

WHERE WORK IS HAZARDOUS TO YOUR HEALTH:

A Survey of Occupational Injuries and Field Sanitation  
Among North Carolina Farmworkers

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## TABLE OF CONTENTS

Acknowledgements .....	ii
List of Tables .....	iii
Executive Summary .....	iv
I. Introduction .....	1
A. On-the-job injuries in farmwork .....	2
B. Field sanitation .....	6
C. Purposes of this study .....	8
II. Study Methods .....	10
A. Methodology .....	10
B. Demographics of study subjects .....	12
III. Results of Occupational Injury Survey .....	14
A. Description of injuries .....	14
B. Medical care for injuries .....	17
C. Lost workdays and compensation .....	19
D. Work performance .....	20
E. North Carolina differences .....	20
IV. Results of Field Sanitation Survey .....	21
A. The field sanitation standard .....	21
B. Overall compliance .....	23
C. Toilet facilities .....	23
D. Handwashing facilities .....	24
E. Drinking water .....	25
V. Conclusions .....	26
A. Field sanitation .....	26
B. Occupational injuries .....	29
VI. Recommendations .....	34
Appendices .....	36
A. Spanish questionnaire	
B. English questionnaire	
C. OSHA field sanitation standard	

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## LIST OF TABLES

1. Categorization of Occupational Injuries .....	15
2. Parts of Body Injured .....	15
3. Injury and Type of Crop Harvested .....	16
4. Medical Care Received by Those Who Needed It .....	17
5. Completeness of Recovery .....	18
6. Medical Follow-up .....	18
7. Lost Workdays and Compensation .....	19
8. Compliance with Field Sanitation .....	22

## EXECUTIVE SUMMARY

Although farmwork has an extremely high rate of on-the-job injuries and is the most dangerous occupation in the country, no adequate system exists in North Carolina to ensure that farmworkers who have suffered occupational injuries receive the medical care that they need or any form of compensation that would allow them to take the necessary period of recuperation for a full recovery from their injuries.

Responses to this survey indicate that less than half of the workers who had been injured and felt that they needed to see a doctor were able to do so within the first 24 hours, and nearly one fourth never received any medical attention for their injury. Furthermore, the promptness of medical care appeared to be important. Seventy-five percent of those who saw a doctor within 24 hours reported a full recovery, while only 53% of others (those who saw one more than 24 hours after their injury and those who never received medical care for their injury) did.

There were also significant problems with medical follow-up. Forty-two percent of those who actually received medical care reported not being able to keep follow-up appointments, and more than one third returned to work before the release date given to them by their doctor. Thirty-nine percent of those who had been injured reported that they had still not fully recovered from their injuries.

Seventy-one percent of those who reported injuries missed at least one day of work because of the injury, but of those, only 21% reported receiving even partial compensation for work time lost. No worker interviewed who had been injured in North Carolina received any compensation for lost workdays.

Results of the field sanitation survey revealed that an appallingly low *four percent* of workers had basic sanitation facilities (toilet and hand washing facilities and drinking water) in compliance with the law. While 77% reported the presence of at least one toilet at the work site, only six percent reported the number of toilets required by law for the size of crew with which they were working. Thirty-five percent reported that they had no water for washing their hands, and more than half reported the absence of the required soap and paper towels. Drinking water appeared to be available to workers in the fields, but 31% reported that it was provided in an unsanitary manner, without individual disposable cups.

The current system of enforcement of field sanitation requirements is clearly inadequate. The vast majority of this state's farmworkers are still working in unsanitary conditions, exposed to and suffering unacceptable levels of communicable diseases, urinary and kidney infections, pesticide-related illnesses, and heat disorders. Farmworkers fought long and hard to have recognized their right to have the basic sanitation facilities guaranteed to other workers; it is time that right was enforced.

In North Carolina, hand labor crops are being grown and harvested at the expense of the health of our agricultural workforce. The agricultural industry is permitted to treat its workers as a disposable resource to an extent unrivaled by any other industry in the United States since the beginnings of protective labor legislation in the early part of this century. As the century draws to a close, farmworkers in North Carolina deserve, at the very least, to work under conditions that are not a direct threat to their health. Current conditions represent just such a threat.

## I. INTRODUCTION

An estimated 50,000 to 78,000 migrant farmworkers come to North Carolina each year to work in the state's major crops (tobacco, sweet potatoes, apples, cucumbers and other vegetables). These migrant workers are perhaps the most invisible group of working poor in the state. They perform arduous physical labor under difficult conditions, live in remote and primitive housing with little privacy and few modern facilities, and generally are isolated from the communities of their employers by race, language, and culture. As aliens and people of color, they have been disadvantaged and exploited for generations. Their historical ostracism from the dominant culture, together with the extensive resources of the agricultural industry, have led to the exclusion of farmworkers from many of the protections enjoyed by other workers; their continued isolation from political and economic sources of power perpetuates for them a substandard way of life.

Two such protections that are almost universally enjoyed by other workers while being denied to farmworkers in North Carolina are workers' compensation insurance and consistent and adequate sanitation facilities in the workplace. The North Carolina Workers' Compensation Act excludes all but the very largest agricultural employers.<sup>1</sup> And while field sanitation (i.e., drinking water, toilet facilities and handwashing facilities) has been required to some degree in North Carolina since

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<sup>1</sup> N.C.G.S. Chapter 97. The law excludes from mandatory coverage all agricultural employers with fewer than ten full-time, year-round employees. Given the seasonal nature of the farming industry, extremely few agricultural operations have ten or more year-round employees.

1984,<sup>2</sup> enforcement of these relatively recent requirements has been inconsistent, slow, and inadequate, with the result that many agricultural employers still feel little compulsion to comply with the terms of the law. Both workers' compensation and field sanitation have profound effects on the health and well-being of the agricultural workforce.

A. On-the-job injuries in farmwork

Despite the mythology of farm life that portrays life and work on the farm as being healthy and full of sunshine and fresh air, much evidence has been gathered that farmwork is in fact very dangerous work and results in substantial numbers of injuries and deaths each year. According to the National Safety Council, agriculture is the most dangerous occupation in the country, surpassing mining, quarrying and construction in the rate of accidental work deaths.<sup>3</sup> The current data for 1988 show that the national average for all industries is nine accidental work deaths per 100,000 workers per year. In 1988, 48 agricultural workers of every 100,000 died in work-related accidents. The death rate for agriculture is more than five times the national average for all industries. The corresponding death rates for construction and for mining and quarrying, the two closest categories, were 34 and 25 deaths per 100,000 workers, respectively.<sup>4</sup>

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<sup>2</sup> Current federal regulations are found at 29 C.F.R. 1928.110. The North Carolina regulations are at N.C.A.C. T13:07C.0100 et seq.

<sup>3</sup> National Safety Council, Accident Facts (1989), 32.

<sup>4</sup> Id.



Furthermore, while death rates for other hazardous industries have fallen dramatically in recent years, death rates for agriculture have remained fairly constant. The death rate for mining and quarrying has fallen from 83 deaths per 100,000 workers in 1973 to 25 per 100,000 in 1988.<sup>5</sup> Work-related deaths in construction have fallen from 56 per 100,000 in 1973 to 34 per 100,000 in 1988.<sup>6</sup> In that same time period, the rate of accidental work deaths in agriculture has fallen only slightly, from 58 deaths per 100,000 workers in 1973 to 48 deaths per 100,000 in 1988.<sup>7</sup> It should also be noted that the death rates for agriculture do not include deaths of workers under the age of 14.<sup>8</sup>

The data available on injury rates in agriculture are problematic, but clearly indicate a high rate of on-the-job injuries among agricultural workers. The Supplementary Data System of the Bureau of Labor Statistics (BLS) publishes data based on state workers' compensation records, but because only 14 states and Puerto Rico have complete workers' compensation coverage for farmworkers, these records

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<sup>5</sup> National Safety Council, Accident Facts (1983), 28; National Safety Council, Accident Facts (1989), 32.

<sup>6</sup> Id.

<sup>7</sup> Id.

<sup>8</sup> More than 300 children under the age of 16 die in farm related accidents each year in the United States. More than 23,500 are injured. Ingersoll, Bruce, "Perilous Profession: Farming Is Dangerous, But Fatalistic Farmers Oppose Safety Laws" [hereinafter "Perilous Profession"], Wall St. Journal, July 20, 1989, Vol. CCXIV No. 13, p. 1.

offer little help in determining rates of farmworker injuries.<sup>9</sup> The BLS also publishes its own yearly estimates of occupational injury and illness incidence rates, using a survey based on Occupational Safety and Health Administration (OSHA) records. Unfortunately, OSHA reporting requirements exclude all farms employing fewer than eleven (11) employees, and it is estimated that 85% of migrant and seasonal farmworkers work on farms that employ ten or fewer workers.<sup>10</sup> Despite the resulting drastic underreporting of accidents in agriculture, however, the BLS still ranks agriculture close behind construction and manufacturing in total cases of occupational injury or illness.<sup>11</sup> The statistics for North Carolina, collected by the North Carolina Department of Labor for the BLS, reflect the national ranking.<sup>12</sup>

The weaknesses of the available data suggest that agricultural workers actually suffer many more work-related accidents than are reported. The effect of excluding an

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<sup>9</sup> Wilk, Valerie, The Occupational Health of Migrant and Seasonal Farmworkers in the United States [hereinafter Occupational Health] (1986) at 85.

