Non-Fatal Injuries: An Overview of Injuries to Youth on Racial-Minority Operated Farms in the U.S., 2000

E. Michael Goldcamp*, John Myers, Kitty Hendricks, and Larry Layne
Centers for Disease Control and Prevention,
National Institute for Occupational Safety and Health, Morgantown, WV.

Abstract:

The National Institute for Occupational Safety and Health (NIOSH) estimates that 32,808 non-fatal injuries occurred to youth under 20 years of age on U.S. farms during 1998. These data, however, do not allow for the identification of the race of the farm operator. Therefore, in 2001, the Minority Farm Operator Childhood Agricultural Injury Survey (M-CAIS) was conducted to provide an overview of the number of youth on minority operated farms and their associated farm-related injuries during 2000. M-CAIS was conducted by the United States Department of Agriculture (USDA) for NIOSH through a telephone survey of approximately 50,000 minority operated farms identified in the 1997 Census of Agriculture. These minority operated farms included four racial categories (Black, Asian, American Indian, and Other) and Hispanic ethnicity.

M-CAIS data indicate that approximately 416,088 youth under 20 years of age lived, visited, or worked on farms with a racial minority operator in 2000. Of this number, an estimated 28,577 youth lived on these farms. There were also approximately 7,435 youth directly hired to work on the operation, and 380,076 youth, including relatives, visiting the farm during 2000.

On these racial-minority operated farms, an estimated 531 non-fatal injuries occurred to youth less than 20 years of age during 2000. The majority of these injuries (348, 66%) occurred to youth identified as members of the household. Males accounted for 382 (72%) of the injuries. For the 200 (37%) injuries identified as work-related, 174 (87%) occurred to youth age 10 to 19 years. In addition, livestock operations account for the majority of all injuries (362, 68%). This paper will also present injury rates for specific sub-categories of the data to provide further insight into types of injuries and other factors which may impact these rates.

These data will provide researchers, injury prevention practitioners and farm families more detailed information on non-fatal injury events occurring on farms operated by racial minorities. This information may be used to assess the need for further study of specific sub-populations and the need for varied health and safety education within these populations.

Introduction:

The farm is recognized in occupational safety and health research as a hazardous environment for workers. However, the environment and mechanisms for farming present unique hazards to workers and non-workers alike, including those living on the farm. In addition, many individuals living and working on farms are under 20 years of age. According to Rivara (1997), "By virtue of the fact that children and adolescents live on farms, they are constantly exposed to hazards of farm equipment." The Centers for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH) developed the Childhood Agricultural Injury Survey (CAIS) to provide detailed information on injuries sustained by the youth population on U.S. farms.

The 1998 CAIS provided data on an estimated 32,808 non-fatal injuries to youth under 20 years of age occurring on U.S. farms in 1998 (Myers and Hendricks, 2001). An estimated 13.3 injuries per 1,000 youth occurred on these farms in 1998, excluding injuries to visitors. The survey also provided data allowing for inclusion of demographic factors such as sex and age. However, the disproportionate number of farms operated by Caucasians in the U.S. does not allow for inferences to be made to minority farms from the 1998 CAIS sample.

Studies such as those by Richardson et al. (1997), Crandall et al. (1997), and Lyman et al. (1999) indicate that race may influence injury rates on U.S. farms. Crandall et al. indicated that American-Indians and Hispanics in New Mexico are more likely than Caucasians to die on U.S. farms. Richardson et al. found that, in North Carolina, fatalities to African-American farmers were increasing from 1977 to 1991. During this same time period fatalities to Caucasian farmers were decreasing. However, Lyman et al. found that the injury rate for African-American owner/operators in Alabama and Mississippi was approximately half that of Caucasian owner/operators. These studies, however, do not address injury to youth on farms operated by racial minorities. In addition, these studies were limited in their geographic scope. Additional work addressing the role of race in farm injury is certainly warranted. To address this need, NIOSH developed the Minority Farm Operator - Childhood Agricultural Injury Survey (M-CAIS).

Methods:

The M-CAIS data were obtained through a survey conducted for NIOSH by the United States Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). Using the USDA 1997 Census of Agriculture as a sampling frame, 47,658 minority operated farm households nationwide were selected for inclusion. A farm was selected if the operator fit one of four racial categories (Black, Asian, Native American, and Other) or the operator's ethnicity was Hispanic. There were farms selected which were classified as Hispanic ethnicity and a racial minority. This analysis, however, includes only farms operated by racial minorities regardless of ethnicity.

