home-base communities to seek jobs in other counties and in other states over the summer months. Overall, then, those who work in watermelon were by far heavy users of crack-cocaine (Figure 1) and alcohol (Figure 2), the two drugs that were most commonly reported in both studies.

What is behind high levels of differentiated use? The narrative interviews provide complementary data that indicate that crop wages parallel levels of drug and alcohol use. The higher the reported daily wage by perishable crop, the higher was the level for drug use and/or alcohol consumption. Watermelon workers have a potential for higher daily wages than workers in other crops ($120 to $250 or more per day in the farming community and "on the season"), followed by citrus ($90 to $160 per day), vegetables like peppers ($40 to $50 per day) and tomatoes ($35 to $45 per day). Detailed

Figure 1. Seasonal Variation in Crack-Cocaine Use: Mean Number of Times Used Over Past 30 Days
Agricultural seasons were estimated by crops in the Lower South (citrus, tomatoes, vegetables, and watermelon) whose production is contoured by climatic variation: "return" > last days of August through September 21; Fall > September 21 through December 5; Winter > December 6 through February 20; Spring > February 21 through April 28; and "depart" > after April 28 to early June.

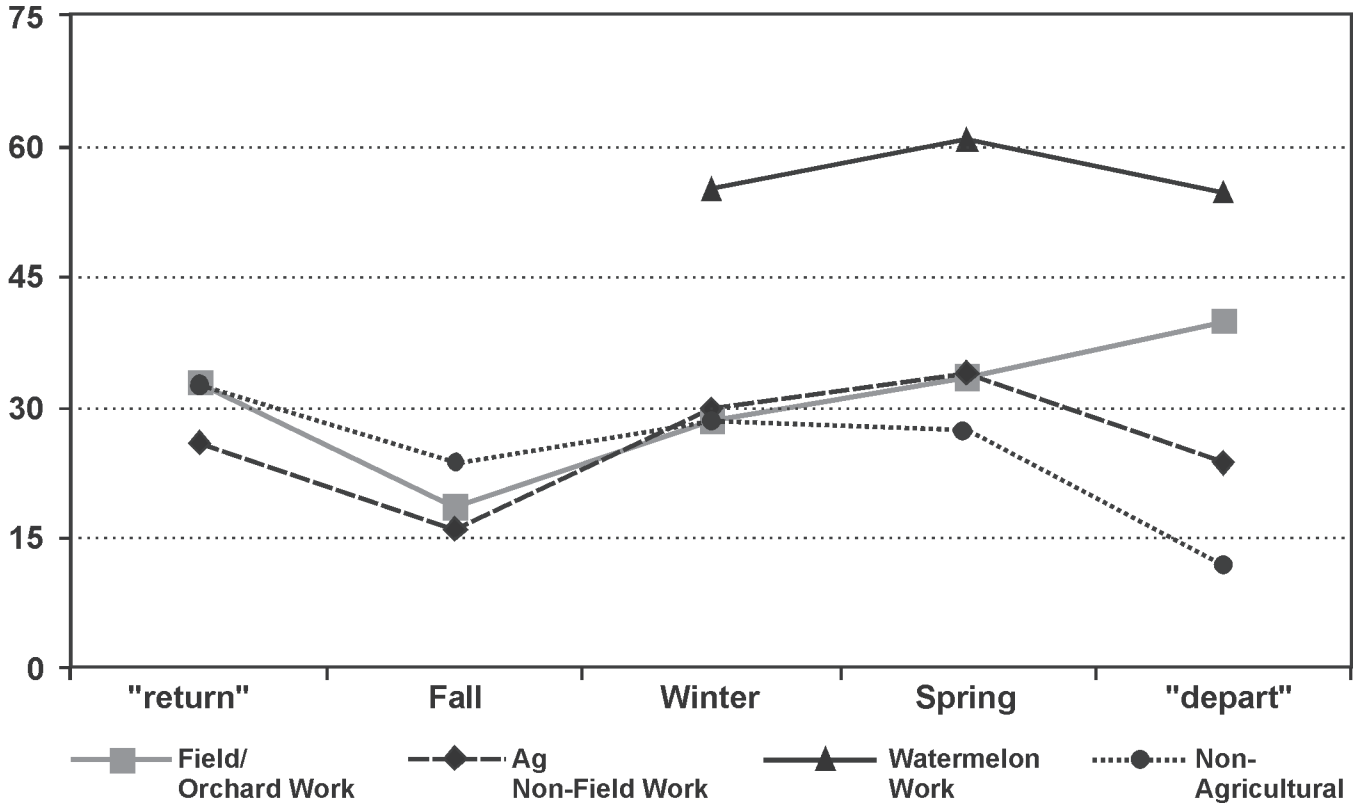
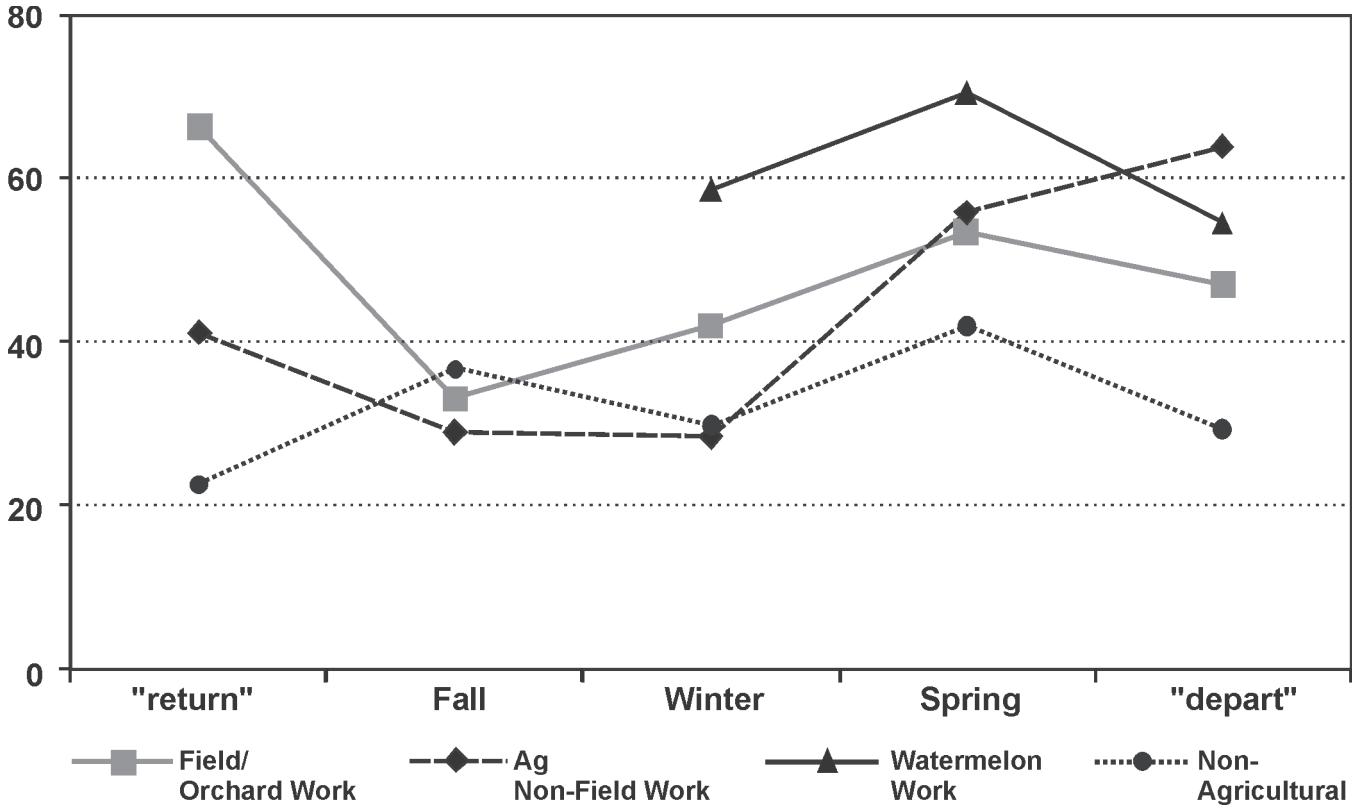


Figure 2. Seasonal Variation in Alcohol Consumption: Mean Number of Times Used Over Past 30 Days



wage data were more extensive in narratives of men and women with 15 or more years in agricultural labor. Workers specified the amounts they earned by day for watermelon that was higher than pro-rated wages reported by agricultural workers of other crops, where workers specified wages earned by week (not day).