<sup>10</sup> Wilk, Occupational Health, supra n. 9, at 85, citing Migrant Legal Action Program, Inc. and Farmworker Justice Fund, Inc.: Post-Hearing Proposed Findings of Fact and Conclusions of Law. Brief filed with the U.S. Department of Labor Occupational Safety and Health Administration, Proposed Farmworker Sanitation Standard (Docket No. H-308).

<sup>11</sup> News release USDL-89-548, November 15, 1989, Bureau of Labor Statistics, Table 1. The occupational injury and illness incidence rates per 100 full-time workers in these industries in 1988 were: agriculture -- 10.9; manufacturing -- 13.1; construction -- 14.6.

<sup>12</sup> Occupational Injuries and Illnesses in North Carolina, North Carolina Department of Labor (1987). Incidence rates per 100 full-time workers were as follows: agriculture -- 8.3, construction -- 13.0, and manufacturing -- 9.9. It is notable that John C. Brooks, North Carolina Labor Commissioner, estimated in 1987 that 95% of North Carolina farms were exempt under OSHA standards. "Bashing Migrants," Greensboro News & Record, June 24, 1988, p. A14.

estimated 85% of farmworkers from these statistics cannot be overstated. In addition, there are problems of underreporting in all statistics that are based on employer reporting only, and these problems are accentuated in agriculture. There is good reason to believe that even the data for farms large enough to fall under OSHA requirements may be understated. For one thing, farmworkers tend to miss work and seek medical attention only when they are in great pain or are quite unable to work,<sup>13</sup> so that workers underreport their own injuries to their employers. In addition, farmers tend, on the whole, to be independent and to resist fiercely any government intervention in the operation of their farms. In the words of one Iowa farmer, farming is "one of the last free things a guy can do. We'd like to keep it that way."<sup>14</sup> Given this climate of resistance to government involvement in the agricultural workplace, serious underreporting of injuries is virtually certain, even for farms that fall within reporting requirements.

Despite the extremely high rate of injuries among farmworkers, however, North Carolina law exempts all but the largest agricultural employers from mandatory workers' compensation coverage. In almost all other industries, workers who are injured as the result of an accident on the job are guaranteed that their medical expenses will be paid and that they will receive a percentage of their salary as

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<sup>13</sup> Olsen, D.M., Weidner, B.L., and Brett, M.A.: Water and Sanitation-Related Disease and Field Sanitation Practices in Utah: Additional Comments and Preliminary Findings Submitted in Support of the OSHA Field Sanitation Standard [hereinafter Water and Sanitation-Related Disease]. July 27, 1984. Cited in Wilk, Occupational Health, *supra* n. 9, at 42.

<sup>14</sup> Quoted in "Perilous Profession", *supra* n. 8.

compensation while they are recuperating. Farmworkers, however, enjoy no such guarantee, and until now little research has been done on the consequences of occupational injuries for farmworkers with regard to medical care, lost worktime, and overall health.

B. Field sanitation

The lack of clean drinking water, toilet facilities, and handwashing facilities in the fields has been documented as a contributing factor in many health problems faced by farmworkers.<sup>15</sup> For example, one study, conducted from 1982 to 1984, compared the rates of sanitation-related illnesses and symptoms between migrant farmworkers and poor urban patients at a Salt Lake City clinic.<sup>16</sup> Researchers found that diarrhea occurred 20 times more frequently among farmworkers than among the urban poor, nausea and vomiting were 13 times as frequent, and fevers of unknown origin were 120 times as likely among farmworkers. In addition to gastroenteritis and other communicable diseases, farmworkers are also exposed to working conditions that put them at great risk of skin rashes, heat disorders, urinary tract and kidney infections, and pesticide-related illness.

Despite the generally undisputed connection between high incidence of such conditions and poor sanitation, farmworkers and advocates had to fight for 14 years

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<sup>15</sup> For an overview, see 52 Fed. Register 84, 16055-16068 (May 1, 1987). See also Wilk, Occupational Health, *supra* n. 9, at 40-43; and the OSHA Field Sanitation Record, U.S. Department of Labor Occupational Health and Safety Administration, Proposed Field Sanitation Standard.

<sup>16</sup> Olsen, D.M. et al., Water and Sanitation-Related Disease, *supra* n. 13.

for a federal field sanitation standard. In 1971, the newly created Occupational Safety and Health Administration (OSHA) issued regulations requiring sanitation facilities of all industrial employers, but exempted agriculture from these requirements. When requested to issue a field sanitation standard, OSHA refused. In 1973, farmworkers sued OSHA and the Secretary of Labor to force them to enact a standard for farm employees. For the next 14 years, farmworkers fought for a field sanitation standard in the courts, in Congress, at the state level, and in OSHA hearings. Finally, after extensive litigation and years of foot-dragging, OSHA issued a field sanitation standard for farmworkers in May 1987.<sup>17</sup>

The promulgation of the standards did not stop OSHA's resistance to ensuring that farmworkers have access to basic sanitation facilities, however. The standard applies by its terms to operations that employ 11 or more hand harvesters on any given day. As recently as 1989, OSHA, in an attempt to gut the provision, took the position that the standard applied only where 11 or more workers were engaged in hand harvesting *in a particular field*. After strong protest from farmworkers and advocates, the agency conceded that the standard applies to any employer who has employed 11 or more workers on any day within the last 12 months.<sup>18</sup>

In North Carolina, after the promulgation of the federal standard in 1987, the Labor Commissioner expanded the existing state field sanitation standard to include

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<sup>17</sup> Wilk, Valerie A., "A Field Sanitation Standard at Last: The 14-Year Struggle," *Farmworker Justice News*, Spring 1987 at 3.

<sup>18</sup> *Clearinghouse Review*, Vol. 23, No. 9, January 1990, at 1207.

farms with fewer than 11 farmworker employees, reasoning that a worker's need for drinking water and field sanitation were not in any way connected with the number of his or her co-workers. This decision was also driven by the fact that the OSHA small farm restriction exempted an estimated 95% of North Carolina farmers from the standard.<sup>19</sup> Shortly after this state expansion of the federal standard's applicability, the General Assembly passed a law repealing the state field sanitation requirements and restricting any state standard to the scope of the federal requirements. The Labor Commissioner repromulgated the state standard, but was restricted from giving it universal scope.

Resistance to the enforcement of field sanitation requirements continues. Three years after the federal regulations went into effect, compliance in North Carolina is still low, and many farmworkers still lack the most basic sanitation facilities in the workplace.

### C. Purposes of this study

This study was designed and funded to provide some useful information about on-the-job injuries among North Carolina's migrant farmworkers and about the availability of the required sanitation facilities in North Carolina's fields. Instead of relying on farmer reporting and official sources which often fail to reflect the particular reality of farmworkers' lives and work, this study obtained its data from a random sample of individuals engaged in farmwork. In this way, we hoped to overcome the problems encountered by the more traditional sources of statistics with

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<sup>19</sup> "Bashing Migrants," supra n. 12, citing John C. Brooks, Labor Commissioner.

regard to farmworker data. The survey instrument was designed to elicit information regarding, among other things, the rate of incidence of work-related injuries among farmworkers; the number of workdays lost because of injuries; what compensation, if any, is generally paid to workers; and the rate of compliance with OSHA field sanitation requirements.

## II. SURVEY METHODS

### A. Methodology

This cross-sectional study of the prevalence and nature of occupational injury and compliance with field sanitation regulations among North Carolina migrant farmworkers was conducted from June-October 1989 in seven counties in eastern North Carolina. The sampling frame from which the random sample of migrant camps was selected was based upon Telamon Inc.'s listing of migrant camps. As with all available lists of migrant camps, this list is partial and probably biased. During the course of the study it also appeared inaccurate on occasion as a result of the means by which it was compiled (use of reported locations of camps). From this sampling frame a 10% probability sample was selected (SAS Ranuni function). This 10% sample represented an oversampling to allow for the number of camps that were expected to be defunct or unoccupied during the year in which the study was accomplished. All migrant farmworkers in selected camps currently engaged in migrant labor were eligible subjects, including those less than 16 years of age.

The survey instrument consisted of questionnaires in English and Spanish which had been pre-tested with patients awaiting treatment at the Tri-County Community Health Center in Newton Grove, North Carolina.<sup>20</sup> Questionnaires were verbally administered in the subjects' preferred language by bilingual field workers

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<sup>20</sup> Spanish and English versions of the survey instrument are attached as Appendices A and B.



experienced in working with the migrant population. Informed consent was obtained from each subject.

Because of the length of the questionnaire and the time constraints for their administration (at night in migrant camps, after showers and meals) recall rather than recognition strategies were employed in questionnaires. This reduced the time necessary for questionnaires but it is expected that this type of questionnaire may have underestimated certain parameters, especially the prevalence of injuries. The occupational injury section of the questionnaire consisted of 41 quantitative and 4 qualitative questions, and the section concerning field sanitation consisted of 21 quantitative questions.

In order to maximize accuracy of subjects' responses, only injuries occurring within three years of the study period were recorded and had data collected concerning them. Similarly, for the field sanitation section, only subjects who had worked within the last week had questionnaires administered to them, and questions about field sanitation pertained only to the last day on which the subject worked. This approach maximized the accuracy of subjects' responses, but it also excluded a certain number of subjects in selected camps. It is unlikely that any bias in the sample of subjects resulted from this procedure, but it did result in a smaller final sample size than would have otherwise been obtained.