Of the 47,658 farms operated by racial minorities, 35,084 were contacted for the M-CAIS sample. The crude response rate for the racial minority operator segment of the survey was approximately 54%, providing 19,083 total observations for analysis.

The data collected for the M-CAIS include demographic information on the farm and members of the farm household. Demographic data were also collected on youth under 20 years of age visiting and/or working on the farm. In addition, information was collected on all non-fatal injuries occurring to youth during the 2000 calendar year, and their exposure to specific farm hazards.

Injuries were defined as an event occurring on the farm operation that resulted in at least four hours of restricted activity or required the individual to seek professional medical attention. Both work and non-work injuries to youth living, working, or visiting the farm (excludes contractor laborers or laborers hired by contractors working on the farm) were included in these data. A work-related injury was defined as any injury that occurred while performing activities that had a direct impact on the farming operation as a business, regardless of whether the activity was performed for pay. Injuries incurred as the result of another individual's work were not defined as work-related.

The unbiased estimators for a stratified simple random sample were used to obtain estimates for both the injury and demographic data (Cochran, 1977). All results were benchmarked to the 1997 Census of Agriculture. The type of injury, body part, and a narrative description of the injury were collected for all reported injuries. Standardized coding of source of injury and event was completed per the Occupational Injury and Illness Classification System (OIICS) (BLS, 1992). Injury rates per 1,000 youth were calculated as the estimated number of injuries, divided by the estimated number of youth obtained from the M-CAIS.

Results:

All Youth on Racial-Minority Operated Farms:

On farms operated by racial minorities in 2000, there were an estimated 416,088 youth under 20 years of age living, working, or visiting. Table 1 provides a distribution of the relation of these youth to the farm, including whether or not they worked on the farm in 2000. Each of these youth, working or not, may have been exposed to hazards associated with the occupation of farming.

Table 1

Youth on Racial-Minority Operated Farms by Relation to Farm and Work Status, U.S; 2000		
	Population	Working
Household	28,577	11,753
Hired	7,435	7,435
Relative Visitors	191,848	15,338
Non-Relative Visitors	188,228	0
Total	**416,088**	**34,526**

On these farms in 2000, there were an estimated 531 (1.3 injuries per 1,000 youth) non-fatal injuries to youth less than 20 years of age. Native Americans experienced 38.8% (206) of all injuries, and 42.5% (85) of all working injuries. Table 2 provides the distribution of the overall injuries and working injuries by the race of the injured youth. This table is based upon the race of the injured youth; therefore white youth injured on farms operated by a racial-minority are included. Males accounted for 71.9% (382) of all injuries. Almost half (42.8%, 233) of all injuries were found in youth aged 10 to 15 years, while 31.3% (166) were to youth less than 10 years of age and 24.1% (128) were to youth 16 to 19 years of age. In addition, the majority of these injuries were to household youth (348, 65.5%, 12.2 per 1,000 youth). In general, non-fatal injuries to youth on these farms were not work-related (331, 62.3%).

Table 2

All Injuries to Youth on Racial-Minority Operated Farms by Youth's Race and Working Status, U.S; 2000		
	Injury Estimates	
Race	All Youth	Working Youth
White	92	38
Black	78	27
Native American	206	85
All other races/unknown*	155	50
Total	531	200

*All other races/unknowns includes "Asian", "Other", and "Unknown"

Although injuries on livestock operations accounted for over two-thirds (68.2%, 362) of all injuries to youth less than 20 years of age (Table 3), the actual difference between livestock and crop operations was minor when injury rates are considered. Approximately 1.1 injuries occurred for every 1,000 youth on crop operations, while 1.4 injuries occurred per 1,000 youth on livestock operations. Within these broad categories of farm-type, sheep (4.0/1,000), equine (2.1/1,000), poultry (2.0/1,000), and grain (1.8/1,000) operations had injury rates higher than the overall category rate.

The most common types of injuries were cuts/lacerations (130, 24.5%) and broken/fractured bone (121, 22.8%)(Table 3). In general the injured body parts were the extremities: the arm (91, 17.1%), the hand/wrist/finger area (79, 14.9%) and the leg (77, 14.5%). These injuries were consistent with the most common types of injury events reported. One hundred and sixty-three (30.7%) of the reported injuries were classified as occurring when the youth made contact with an object, which includes being struck by an object (78) and striking against an object (53). Also, 147 (27.7%) of the reported injuries were the result of falls. When one considers work status, it appears that contact with objects was more a result of work activities, while falls were more common with non-work injuries. For contact with objects injuries, 90 (55.2%) of the 163 injuries in this category were work related, while 106 (72.1%) of the 147 fall injuries occurred when the youth was not working. The most common source of injury overall was structures/surfaces. This source (which includes elements such as the ground, floors, and fences) accounted for 164 (30.9%) of the total injuries. Non-work incidents accounted for 67.7% (111) of all injuries sustained by structures/surfaces.