Higher rates of pay by crop generate "expendable cash" that is converted into off-work pursuits of food snacks, cigarettes, alcohol and illicit drugs, after the daily necessities are paid (room and board, little else). Although readily available year-round, there is a greater expenditure on legitimate and illicit drugs during the watermelon season. This particular crop differs from other types of agricultural labor, such as the ground crops or tree crops and working in the packing sheds. Watermelon work is physically demanding; workers move the product directly onto transport vehicles rather than load it into portable containers (boxes and buckets for other crops such as vegetables). Housing is separate from the work site and workers stay in motels where room sharing further reduces cost. Finally, wages are paid each day that the crew works, which provides workers with daily spending money. These aspects of watermelon work lead to conditions where workers have access to local resources with factors that contribute to drug and alcohol use from daily revenues that far exceed their expenses (Quintero and Nichter 1996). In a related observation on expenditures daily encumbered by wage workers, Lyttleton (2000:152) makes a telling point when he observes that increases in local risk-taking in Thailand accompanied "economic growth offering greater amounts of money to use for the pursuit of entertainment." For agricultural workers in the southern United States, these risk-producing activities evolved over time, as new drugs were added to the mix of choices in recreational pursuits available in farming areas (Bletzer 2004a, 2004b). Ready access to licit and illicit drugs whether these were new (crack) or traditional (alcohol) become differentiated according to use levels configured by the specific situation of short-season, labor-intensive crops such as watermelon.

Discussion and Conclusion

"I'm a Watermelon Man" (song lyric)

Trained in anthropology at Columbia University in the Northeast, Zora Neale Hurston was a celebrated writer of the African American experience in the Southeast. One of her novels, *Their Eyes Were Watching God* (1937), is focused on farm workers. In a passage well known among

agricultural labor advocates, she depicts the tone of migrant life during the early years of a growing southern agricultural industry:

> Day by day now, the hordes of workers poured in. Some came limping in with shoes and sore feet from walking. It's hard to follow your shoe instead of your shoe following you. They came in wagons from way up in Georgia and they came in truck loads from east, west, north and south: permanent transients with no attachments and tired looking men with families and dogs in flivvers. All night, all day, hurrying in to pick beans… [They were] dancing, fighting, singing, crying, laughing, winning and losing love every hour. Work all day for money, fight all night for love. The rich black earth clung to bodies and bit the skin like ants. Finally [there were] no more sleeping places…. But nobody cared. They made good money, even the children. So they spent good money. Next month and next year were other times; no need to mix them up with the present (1937:125-126).

This was before citrus (oranges, grapefruit, and lemons), cucumbers, peppers, squash and tomatoes became the principal cash crops in the rural South, and before the upswing in production of watermelon. In the decades following the period depicted in the above passage, watermelon production increased in planted acreage and amounts of crop harvested. Growers began to align with some of the independent brokers and corporate buyers that worked in regional markets outside local farming areas. Enhanced by advancements in refrigeration technology after World War Two, and the rapid improvement of inter-state transportation with an expanded highway system and more durable long-distance vehicles, watermelon production became a leading commercial crop in selected areas by the 1950s from coast to coast across the southern United States and on the east coast from Upper to Lower South.

Celebrated since the 1960s in popular songs that originated in the South, Watermelon Men acquired a reputation for strong devotion to harvest time, when they would depart families and communities and migrate on the season. One song characterized the anticipation and longing of watermelon men to return to a short-lived harvest and its associated lifestyle with these lyrics: "Watermelon time is a-getting' due, I'm a Watermelon Man" (Ramsey 1971). From versions that were popularized by Count Basie (1965) and Ramon "Mongo" Santamaria (1963), all of whom embellished the music composed by Herbie Hancock (1962) and Oscar Brown, Jr. (1960), the ethos of hard work and popular narratives of hard-living that had already appeared in popular literature became epitomized in the musical glorification of the Watermelon Man.

Music is a means to highlight personal and cultural identity that confirms membership within an imagined community and it frequently serves to configure a preferred identity from one that is distasteful (Van Aken 2006). This was true of the lyrical celebration of Watermelon Men and resulting attention created through its successive versions in popular music. No other crop or worker category caught the creative attention of music writers and performing artists for what is often called the *Black Atlantic* (Eastern Seaboard inland to the Mississippi River).