Data was analyzed using PC-SAS, and analysis consisted of descriptive statistics, Chi-square tests, Fisher's Exact test, and T-tests for differences in means.

The limited number of occupational injuries reported prevented further use of inferential statistics.

B. Demographics of study subjects

Two-hundred and eighty-seven farmworkers participated in this survey, which was conducted in seven counties in eastern North Carolina. The study was conducted in 22 migrant camps; the number of subjects per camps ranged from 1-51, with an average of 13 subjects per camp.

The overall non-response rate for the survey was approximately 22%. This rate can be explained by the conditions in which farmworkers live (and under which the survey was conducted) and by the problematic relationship between farmworkers and the legal system. All of the interviews in the survey were conducted in labor camps owned and/or operated by the workers' employers. Most often, the crewleader was either present in the camp or was close by. Under such circumstances workers are often reluctant to cooperate with outsiders inquiring about the conditions under which they live and work. They know that in many cases such cooperation exposes them to retaliation by crewleaders, on whom they are often dependent for work, housing, transportation, and even food.<sup>21</sup>

In addition, many farmworkers are not United States citizens, and are either working without documents or are in the process of achieving secure immigration status in this country. For this reason, many fear contact with anyone they perceive as

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<sup>21</sup> In fact, two workers who participated in the survey were reportedly later fired by a crewleader who thought that they were making a legal complaint against him.

having connections with the authorities. They are particularly reluctant to give information about themselves or their work history.

Finally, and perhaps obviously, the interviews for this survey were usually conducted at night, after the subjects had worked long hours in the fields and wanted to be left to their rest. All of these conditions combined for a subject population in which a high non-response rate was to be anticipated.

Hispanics comprised the majority of the sample (n=201 or 70%), the remainder consisting of African Americans 24% (n=69), and Haitians 5.9% (n=17). No white Americans occurred in the sample. Twenty-eight percent of the sample was born in the United States (n=80), 47% in Mexico (n=133), 19% in Guatemala (n=53), and 5.9% in Haiti (n=17). The great majority of the sample (244/287) was male. The average age of all subjects was 30.0 years, with an average of 5.96 years in migrant farmwork. Among the different ethnic groups, some demographic parameters are quite similar. For example, the percentage of the workforce consisting of males varied by only 2 percentage points between ethnic groups. However, foreign born farmworkers had less mean years in farmwork than African Americans and were also younger (38.6 years for African Americans versus 26.8 years for Hispanics).

### III. RESULTS OF THE OCCUPATIONAL INJURY SURVEY

#### A. Description of Injuries

Farmworkers were questioned about injuries received during the past three years: 8.4% reported being injured on the job during this time. It is important to keep in mind that this survey was conducted among a population which was actively employed at the time of the interviews in farmwork. Excluded by this method of surveying are all those injured seriously enough to be precluded from doing farmwork. Of those reporting injuries, the mean number of years in farmwork was 4.46 versus a mean of 6.13 for those without injuries; this difference was of borderline statistical significance ( $p = .07$ , T-test). Seventy-nine percent of injuries were reported by those who had worked for four years or less in farmwork.

Since migrants typically work in a number of states each year, with only three to four months usually spent in North Carolina, it is surprising that 46% (11/24) of the reported injuries occurred in North Carolina. Since the study was conducted in North Carolina, however, there is no way of knowing if this reflects more dangerous work conditions in the state or whether it represents over-selection for workers who remained longer in North Carolina.

Some differences were observed in injury variables between foreign born and African American workers; 5.8% of African Americans reported an occupational injury versus 9.3% of foreign born workers. This difference, while fairly substantial and perhaps predictable with respect to risks created by language barriers, was not statistically significant ( $p = .36$ , Chi-square test).

Traumatic injuries were most commonly reported (Table 1). Lacerations, broken bones and sprains accounted for all but one of the injuries for which a category was applicable. As seen in Table 2, the hands and fingers were most frequently injured (40% of injuries), followed by the back (20%). Other areas of injury were fairly evenly distributed among the head/face, eye, neck, lower extremity, arm, etc.

TABLE 1. CATEGORIZATION OF OCCUPATIONAL INJURIES

Type of Injury	Number	Percent
bruise	0	0
cut/laceration	8	33
burn	0	0
chemical or pesticide burn or poisoning	1	4
broken bone	5	21
sprain/strained muscle	4	17
amputation	0	0
heat stroke	0	0
other	7	30

TABLE 2. PARTS OF BODY INJURED

	Number*	Percent
Back	5	20
hand/finger	8	40
head/face	2	8
eye	2	8
neck	0	0
leg/foot/toes	2	8
arm	3	12
belly/chest	3	12
internal (nausea, heat stroke)	0	0
other	0	0

\* Number exceeds 25 because of multiple site injuries

Since most hand harvest labor involves physical rather than mechanical operations, it is not surprising that only 21% of injuries were associated with mechanical equipment. Injuries associated with mechanical equipment were not distinctive with respect to part of body injured or type of injury. However, these types of injuries appeared to be more severe, since 80% (4/5) resulted in work loss, as compared with 67% (12/18) of injuries not associated with mechanical equipment resulting in work loss. One worker (4.2%) reported that his injury resulted from a physical altercation.

Injuries occurred most frequently in the harvest of tobacco, as seen in Table 3. This could be due to intrinsic risk in tobacco or length of harvest time, although the differences in frequency are not major.

TABLE 3. INJURY AND TYPE OF CROP HARVESTED

Type of Crop	No. of Injuries	(%)
yams	4	17
tobacco	6	25
cucumbers	1	4
tomatoes	2	8
beans	0	0
white potatoes	0	0
green peppers	0	0
corn	0	0
lettuce	0	0
oranges	1	4
apples	1	4
lemons	0	0
other	8	33

B. Medical care for injuries

Results of the survey indicate that farmworkers who are injured on the job are not receiving appropriate and adequate medical care for their injuries. Of those who were injured, 74% considered that medical attention was necessary. However, less than half (47%) of those who thought that they needed medical attention saw a doctor or went to a clinic within 24 hours. Almost a quarter (24%) never saw a medical professional about their injury (Table 4). Of those who thought that medical care was needed but who did not see a doctor within 24 hours, 43% cited their crewleader's refusal to take them to or allow them to go to a clinic or a lack of transportation as the reason they failed to receive medical attention.

TABLE 4. MEDICAL CARE RECEIVED BY THOSE WHO NEEDED IT

Time Period	Percent
No medical care received for injury	24
Care received within 24 hours of injury	47
Care received more than 24 hours after injury	29

Of those who saw a doctor within 24 hours of their injury, 75% reported a full recovery; however, of those who did not receive prompt medical attention, only 53% reported being fully recovered (Table 5). This difference, however, was not statistically significant ( $p = .40$ , Fisher's two-tailed exact test).

TABLE 5. COMPLETENESS OF RECOVERY

Timing of Medical Care	Percent Reporting Complete Recovery
Care received within 24 hours of injury	75
All others	53

Of those who saw a doctor at least once, 42% reported having been unable to keep follow-up appointments, most often because of lack of transportation. Nearly all the subjects who received medical attention (92%) were told not to return to work until they recovered. However, more than a third (36%) returned before the time period specified by their doctor. Overall, one-third of those injured felt that they did not receive adequate medical care (Table 6).

TABLE 6. MEDICAL FOLLOW-UP

	Percent
Instructed not to work during recovery period	92
Returned to work before doctor's release	36
Unable to keep follow-up medical appointments	42
Felt they received inadequate medical care	33
Still unable to work at full pre-injury capacity	39

Of the subjects who received medical care for these employment-related injuries, only 39% had their medical expenses paid by their employers. The remaining 61% of the workers either paid for their own medical care (39%) or had their fees waived by the providers (23%).



### C. Lost Workdays and Compensation

Of those with injuries, 71% missed work as a result, but only one worker remained overnight in a hospital or clinic. Days of work missed ranged from 2-60; the mean being 22 days of work missed per injury. Of those who missed work, more than three fourths (79%) received no compensation whatsoever for working days lost (Table 7). A total of 245 days of work were lost by those injured, with only 58 of these lost work days being *partially* compensated.

TABLE 7. LOST WORKDAYS AND COMPENSATION

	Percent
Subjects who missed work because of injury	71
Injured subjects who received no compensation for workdays missed because of injury	79
Subjects injured in North Carolina who received some compensation	0
Subjects injured in other states who received some compensation	33

Fifty-percent (1/2) of African Americans stated they were paid for days of work missed as opposed to 17% (2/12) of the foreign born. However, the small number of values among African Americans limits the significance of this difference. None of the workers injured in North Carolina reported being paid for days of work lost, compared with 33% of those injured in other states (Table 7). Of this latter number, none was paid by Workers' Compensation; the grower or other sources provided reimbursement.

There was no significant difference in average days of work lost between those who had received adequate care and those who had not ( $p = .61$ , T-Test). However, this comparison may not be valid because the severity of injury cannot be controlled for: it is probable that especially severe injuries, which would result in greater periods of lost work, would also be more likely to have received medical care. It was not possible to grade severity of injury for purposes of comparison.

D. Work performance

With regard to continuing effects of injury upon work performance, 36% of those who missed work due to an injury reported that they were not able to work at full capacity at the time they returned to work. Of these, 17% report that their injury continues to affect their work output. Overall, 39% report that they still have not recovered completely from their injury (Table 6).