Table 3

All, Household, and Working Injuries to Youth on Racial-Minority Operated Farms by Farm Type, Body Part, and Type of Injury. U.S; 2000			
Farm Type	**All Injury**	**Household Injury**	**Working Injury**
Livestock	362	247	151
Crop	163	101	49
Unknown	6	0	0
Total	**531**	**348**	**200**
Body Part			
Arm	91	58	25
Hand,wrist,fingers	79	48	39
Leg	77	54	34
Foot,ankle,toes	68	41	33
Head,skull	57	35	22
Face	50	36	***
Shoulder,chest,back	38	27	***
Other body parts	36	24	14
Multiple body parts	30	21	14
Unknown	5	3	0
Total	**531**	**348**	**200**
Type of Injury			
Cut, laceration	130	95	56
Broken bone, fracture	121	78	40
Bruise, contusion	61	47	20
Puncture,stab,jab	53	21	20
Other injuries	51	21	20
Scrape, abrasion	34	27	***
Sprain/Strain	31	20	***
Multiple injuries	31	28	19
Burn, blister, scald	12	7	***
Unknown	8	3	3
Total	**531**	**348**	**200**

***Estimate is not reported or suppressed because of a non-reportable cell

Household Youth on Racial-Minority Operated Farms:

Youth living on farms operated by racial minorities sustained an estimated 348 (12.2 per 1,000 youth) non-fatal injuries in 2000 (Table 4). Among these youth, 70% (245) of the injuries occurred to males. This rate of injury was 16.9 per 1,000 male household youth; more than twice the rate of injury for female household youth (7.9 per 1,000 youth). The majority (78.4%, 273) of non-fatal injuries occurred to youth less than 16 years of age. The rate of injury to household

youth less than 16 years of age was 13.7 injuries per 1,000 youth living on the farm. Household youth who worked on the farm sustained 11.7 injuries per 1,000 (138), while their non-working household peers sustained 12.5 injuries per 1,000 (210). As shown in Table 5, the injury rates by age for working household youth were relatively constant, while the rate jumps dramatically for 10 to 15 years of age non-working youth.

Table 4

Household Youth on Racial-Minority Operated Farms, Population and Injuries by Youth Race, U.S; 2000			
Race	Population Estimate	Injury Estimate	Rate per 1,000 Youth
Black	7,688	49	6.4
Native American	7,381	177	24.0
Asian	5,700	26	4.5
Other	7,808	96	12.3
Total	**28,577**	**348**	**12.2**

Table 5

Injury Rate per 1,000 Household Youth on Racial-Minority Operated Farms by Age and Work Status, U.S; 2000		
Age (Years)	Working	Non-Working
Less than 10	9.3	12.5
10 to 15	12.9	18.0
16 to 19	11.4	6.8
Total	**11.7**	**12.5**

Injuries to household youth on livestock operations (247) were twice as common as injuries to these youth on crop operations (101) (Table 3). Household youth on livestock operations sustained 16.8 injuries per 1,000, while on crop operations they sustained 8.2 per 1,000. When one considers work status and farm-type we find that household youth were injured at a rate of 4.6 per 1,000 working youth on crop operations; on livestock operations, however, this figure climbed to 16.2 injuries per 1,000 youth.

The most common injury events for household youth were falls (109, 31.3%) and contact with objects (108, 31.0%). Of the falls, only 30.3% (33) were work-related while 56.5% (61) of the contact with objects injuries were work-related. These results are similar to those found for the general youth population on these farms. Also, as we found for the overall population, the most common source of injury to household youth were structures/surfaces, accounting for 117 (33.6%) events with 65% (76) of these events being non-work related.

Work-related Injuries to Youth on Racial-Minority Operated Farms:

Although the majority (331, 62.3%) of all injuries were not work-related, 200 (37.8%) non-fatal injuries were sustained as the result of work (5.8 injuries per 1,000 youth). Most of these work-related injuries were to youth living in the household (138, 69.0%, 11.7 per 1,000

youth). The distribution of injury rates by relation to the farm is shown in Table 6.