In a conversation with staff at a local neighborhood clinic near one of the large watermelon markets in the Lower South, a Black nurse suggested that pride for Watermelon Men in the African-American community was recognition of the role of Black *men* in watermelon *production*, which was an antithesis to historic association of the Black *child* with watermelon *consumption*. Watermelons carry a symbolic valence as an ethnic food consumed by African Americans in the rural South. Dignifying Watermelon Men through music served as a corrective to this misplaced emphasis on the Black child and watermelon, where consumption was valued over production, and children were emphasized over adults.

By reputation, workers in watermelon "lived" for adventure that would remove them from conditions of low wages and physical labor characteristic of the itinerant underclass of southern agriculture (Tolnay 1999). The notoriety of these conditions led to exposés and descriptions in the scientific literature and in autobiographical works like that of Daisy Jerry Elliott Laws (1984) that describe how hardship is overcome by enjoyment in living, mixed with the art of surviving with the bare minimum. For the watermelon worker, immediacy of payment at the end of the day and accommodations not on the farm made possible activities that momentarily erased the limited opportunities for young Black men that have long been their experience (Young 2004). Everyday violence within agriculture was a daily reminder (Bourdieu 2004[2001]) that agricultural work was difficult, held little possibility of job security, and generated risk of bodily injury. The resulting revelry in which watermelon workers engaged was a "distress idiom" (Quintero and Nichter 1996) serving as a replacement scenario for conditions of farm labor.

Workers recognized the need to escape conditions of everyday violence, as well as to avoid misplaced strategies of drugs/alcohol. In narrative interviews, some reported how individual efforts and emotional control could work against the collective pull of other agricultural workers who were inclined to revelry and to celebratory comments on spending their earnings on alcohol and drugs, and on women.

> Sometimes you slip, sometimes you don't slip. But you got a chance to think; you have a strong mind 'n you got a weak mind, but a lot of people let the weak mind control the strong mind. Then you're looking at a dangerous life. You're taking a chance on yourself getting hurt, killed, or in trouble, or even going to jail, so which one, you got to decide, 'n try not to be screwed, and then you won't have that problem. Above all, have faith in the Lord.

Relatively intact communities that extend across the rural landscape (Fitchen 1991) may give an impression that drug use is a problem that primarily is found in metropolitan areas. The notion that rural areas are insulated sufficiently to avoid the problems of drug use is a wistful mirage (Hartley 2004). Given the structural changes that have occurred in the agricultural industry such as fewer small farms (Flaherty 1988)

and a partial replacement of long-term farm labor (Fritsch 1984), the necessary conditions exist for encroachment of social problems into rural areas. Among these incursions, one finds a combination of licit and illicit drug use, once assumed to be city-bred and urban-intensified.

Research data collected through these two field studies provide empirical evidence of variation that occurs within illicit drug use in agriculture. Many men and women in each respective study reported years of migratory travel and work outside the winter home-base agricultural community that comprised the main research site. We find it disturbing that combined data from the Risk Study and from the Initiation Study support narrative characterizations of watermelon work that have appeared in other genres such as popular music. Despite the romantic portrayal through music of physical prowess and hard living, we found through our research that the epic figure of the watermelon worker in real life is marked by illicit drug use that increases to binge behavior of multiple times per day for watermelon season. This arduous lifestyle of physically-strenuous short-season work incorporated crack with alcohol, complementing one with the other, once crack became available in urban society and, subsequently to farm workers across all crops during the latter half of the 1980s and into the 1990s.

Agricultural workers that engage in high levels of drug and alcohol use calls for program intervention, particularly for use by men and women who earn more in certain crops. The time spent in crops like watermelon is short-lived. As one worker told the first author the first year he was residing in the community, "It's fast but it don't last." This quick time with intensified demands is conducive to pursuits that generate long-term detriments to the health and safety of agricultural workers. Programs for intervention need to be developed to consider variation in risk by season and crop, as well as labor intensity. The content for these programs should consider utilizing aspects of corresponding cultures of work and recreation that mix and celebrate physical prowess with drug and alcohol use, which are intertwined with performance of agricultural field labor, for low pay, under harsh and demanding and monetarily unrewarding conditions.

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