E. North Carolina differences

Access to medical care was somewhat more restricted in North Carolina than in other states. Only 67% of those who felt that medical attention was needed saw a doctor when the injury occurred in North Carolina, compared with 82% of those injured in another state.

In addition, none of the subjects who missed work because of an injury in North Carolina received compensation. One third (33%) of those injured in other states received some compensation for lost working time (Table 7).

#### IV. RESULTS OF THE FIELD SANITATION SURVEY

##### A. The field sanitation standard

The law requires that all agricultural employers of more than ten workers provide their employees with drinking water and with toilet and handwashing facilities at the worksite. The drinking water must be cool and clean, and workers must have individual cups from which to drink. There must be one toilet for each 20 workers, and facilities must be located within 1/4 mile of the workers (or transportation must be provided to take workers to the facilities). Toilets must be clean and equipped with toilet paper. Workers must also be given sufficient time to use the facilities.

Handwashing facilities must include water, soap and paper towels.<sup>22</sup>

Compliance with field sanitation requirements was analyzed for all subjects who reported working in a field with at least 10 other farmworkers. Although this reduced the size of the sample, in this way compliance was monitored only for those employers who were undoubtedly covered by the standard.<sup>23</sup>

In order to increase the accuracy of subjects' reports, only those who worked within the week prior to the interview date were eligible. Results are found in Table 8.

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<sup>22</sup> 29 C.F.R. 1928.110, attached as Appendix C.

<sup>23</sup> Some employers excluded under this method may have nonetheless fallen within the standard (because they had other employees at other worksites or had more employees at other times of the year), but there was no way to determine this from worker interviews. Interestingly, rates of compliance based on all responses (including those who worked with fewer than 10 others) were higher than the rates for those working with 10 or more workers. This is notable because the industry's original opposition to the standard was based partly on the proposition that compliance would be burdensome for small farmers. The results of this survey suggest that smaller farmers were more in compliance with the law than larger ones.

TABLE 8. COMPLIANCE WITH FIELD SANITATION

Variable	% Compliance	(+/total)
<b>Overall compliance with field sanitation regulations</b>	<b>4</b>	<b>(3/72)</b>
<b>Overall compliance with field toilet regulations*</b>	<b>6</b>	<b>(4/72)</b>
Field toilet for crews more than 1/4 mile from camp	77	(72/99)
Required number of toilets per crew size	6	(4/72)
When present toilet is less than 1/4 from work site	91	(64/70)
Transportation provided when no toilet	21	(6/29)
Toilet when present is clean	89	(29/33)
Toilet when present has toilet paper	97	(30/31)
Adequate time allowed to use toilet when present	94	(64/65)
<b>Overall compliance w/ handwashing facility regulations</b>	<b>36</b>	<b>(36/100)</b>
Provision of water for hand washing	65	(62/95)
Provision of soap for handwashing	48	(40/83)
Provision of paper towels for handwashing	48	(41/85)
<b>Overall compliance with drinking water regulations</b>	<b>68</b>	<b>(79/116)</b>
Provision of drinking water by crewleader	100	(116/116)
Provision of cool drinking water	94	(114/115)
Adequate drinking water to last entire work day	94	(115/116)
Provision of individual disposable drinking cups	69	(79/114)

\*To maintain the sample size, overall compliance with toilet regulations is based upon presence of: toilet, required number of toilets, located within 1/4 mile of work site or transportation provided, and adequate time allowed for use. Variables relating to condition the of toilet (clean, with toilet paper) were not included because of the small number of subjects who reported using toilets.

### B. Overall Compliance

Overall compliance with all field sanitation requirements for employers who fell within the standard was shockingly low. Only four percent of the workers surveyed reported compliance with all aspects of field sanitation. Moreover, in order to maintain the sample size, overall compliance with toilet regulations is based only upon the presence of toilets, the presence of the required numbers of toilets, the location of toilets within one quarter mile of the work site, whether transportation was provided if toilets were located farther away, and adequate time allowed for use of the toilet. Variables relating to the condition of the toilets (whether they were clean, with toilet paper) were not included because of the small number of subjects who reported using the toilets. Thus, the low figure of 4% is probably even a slight overestimate.

### C. Toilet Facilities

Data collected about compliance with toilet and handwashing facilities regulations pertained to the last day the subject worked (if the work day was longer than three hours) when the subject worked within the prior week and worked farther than 1/4 mile from his or her camp.

Results are found in Table 8. Seventy-seven percent of these subjects reported the presence of one or more toilets. Ninety-five percent of African Americans reported the presence of toilet facilities, compared with 68% of the foreign born, a statistically significant difference ( $p = <.0009$ , Chi-square test). Despite the fairly large percentage of subjects who reported the presence of at least one toilet, however, a very low percentage reported the required number of facilities for the size of the

crew working at the site. Of those workers who reported that toilets were available at all, only 6% reported that the required number of toilets were present.

Of subjects reporting the presence of toilet facilities, 9% reported that toilets were located further than 1/4 mile from where they were working. Of those who either reported the absence of field sanitation or toilets farther than 1/4 mile from their work site, only 21% reported transportation arrangements to use toilet facilities.

Ninety-four percent of those who reported the presence of toilet facilities said they were permitted adequate time to use the facilities if they chose to do so. Eighty-nine percent of those who used a toilet reported that it was clean, and 97% reported that it had toilet paper. Due to the small number of subjects who used toilets when they were available, the percent reporting on these variables is of limited significance.

The overall compliance with field toilet facilities was six percent. As discussed in the overall compliance section above, even this figure may be a slight overestimate since variables relating to the condition of the toilets (cleanliness and provision of toilet paper) are not included.

#### D. Handwashing Facilities

Of those reporting the presence of field sanitation, 35% reported that they were not provided with water for hand washing. In addition, more than half of all workers reported that they were provided with no soap (52%) and no towels to dry their hands (52%).

Eighty-seven percent of black Americans report the availability of handwashing water versus sixty-two percent of the foreign born. This again represents a statistically significant difference ( $p = .002$ , Chi-square test).

The overall compliance with handwashing facility regulations, based upon the compliance with these three requirements, was 36%.

#### E. Drinking Water

The drinking water regulations showed the highest degree of compliance in the survey. Nonetheless, nearly one third of the workers reported incomplete compliance with the standard. One hundred percent of the subjects reported that crew leaders brought drinking water to the fields during the day; 94% reported that the water was cool; and 94% reported that the water was brought in adequate quantity to last all day. However, compliance with regulations pertaining to disposable cups was less consistent; 31% of the workers reported that disposable cups were not provided with the drinking water.

The overall compliance with drinking water regulations, based upon the provision of drinking water by the crew leader, in adequate quantities and at adequate temperatures, and the provision of disposable drinking cups, was 68%.

## V. CONCLUSIONS

Since the beginning of the twentieth century, great strides have been made in the United States towards guaranteeing a minimally safe workplace for most workers. Workers have struggled to avoid having to sacrifice their own health and physical well-being in order to earn a living for themselves and their families. Though the fight is far from over, workers in most industries have won some fundamental safeguards. Farmworkers, however, because of their political isolation and the political power of their employers, have been excluded from many of the protections afforded other workers. Farmworkers continue to suffer from the lack of the most basic health and safety protections in the workplace, protections which have been enjoyed by other workers for decades. Two of the most significant workplace dangers faced daily by farmworkers are the absence of adequate and appropriate sanitation facilities in the fields and the danger of accidental injuries suffered on the job.

### A. Field sanitation

Inadequate sanitation in the workplace exposes farmworkers to a wide variety of serious health problems. Unsanitary provisions for drinking water and unsanitary (or non-existent) toilet facilities promote the spread of infectious diseases through the use of a common drinking cup or through contact with human waste. Migrant farmworkers have been found to suffer 20 times the rate of diarrhea of the urban poor, as well as extremely high rates of other communicable diseases.<sup>24</sup> Given these high

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<sup>24</sup> Olsen, et al., Water and Sanitation-Related Disease, *supra*, n. 13, cited in Wilk, Occupational Health, *supra* n. 9, at 42.



rates of infection, sanitation in the fields and in migrant housing becomes all the more crucial to controlling the spread of disease.

Lack of access to toilet facilities during the workday exposes farmworkers to increased risk of kidney infections and urinary tract infections. Drinking water is essential for farmworkers, who do heavy physical labor in high temperatures and high humidity, and are thus exposed to a danger of dehydration and heat-related disorders, such as heat exhaustion and heat stroke, which can be fatal. Sodas, beer and wine, which are often provided (at a charge) to workers in the fields instead of water, actually serve to accelerate dehydration.

Handwashing facilities are crucial in reducing the spread of infectious diseases and in reducing the danger of pesticide-related illnesses. Given the tremendous quantity of chemicals to which workers are exposed in the fields, the facilities to wash one's hands are essential in avoiding skin rashes, eye irritations, and more chronic and deadly health problems (such as nerve damage) caused by long-term exposure to pesticides through skin absorption or the ingestion of chemicals when a worker eats, drinks or smokes after or while working in the field and before washing his or her hands. It was the overwhelming evidence of these adverse health effects that provided the on-going impetus which led to the promulgation of the OSHA field sanitation standard in 1987.

However, two years after the issuance of the standard, this survey revealed that 96% of North Carolina's farmworkers continue to work under conditions that do not fulfill the minimum requirements of the law. Thirty-two percent of the workers

surveyed lacked sanitary drinking water, 64% lacked handwashing facilities, and 94% lacked adequate toilet facilities. Only four percent had access to the basic sanitation required by the standard. Foreign born farmworkers, isolated by language and culture, had an even greater chance than American born workers of being subjected to an unhealthy workplace, a fact that highlights the reality that employers are able to take advantage of the politically powerless position of their employees to cut corners and to risk the health of their employees.

The enforcement of field sanitation regulations must be reexamined and redesigned in accordance with the gravity of the health hazards faced by farmworkers and the special circumstances of the work. For example, the timing of an inspection is uniquely crucial in agriculture, where the worksite often moves from one field to the next in the space of a week or even a day. An inspection conducted three months after a complaint is filed will obviously be ineffective in this kind of work situation. Because of this problem of delay in inspections, the North Carolina Department of Labor inspectors often rely on the records or testimony of employers, who clearly have every incentive to convince them that there has been no violation, regardless of the facts. Furthermore, a knowledge of Spanish is often necessary to communicate with a complainant, and the inability to do so greatly handicaps an inspector who wishes to assess the worker's version of events.

The health risks to farmworkers that are created when employers fail to provide field sanitation are serious; furthermore, they are easily avoidable. These risks have been found unacceptable, and have generally been eliminated, for other workforces.

There is no valid reason that farmworkers should be forced to continue to face them in order to earn their living.

B. Occupational injuries

The purpose of workers' compensation legislation in North Carolina, as in other states, was to create a system to shift the cost of workplace injuries from employees, their families, and the public, to the employers for whose benefit and profit the employees were working when they were injured. In the words of the North Carolina Supreme Court, "The primary purpose of legislation of this kind is to compel industry to take care of its own wreckage[.]"<sup>25</sup> and

[t]he philosophy which supports the Workmen's Compensation Act is 'that the wear and tear of human beings in modern industry should be charged to the industry just as the wear and tear of machinery has always been charged.'<sup>26</sup>

Through this employer insurance program, the payment of medical expenses is guaranteed, so that employees can receive adequate medical care, regardless of their own resources. Employees are also given compensation so that they will not be forced by economic circumstances to return to work before they are fully recovered and so that they and their families will not have to rely on charity or become dependent on the state. In exchange, employers have the assurance of a limited and determinate liability for accidental injuries.<sup>27</sup>

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<sup>25</sup> Barber v. Minges, 223 N.C. 213, 25 S.E.2d 837, 839 (1943).

<sup>26</sup> Vause v. Vause Farm Equipment Co., 233 N.C. 88, 63 S.E.2d 173, 176 (1951), citing Cox v. Kansas City Refining Co., 108 Kan. 320, 195 P. 863, 865, 19 A.L.R.90.

<sup>27</sup> Barnhardt v. Yellow Cab Co., 266 N.C. 419, 146 S.E.2d 479, 484 (1966).

The results of this study make it clear that farmworkers in North Carolina are currently in a position very similar to the position held by most workers in the 1920's before workers' compensation was mandated by law in 1929. Farmworkers work in a very dangerous occupation, where the rate of accidental work deaths is higher than in any other occupation in the country and is five times the average for all industries.<sup>28</sup> However, despite the known danger, and despite the fact that agriculture is a large and profitable industry in North Carolina,<sup>29</sup> the state has made no adequate provisions for basic injury-related care needed by the workers whose labor supports our agricultural industry.

Less than half of the subjects in this study who were injured on the job and who believed that they needed to see a medical professional did so within 24 hours of their injury. Nearly one fourth never received any medical attention at all for their injury. There are many reasons for farmworkers' lack of access to medical care, and the reason most often cited by study subjects who did not receive medical attention within 24 hours of their injury was their employer's refusal to take them to a clinic or a lack of transportation. Another possible reason comes to light in the fact that 39% of the workers who did receive medical care paid for it themselves, and another 23% had no way to pay for it, forcing the health care provider to absorb the cost. Workers

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<sup>28</sup> National Safety Council, Accident Facts (1989), 32.

<sup>29</sup> In 1989, North Carolina ranked eleventh nationally in total yearly cash farm receipts. North Carolina Agricultural Statistics, North Carolina Department of Agriculture, October 1989, p. 8.

are understandably reluctant to go for medical care if they have no way to pay for it or if the burden of paying for it will come out of their already meager wages.

Thirty-six percent of those who did receive medical attention and were ordered by their doctor not to work during a period of recovery returned to work before being released by their physician. This very high figure makes sense when viewed in light of the fact that 79% of those workers surveyed who missed work because of their injury received no compensation whatsoever for the days of work they missed. Most farmworkers are poor despite their hard work; virtually none have the savings that would be required to support themselves during an unpaid layoff.

The costs of this system to farmworkers is extremely high. They suffer physically by failing to receive timely and adequate health care for injuries, and by returning to work before they have completely recovered, thereby increasing the risk of exacerbating their injuries and suffering unnecessary permanent damage. They also suffer economically by having to pay medical bills at precisely the time that their income is restricted or cut off because of their injury; and by losing the income they would have earned had they not been injured. Many are forced to become dependent upon or indebted to family and friends during their recovery, which can be difficult for them psychologically.

The cost of the current system is also high for health providers, for state and local governments, and for other people seeking health care, who ultimately end up absorbing the cost of emergency medical care for many injured farmworkers. Health providers picked up the costs of treatment for 23% of the survey subjects who

received medical attention. Each year local governments, hospitals and clinics in North Carolina find themselves paying tens of thousands of dollars for the emergency medical care of migrants in the area.<sup>30</sup> Ultimately, of course, it is the taxpayer who pays for government subsidies, and the individual with private insurance who subsidizes the uncompensated care of those with no means to pay their own bills.<sup>31</sup>

The exclusion of farmworkers from mandatory workers' compensation coverage in North Carolina results in a very high human cost paid by farmworkers who are injured on the job. This exclusion also allows agricultural employers to benefit from the labor of their workers without having to bear the burden when a worker is injured and needs medical care and recovery time; it allows that burden to fall on the individual worker, on his or her family, and on the public. This exclusion allows agricultural employers to hire human beings and treat them as part of a disposable workforce, to be discarded when they are no longer useful, heedless even of the medical needs incurred by these workers as a result of their employment in the fields.

Agricultural labor policies in North Carolina reflect a view of agriculture based on the model of the 19th century family farm, where the labor of seasonal hired

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<sup>30</sup> "Migrant Workers Straining the South's Health Safety Net," *The Raleigh News and Observer*, October 29, 1989, p. 2D.

<sup>31</sup> The North Carolina Hospital Association estimates that currently 29 cents of every dollar paid by individuals and private insurance for medical care goes to subsidize uncompensated care. In 1988, North Carolina hospitals delivered \$1.1 billion of uncompensated care. Barbara Barnett, Assistant Director of Public Relations for the North Carolina Hospital Association, telephone conversation of April 3, 1990.

workers was merely incidental to farming. However, in the last century, agriculture in the state has become an industry heavily reliant upon the labor of tens of thousands of seasonal workers who are integral to the planting, tending and harvesting of our crops. The seasonal nature of this labor does not diminish the permanence or the centrality of its role in North Carolina agriculture. However, the agricultural industry continues to ignore the import of its interdependence with this seasonal workforce, and continues to deny these workers such basic employment conditions as workers' compensation protections and field sanitation.

Agriculture has been revolutionized in this century, becoming an industry engaged in long-term planning in many aspects of its operations. For example, although it was common practice for farmers in the nineteenth century to farm a piece of land until it was stripped of the nutrients needed for a productive harvest, today's industry universally engages in practices of soil preservation. In a similar fashion, over the course of this century, public policy with regard to most industries has reflected the lesson that the provision of basic health and safety protections to workers is a sound and necessary investment in the human capital of an industry's workforce. On the eve of the 21st century, it is imperative for the future of agriculture in North Carolina that the state address the occupational safety and health concerns of farmworkers as a matter of crucial human resources.

## VI. RECOMMENDATIONS

### Field Sanitation

1. NCOSHA should require employers to post field sanitation standards, in appropriate languages and in easily readable form, at their business office or wherever workers are paid.
2. NCDOL, Migrant Housing Division, should require, as part of the certification process for migrant housing, that employers:
  - a. Post field sanitation standards prominently at each housing site.
  - b. Read and sign a statement promising to abide by field sanitation requirements, which should be detailed in the statement.
3. NCOSHA should develop an appropriate strategy for effective enforcement of field sanitation, which should include:
  - a. A toll free bilingual hotline for field sanitation complaints.
  - b. The designation of field sanitation complaints as a priority for inspections so that inspections occur within 48 hours of a complaint. (This may involve designating one bilingual inspector who is responsible for immediate response to any field sanitation complaint).
  - c. Recognition of field sanitation violations as serious, thus invoking the sanctions for serious OSHA violations.
  - d. Imposition, where appropriate (for example where an employer has signed the statement in 2.a. above), of sanctions for willful violations.
  - e. Increasing sanctions for violations.
  - f. Verification of post-inspection compliance by providing the complaining employee with a postcard to be returned to NCOSHA two weeks later.



Occupational Injuries

1. The General Assembly should extend mandatory workers' compensation coverage to all agricultural employees.
2. The General Assembly should appoint a study committee to determine the extent to which the cost of uncompensated health care for farmworkers is borne by the public as a result of the lack of workers compensation coverage in agriculture.
3. NIOSH should investigate and develop safety standards for many hazards in the agricultural workplace (for example, unguarded belts on tobacco harvesters), thereby reducing the rate of agricultural injuries.
4. Other methods of increasing accident prevention on farms should be investigated.

QUESTIONNAIRE: FARMWORKER OCCUPATIONAL INJURIES AND FIELD SANITATION  
\*\* SPANISH \*\*

Subject's name \_\_\_\_\_

1. Interviewer's name \_\_\_\_\_  
Study code |\_\_|\_\_|\_\_|\_\_| (1-4)  
Record number |\_\_|\_\_| (6-7)  
Subject ID number |\_\_|\_\_|\_\_| (9-11)  
Form Type |\_\_|\_\_| (13-14)
2. Interview date \_\_\_\_ - \_\_\_\_ - \_\_\_\_ |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| (16-21)
3. Site number \_\_\_\_ |\_\_|\_\_| (23-24)
4. Ethnic Group 1: black, American 2: white, American  
3: black, Haitian 4: Hispanic 5: other |\_\_| (26)
5. Sex M: male F: female |\_\_| (28)

\*\*\*\*\*  
PART I  
OCCUPATIONAL INJURIES  
\*\*\*\*\*

(Begin questioning)

*El propósito de esta parte del cuestionario es informarnos sobre la frecuencia con la cual y las circunstancias bajo las cuales campesinos se lastimen en el trabajo. Le voy a poner preguntas sobre heridas, sean serias o no, que ha sufrido Ud. mientras trabajaba. No nos sirven datos sobre veces que se haya lastimado fuera del trabajo, aun si se lastimó en un campo de labor.*

6. Cuántos años tiene Ud.? \_\_\_\_ |\_\_|\_\_| (30-31)
7. Dónde nació Ud.? 1: US 2: Haiti 3: Mexico 4: Honduras  
5: Guatemala 6: El Salvador 7: Caribbean nation other than Haiti  
8: other \_\_\_\_\_ |\_\_| (33)

8. Cuántos años ha trabajado Ud. en la agricultura en los E.E.U.U.?  
(Interviewer: round up to full years.)

\_\_\_\_\_ years

|\_\_|\_\_| (35-36)

9. En los últimos tres años, se lastimó Ud. mientras trabajaba en el field?

1: yes      2: no      3: don't know

|\_\_| (38)

IF NO, SKIP TO QUESTION #41 (page 6).

10. En cuál estado se lastimó?

1: North Carolina      2: other

|\_\_| (40)

11. Qué clase de herida fue?

- 1: bruise
- 2: cut
- 3: burned by something hot (not sunburn)
- 4: poisoning or burn from chemicals, pesticides, sun
- 5: broken bone
- 6: sprained or strained muscle
- 7: lost a hand, arm, leg, foot
- 8: heat stroke
- 9: nausea and/or vomiting
- 10: other

|\_\_|\_\_| (42-43)

12. En qué parte de su cuerpo se lastimó?

1: back    2: hand/finger    3: head/face    4: eye

5: neck    6: leg/foot/toes    7: arm

8: belly or chest    9: internal (e.g., nausea, heat stroke)

10: other

|\_\_|\_\_| (45-46)

13. Hizo parte algún equipo mecánico en el accidente?

1: yes    2: no    3: don't know

|\_\_| (48)

14. Explíqueme cómo se lastimó.  
(interviewer: be detailed about time, circumstances, equipment, etc.)

15. Alguna persona lo hirió con intención, por ejemplo en un pleito?  
1: yes      2: no      3: don't know      |\_\_| (50)

16. Cómo hubiera podido evitarse su accidente?

17. Cree Ud. que necesitaba ver a un médico?  
1: yes      2: no      3: don't know      |\_\_| (52)

18. Fue a un médico o a una clinica dentro de 24 horas de recibir la herida?  
1: yes      2: no      3: don't know      |\_\_| (54)

19. (IF NO) Porqué no?  
1: didn't think I needed to  
2: had no money  
3: had no transportation  
4: crew leader or grower refused to take  
5: didn't want to miss work  
6: other      |\_\_| (55)

20. Fue al médico más tarde por esta herida?  
1: yes      2: no      3: don't know      |\_\_| (56)

21. (IF S/HE WENT TO DOCTOR LATER) Cuántos días después?

\_\_\_\_\_

|\_\_|\_\_| (57-58)

22. (IF S/HE SAW DOCTOR) Quién pagó su tratamiento médico?

- 1: self
- 2: grower or crewleader
- 3: complementary service (e.g., clinic)
- 4: other \_\_\_\_\_
- 5: bill still hasn't been paid
- 6: don't know

|\_\_| (59)

23. Siguió visitando al médico hasta que se curó completamente?

- 1: yes
- 2: no
- 3: still under treatment or not recovered
- 4: didn't need to go back
- 5: don't know

|\_\_| (60)

24. (IF NO) Porqué no?

- 1: had no money
- 2: had no transportation
- 3: didn't want to miss work
- 4: didn't like doctor/ didn't think doctor helped
- 5: moved away from doctor/clinic
- 6: other \_\_\_\_\_

|\_\_| (62)

25. Cree Ud. que recibió la ayuda médica que necesitaba?

- 1: yes
- 2: no
- 3: don't know

|\_\_| (64)

26. (IF NO) Porqué no?

27. Pasó la noche en el hospital o en la clínica?

- 1: yes
- 2: no
- 3: don't know

|\_\_| (66)

28. Le dijo el médico o alguna persona en la clínica que no regresara inmediatamente al trabajo?

- 1: yes
- 2: no
- 3: don't know

|\_\_| (68)

29. (IF YES) Cuántos días le dijo que esperara?  
 \_\_\_\_\_ |\_\_|\_\_|\_\_| (70-72)
30. Regresó al trabajo antes de esa fecha?  
 1: yes 2: no 3: don't know |\_\_| (73)
31. Perdió días de trabajo a causa de estar lastimado?  
 1: yes 2: no 3: don't know |\_\_| (74)
32. Ha regresado al trabajo después de lastimarse?  
 1: yes 2: no 3: don't know |\_\_| (75)
33. (IF YES) Cuántos días de trabajo perdió?  
 \_\_\_\_\_ |\_\_|\_\_|\_\_| (76-78)
- Study code |\_\_|\_\_|\_\_|\_\_| (1-4)
- Record number |\_\_|\_\_| (6-7)
- Subject ID number |\_\_|\_\_|\_\_| (9-11)
- Form Type |\_\_|\_\_| (13-14)
34. Le pagaron los días de trabajo perdidos?  
 1: yes 2: no 3: don't know |\_\_| (16)
35. (IF YES) Por cuál medio?  
 1: Worker's Compensation or other insurance  
 2: grower paid directly  
 3: don't know  
 4: other |\_\_| (18)
36. Pudo Ud. trabajar a toda capacidad cuando regresó al trabajo?  
 1: yes 2: no  
 3: haven't returned 4: don't know |\_\_| (20)

37. (IF NO) Cuánto tiempo fue Ud. retrasado(a) a causa de su herida?  
 1: 0-3 months          2: 3-6 months  
 3: 6 months - 1 year  
 4: still impaired    5: other                                 |\_\_| (22)

38. Se ha curado completamente de su herida?  
 1: yes        2: no        3: don't know                                 |\_\_| (24)

39. (IF NO) Qué incapacidad queda y          cuánto tiempo *hace* que se hirió?

40. En qué clase de planta trabajaba Ud. cuando se lastimó?  
 1: yams    2: tobacco    3: cucumbers    4: tomatoes  
 5: beans    6: white potatoes    7: green peppers    8: corn  
 9: lettuce    10: oranges    12: apples    13: lemons  
 14: watermelons    15: other \_\_\_\_\_ |\_\_|\_\_| (26-27)

\*\* TOBACCO SICKNESS \*\*

41. Alguna vez ha trabajado Ud. en tabaco?  
 1: yes        2: no        3: don't know                                 |\_\_| (29)

IF NO OR DON'T KNOW, GO TO #45.

42. Algunas veces se mareaba cuando pisca tabaco?  
 1: yes        2: no        3: don't know                                 :\_\_: (31)

43. Algunas veces se siente débil, desfallecido(a) o vertiginoso(a) mientras pisca el tabaco?  
 1: yes    2: no    3: don't know                                 |\_\_| (33)

44. (IF INJURED WHILE PICKING TOBACCO) Cuando se lastimó mientras piscaba tabaco, se sentía enfermo(a)?  
 1: yes        2: no        3: don't know                                 |\_\_| (35)

45. (IF COMPLETED INJURY SECTION) Ha sufrido otras heridas en el trabajo en los últimos tres años?

1: yes      2: no      3: don't know

|\_\_| (37)

\*\*\*\*\*  
IF WORKER HAS SECOND INJURY COMPLETE SUPPLEMENT.  
OTHERWISE GO ON TO FIELD SANITATION SECTION.  
\*\*\*\*\*

\*\*\*\*\*  
PART II  
FIELD SANITATION  
\*\*\*\*\*

*Ahora empezamos otra sección del cuestionario. Le voy a hacer preguntas sobre los baños, el agua para tomar, y el agua para lavarse las manos, que hay en los fields.*

46. Trabajó Ud. esta semana pasada?

1: yes      2: no      3: don't know

:\_\_ : (39)

IF NO, END THE INTERVIEW.

\*\* DRINKING WATER \*\*

47. Cuál fue el último día que Ud. trabajó? \_\_\_\_\_

48. Ese día, trajo agua para beber al field el contratista?

1: yes      2: no      3: don't know

|\_\_| (41)

49. Estaba fresca o caliente el agua?

1: warm    2: cool    3: don't know

|\_\_| (43)

50. Había bastante agua para todos los trabajadores durante todo el día?

1: yes      2: no      3: don't know

|\_\_| (45)

51. Tenían tazas desechables para tomar el agua?

1: yes    2: no    3: don't know

|\_\_| (47)



**\*\* TOILETS \*\***

52. Una cuarta milla es igual a unos 5 minutos caminando. El último día que Ud. trabajó, trabajaba a menos de una cuarta milla de su campo de labor?

1: yes      2: no      3: don't know      |\_\_| (49)

IF YES, END THE INTERVIEW.  
IF NO OR DON'T KNOW, PROCEED.

53. A qué hora salió a trabajar esa mañana? \_\_\_\_\_  
y a que hora vino del trabajo? \_\_\_\_\_

(Interviewer: Round numbers up to whole hours.)

\_\_\_\_ hours worked      |\_\_|\_\_| (51-52)

IF THIS ANSWER IS 3 HOURS OR LESS, END THE INTERVIEW.  
IF MORE THAN 3, PROCEED.

54. Cuántas personas trabajaban en el field donde Ud. trabajaba?

\_\_\_\_ |\_\_|\_\_| (54-55)

55. Había un baño en el field para el uso de los trabajadores?

1: yes      2: no      3: don't know      |\_\_| (57)

56. (IF YES) Estaba el baño a más, o a menos, de una cuarta milla (o sea 5 minutos caminando) de donde Ud. estaba trabajando?

1: less      2: more      3: don't know      |\_\_| (59)

57. (IF NO TOILET WAS PROVIDED OR IF TOILET WAS MORE THAN 1/4 MILE AWAY)  
Había transporte disponible para ir a los baños?

1: yes      2: no      3: don't know      |\_\_| (61)

58. Cuántos baños habían en el field? \_\_\_\_\_ |\_\_|\_\_| (63-64)

59. Usó Ud. el baño?

1: yes      2: no      3: don't know      |\_\_| (66)

60. (IF NO) Porqué no? \_\_\_\_\_

61. Estaba limpio el baño?  
1: yes      2: no      3: don't know      |\_\_| (68)

62. Había papel higiénico?  
1: yes      2: no      3: don't know      |\_\_| (70)

63. El patrón le dió bastante tiempo para usar el baño?  
1: yes      2: no      3: don't know      |\_\_| (72)

**\*\* HANDWASHING FACILITIES \*\***

64. Había agua para lavarse las manos?  
1: yes      2: no      3: don't know      |\_\_| (74)

65. Había jabón para lavarse las manos?  
1: yes      2: no      3: don't know      |\_\_| (76)

66. Habían toallas desechables para secar las manos?  
1: yes      2: no      3: don't know      |\_\_| (78)

*Es todo. Muchísimas gracias por tomar el tiempo de contestar estas preguntas.*

QUESTIONNAIRE: FARMWORKER OCCUPATIONAL INJURIES AND FIELD SANITATION

Subject's name \_\_\_\_\_

1. Interviewer's name \_\_\_\_\_
- Study code |\_\_|\_\_|\_\_|\_\_| (1-4)
- Record number |\_\_|\_\_| (6-7)
- Subject ID number |\_\_|\_\_|\_\_| (9-11)
- Form Type |\_\_|\_\_| (13-14)
2. Interview date \_\_\_\_ - \_\_\_\_ - \_\_\_\_ |\_\_|\_\_|\_\_|\_\_|\_\_|\_\_| (16-21)
3. Site number \_\_\_\_ |\_\_|\_\_| (23-24)
4. Ethnic Group 1: black, American 2: white, American  
3: black, Haitian 4: Hispanic 5: other |\_\_| (26)
5. Sex M: male F: female |\_\_| (28)

\*\*\*\*\*  
PART I  
OCCUPATIONAL INJURIES  
\*\*\*\*\*

(Begin questioning)

*The purpose of the first part of this survey is to find out how frequently and under what circumstances farmworkers get hurt on the job. I'll be asking you about any injury, minor or serious, that you've suffered while you were working. We cannot use information about times you've been hurt outside of work, even if the injury occurred in a labor camp.*

6. How old are you? \_\_\_\_ |\_\_|\_\_| (30-31)
7. Where were you born? 1: US 2: Haiti 3: Mexico 4: Honduras  
5: Guatemala 6: El Salvador 7: Caribbean nation other than Haiti  
8: other \_\_\_\_\_ |\_\_| (33)

8. How long have you been doing farm work in the United States?  
(Interviewer: round up to full years.)

\_\_\_\_\_ years

|\_\_|\_\_| (35-36)

9. In the past three years, have you been injured while working in the field?

1: yes      2: no      3: don't know

|\_\_| (38)

IF NO, SKIP TO QUESTION #41 (page 6).

10. In what state did the injury occur?

1: North Carolina      2: other

|\_\_| (40)

11. What kind of injury did you have?

- 1: bruise
- 2: cut
- 3: burned by something hot (not sunburn)
- 4: poisoning or burn from chemicals, pesticides, sun
- 5: broken bone
- 6: sprained or strained muscle
- 7: lost a hand, arm, leg, foot
- 8: heat stroke
- 9: nausea and/or vomiting
- 10: other

|\_\_|\_\_| (42-43)

12. What part of your body was injured?

1: back      2: hand/finger      3: head/face      4: eye

5: neck      6: leg/foot/toes      7: arm

8: belly or chest      9: internal (e.g., nausea, heat stroke)

10: other

|\_\_|\_\_| (45-46)

13. Did your injury involve mechanical equipment?

1: yes      2: no      3: don't know

|\_\_| (48)

14. Tell me how you got hurt.  
(interviewer: be detailed about time, circumstances, equipment, etc.)

15. Was your injury the result of someone intentionally hurting you (for example, in a fight)?  
1: yes      2: no      3: don't know      :\_\_ (50)

16. How do you think your getting hurt could have been avoided?

17. Do you think you needed to see a doctor?  
1: yes      2: no      3: don't know      |\_\_| (52)

18. Did you go to a doctor or a clinic within 24 hours of the injury?  
1: yes      2: no      3: don't know      |\_\_| (54)

19. (IF NO) Why not?  
1: didn't think I needed to  
2: had no money  
3: had no transportation  
4: crew leader or grower refused to take  
5: didn't want to miss work  
6: other      |\_\_| (55)

20. Did you go to the doctor for this injury sometime later?  
1: yes      2: no      3: don't know      |\_\_| (56)

21. (IF S/HE WENT TO DOCTOR LATER) How many days later?  
\_\_\_\_\_ |\_\_|\_\_| (57-58)
22. (IF S/HE SAW A DOCTOR) Who paid for your medical care?  
1: self    2: grower or crewleader  
3: complementary service (e.g., clinic)  
4: other \_\_\_\_\_  
5: bill still hasn't been paid  
6: don't know |\_\_| (59)
23. Did you continue going to the doctor until you were completely well?  
1: yes    2: no  
3: still under treatment or not recovered  
4: didn't need to go back  
5: don't know |\_\_| (60)
24. (IF NO) Why not?  
1: had no money  
2: had no transportation  
3: didn't want to miss work  
4: didn't like doctor/ didn't think doctor helped  
5: moved away from doctor/clinic  
6: other \_\_\_\_\_ |\_\_| (62)
25. Do you think that you got the medical help you needed?  
1: yes    2: no    3: don't know |\_\_| (64)
26. (IF NO) Why not?
27. Did you stay overnight in a hospital or clinic?  
1: yes    2: no    3: don't know |\_\_| (66)
28. Did the doctor or clinic tell you not to go to work right away?  
1: yes    2: no    3: don't know |\_\_| (68)

29. (IF YES) How many days did they tell you to wait?  
\_\_\_\_\_ |\_\_|\_\_|\_\_| (70-72)

30. Did you go back to work before that?  
1: yes 2: no 3: don't know |\_\_| (73)

31. Did you miss work because of your injury?  
1: yes 2: no 3: don't know |\_\_| (74)

32. Have you returned to work since your injury?  
1: yes 2: no 3: don't know |\_\_| (75)

33. (IF YES) How many days of work did you miss?  
\_\_\_\_\_ |\_\_|\_\_|\_\_| (76-78)

Study code |\_\_|\_\_|\_\_|\_\_| (1-4)

Record number |\_\_|\_\_| (6-7)

Subject ID number |\_\_|\_\_|\_\_| (9-11)

Form Type |\_\_|\_\_| (13-14)

34. Were you paid at all for days of missed work?  
1: yes 2: no 3: don't know |\_\_| (16)

35. (IF YES) How?  
1: Worker's Compensation or other insurance  
2: grower paid directly  
3: don't know  
4: other \_\_\_\_\_ |\_\_| (18)

36. Were you able to work at full capacity when you returned to work?  
1: yes 2: no  
3: haven't returned 4: don't know |\_\_| (20)





45. (IF COMPLETED INJURY SECTION) Have you had any other work-related injuries in the last three years?

1: yes    2: no    3: don't know    |\_\_| (37)

\*\*\*\*\*  
IF WORKER HAS *SECOND INJURY* COMPLETE SUPPLEMENT.  
OTHERWISE GO ON TO FIELD SANITATION SECTION.  
\*\*\*\*\*

\*\*\*\*\*  
PART II  
FIELD SANITATION  
\*\*\*\*\*

*Now we're going to move on to the other part of the questionnaire. I'll be asking you questions about the drinking water, toilets and handwashing facilities you have in the fields.*

46. Did you work within the last week?

1: yes    2: no    |\_\_| (39)

IF NO, END THE INTERVIEW.

**\*\* DRINKING WATER \*\***

47. When was the last day you worked? \_\_\_\_\_

48. That day, did the crewleader bring drinking water to the field?

1: yes    2: no    3: don't know    |\_\_| (41)

49. Was the water warm or cool?

1: warm    2: cool    3: don't know    |\_\_| (43)

50. Was there enough water for everyone all day?

1: yes    2: no    3: don't know    |\_\_| (45)

51. Did you have individual throwaway cups to drink from?

1: yes    2: no    3: don't know    |\_\_| (47)

**\*\* TOILETS \*\***

52. A quarter mile is about a five minute walk. The last day that you worked, were you working within a quarter mile of your camp?  
1: yes      2: no      3: don't know      |\_\_| (49)
- IF YES, END THE INTERVIEW.  
IF NO OR DON'T KNOW, PROCEED.
53. What time did you leave for work that morning? \_\_\_\_\_  
and what time did you get back? \_\_\_\_\_  
(Interviewer: Round numbers up to whole hours.)  
\_\_\_\_ hours worked      |\_\_|\_\_| (51-52)
- IF THIS ANSWER IS 3 HOURS OR LESS, END THE INTERVIEW.  
IF MORE THAN 3, PROCEED.
54. How many people were working in the field where you were working?  
\_\_\_\_\_  
|\_\_|\_\_| (54-55)
55. Was there a toilet in the field for you to use?  
1: yes      2: no      3: don't know      |\_\_| (57)
56. (IF YES) Was the toilet less or more than a quarter mile (a five minute walk) from where you were working?  
1: less      2: more      3: don't know      |\_\_| (59)
57. (IF NO TOILET WAS PROVIDED OR IF TOILET WAS MORE THAN 1/4 MILE AWAY)  
Was transportation to toilet facilities readily available?  
1: yes      2: no      3: don't know      |\_\_| (61)
58. How many toilets were there where you were working?  
\_\_\_\_\_  
|\_\_|\_\_| (63-64)
59. Did you use the toilet?  
1: yes      2: no      3: don't know      |\_\_| (66)

60. (IF NO) Why not? \_\_\_\_\_
61. Was the toilet clean?  
1: yes    2: no    3: don't know    |\_\_| (68)
62. Was there toilet paper?  
1: yes    2: no    3: don't know    |\_\_| (70)
63. Did your boss give you enough time to use the toilet?  
1: yes    2: no    3: don't know    |\_\_| (72)

*\*\* HANDWASHING FACILITIES \*\**

64. Was there water to wash your hands with?  
1: yes    2: no    3: don't know    |\_\_| (74)
65. Was there soap to wash your hands with?  
1: yes    2: no    3: don't know    |\_\_| (76)
66. Were there paper towels to dry your hands with?  
1: yes    2: no    3: don't know    |\_\_| (78)

*Thank you very much for taking the time to answer these questions.*

(2) *Functional components.* (i) Gin stands shall be provided with a permanently installed guard designed to preclude contact with the gin saws while in motion. The saw blades in the roll box shall be considered guarded by location if they do not extend through the ginning ribs into the roll box when the breast is in the out position.

(ii) Moving saws on lint cleaners which have doors giving access to the saws shall be guarded by fixed barrier guards or their equivalent which prevent direct finger or hand contact with the saws while the saws are in motion.

(iii) An interlock shall be installed on all balers so that the upper gates cannot be opened while the tramper is operating.

(iv) Top panels of burr extractors shall be hinged and equipped with a sturdy positive latch.

(v) All accessible screw conveyors shall be guarded by substantial covers or gratings, or with an inverted horizontally slotted guard of the trough type, which will prevent employees from coming into contact with the screw conveyor. Such guards may consist of horizontal bars spaced so as to allow material to be fed into the conveyor, and supported by arches which are not more than 8 feet apart. Screw conveyors under gin stands shall be considered guarded by location.

(3) *Warning device.* A warning device shall be installed in all gins to provide an audible signal which will indicate to employees that any or all of the machines comprising the gin are about to be started. The signal shall be of sufficient volume to be heard by employees, and shall be sounded each time before starting the gin.

[41 FR 10195, Mar. 9, 1976; 41 FR 11022, Mar. 16, 1976; 41 FR 22268, June 2, 1976, as amended at 41 FR 46598, Oct. 22, 1976]

### Subparts E-H—[Reserved]

#### Subpart I—General Environmental Controls

§ 1928.110 Field sanitation.

(a) *Scope.* This section shall apply to any agricultural establishment where eleven (11) or more employees are en-

gaged on any given day in hand-labor operations in the field.

(b) *Definitions.* "Agricultural employer" means any person, corporation, association, or other legal entity that:

(i) Owns or operates an agricultural establishment;

(ii) Contracts with the owner or operator of an agricultural establishment in advance of production for the purchase of a crop and exercises substantial control over production; or

(iii) Recruits and supervises employees or is responsible for the management and condition of an agricultural establishment.

"Agricultural establishment" is a business operation that uses paid employees in the production of food, fiber, or other materials such as seed, seedlings, plants, or parts of plants.

"Hand-labor operations" means agricultural activities or agricultural operations performed by hand or with hand tools. Except for purposes of paragraph (c)(2)(iii) of this section, "hand-labor operations" also include other activities or operations performed in conjunction with hand labor in the field. Some examples of "hand-labor operations" are the hand-cultivation, hand-weeding, hand-planting and hand-harvesting of vegetables, nuts, fruits, seedlings or other crops, including mushrooms, and the hand packing of produce into containers, whether done on the ground, on a moving machine or in a temporary packing shed located in the field. "Hand-labor" does not include such activities as logging operations, the care or feeding of livestock, or hand-labor operations in permanent structures (e.g., canning facilities or packing houses).

"Handwashing facility" means a facility providing either a basin, container, or outlet with an adequate supply of potable water, soap and single-use towels.

"Potable water" means water that meets the standards for drinking purposes of the state or local authority having jurisdiction or water that meets the quality standards prescribed by the U.S. Environmental Protection Agency's National Interim Primary Drinking Water Regulations, published in 40 CFR Part 141.

"Toilet facility" means a fixed or portable facility designed for the purpose of adequate collection and containment of the products of both defecation and urination which is supplied with toilet paper adequate to employee needs. Toilet facility includes biological, chemical, flush and combustion toilets and sanitary privies.

(c) *Requirements.* Agricultural employers shall provide the following for employees engaged in hand-labor operations in the field, without cost to the employee:

(1) *Potable drinking water.* (i) Potable water shall be provided and placed in locations readily accessible to all employees.

(ii) The water shall be suitably cool and in sufficient amounts, taking into account the air temperature, humidity and the nature of the work performed, to meet the needs of all employees.

(iii) The water shall be dispensed in single-use drinking cups or by fountains. The use of common drinking cups or dippers is prohibited.

(2) *Toilet and handwashing facilities.* (i) One toilet facility and one handwashing facility shall be provided for each twenty (20) employees or fraction thereof, except as stated in paragraph (c)(2)(v) of this section.

(ii) Toilet facilities shall be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside and shall be constructed to insure privacy.

(iii) Toilet and handwashing facilities shall be accessibly located and in close proximity to each other. The facilities shall be located within a one-quarter-mile walk of each hand laborer's place of work in the field.

(iv) Where due to terrain it is not feasible to locate facilities as required above, the facilities shall be located at the point of closest vehicular access.

(v) Toilet and handwashing facilities are not required for employees who perform field work for a period of three (3) hours or less (including transportation time to and from the field) during the day.

(3) *Maintenance.* Potable drinking water and toilet and handwashing facilities shall be maintained in accordance with appropriate public health

sanitation practices, including the following:

(i) Drinking water containers shall be constructed of materials that maintain water quality, shall be refilled daily or more often as necessary, shall be kept covered and shall be regularly cleaned.

(ii) Toilet facilities shall be operational and maintained in clean and sanitary condition.

(iii) Handwashing facilities shall be refilled with potable water as necessary to ensure an adequate supply and shall be maintained in a clean and sanitary condition; and

(iv) Disposal of wastes from facilities shall not cause unsanitary conditions.

(4) *Reasonable use.* The employer shall notify each employee of the location of the sanitation facilities and water and shall allow each employee reasonable opportunities during the workday to use them. The employer also shall inform each employee of the importance of each of the following good hygiene practices to minimize exposure to the hazards in the field of heat, communicable diseases, retention of urine and agricultural residues:

(i) Use the water and facilities provided for drinking, handwashing and elimination;

(ii) Drink water frequently and especially on hot days;

(iii) Urinate as frequently as necessary;

(iv) Wash hands both before and after using the toilet; and

(v) Wash hands before eating and smoking.

(d) *Dates*—(1) *Effective Date.* This standard shall take effect on May 30, 1987.

(2) *Startup Dates.* Employers must comply with the requirements of paragraphs:

(i) Paragraph (c)(1), to provide potable drinking water, by May 30, 1987;

(ii) Paragraph (c)(2), to provide handwashing and toilet facilities, by July 30, 1987;

(iii) Paragraph (c)(3), to provide maintenance for toilet and handwashing facilities, by July 30, 1987; and

(iv) Paragraph (c)(4), to assure reasonable use, by July 30, 1987.