Table 6

Work-related Injuries and Rates for Youth on Racial-Minority Operated Farms by Relation to Farm, U.S; 2000			
	Working Population Estimate	Injury Estimate	Rate per 1,000 Youth
Household	11,753	138	11.7
Hired	7,435	42	5.6
Relative Visitors	15,338	20	1.3
Non-relative Visitors	0	0	0
Total	**34,526**	**200**	**5.8**

Work-related injuries were primarily found in youth age 10 to 19 (174, 87.0%). This result is consistent with the findings for household youth.

The most common types of work-related injuries were cuts/lacerations (56, 28.0%) and broken/fractured bone (40, 20.0%). In general the injured body parts were the extremities: the hand/wrist/finger area (39, 19.5%), the leg (34, 17.0%), and the foot/ankle/toes (33, 16.5%). These injuries were consistent with the most common types of injury events reported. Ninety (45.0%) of the reported work-related injuries were classified as occurring when the youth made contact with an object. Forty-two (21.0%) of the reported injuries are the result of falls. The most common source of injury was structures/surfaces. This source (which includes elements such as the ground, floors, and fences) accounted for 53 (26.5%) of the total work-related injuries. It must be noted that parts/materials was also common to work-related injuries. These sources of injury accounted for 34 (17.0%) of the work-related injuries, but only 12 (3.6%) of the non-work related injuries.

Discussion:

The 2000 M-CAIS provides a unique nationwide perspective on minority operated farms. Although the time period covered by M-CAIS data is not the same as the time period of the 1998 CAIS data (Myers and Hendricks, 2001), some comparison can be made to provide insight into differences between the overall population of U.S. farms and the sub-population of minority operated farms.

The M-CAIS data provides an overall injury rate of 1.3 injuries per 1,000 total youth on racial-minority operated farms. This rate appears to be ten times lower than the rate reported in the 1998 CAIS publication for all farm youth (Myers and Hendricks, 2001). However, M-CAIS allows for the inclusion of injuries to visitors and relatives, while CAIS does not. By including visitors and relatives the M-CAIS greatly increases the number of individuals exposed to hazards without a large increase in injuries. In fact, using the same criteria for the category "all farm youth" (household and hired workers only) the M-CAIS injury rate was 10.2 injuries per 1,000 youth, similar to the 13.3 injuries per 1,000 youth from CAIS. One may assume that relatives

and visitors are exposed to the hazards of farming at a more limited level than household and hired youth. Therefore, in terms of relative likelihood of injury, the minority operated farm appears to be very similar or slightly safer than the average U.S. farm. The patterns of injury are also quite similar. Being male, living in the household, and being younger all appear to increase the likelihood a youth will be injured on the farm. Although, particularly with regard to household youth, the minority operated farm youth is at a lower risk of injury according to these data.

Further comparison to the 1998 CAIS can be made with regard to household youth and working household youth. The 1998 data indicates that household youth were injured at a rate of 18.7 per 1,000 youth, while the 2000 M-CAIS data indicates an injury rate of 12.2 per 1,000 household youth. In addition, the injury rate for household youth by race in 2000 indicates that Native Americans were injured at a rate (24.0 per 1,000 youth) almost double that of the overall minority rate. Working household youth show a similar pattern. The rate of injury to working household youth in 1998 was 14.1 per 1,000, while the 2000 M-CAIS data show a rate of 11.7 per 1,000 youth. The lower rate of injury found with the 2000 M-CAIS data may indicate a downward trend in injury rates that is simply reflected in this sub-population. However, the rates by race indicate that the lower rate is a reflection of the variation by racial category. Table 4 provides the household youth population by race with their corresponding injury rates. It is important to note that the population sizes do not vary greatly, while the injury rates do. This indicates that the low M-CAIS rate may be the result of the very low injury rates experienced by Black and Asian household youth. Native American household youth, however, do appear to be at greater risk for injury than all other youth. This information is crucial to promoting safe farm work as it indicates specific audiences that may not be appropriately targeted.

Although the M-CAIS data provide a unique outlook into a specific sub-population in the farming community, there are limitations to its utility. First, data are only available for the year 2000. There is no direct comparison group to allow for inferences over time. Also, the data are not available for the general farming population during the same time period which would allow for direct comparisons using differing demographics. In addition, the determination of minority operated farms is difficult given the self-reported nature of the race and ethnicity variable. Assumptions must be made when multiple races are reported. It is also possible that individuals are not wholly accurate in reporting their race or ethnicity, and the race/ethnicity of the operator may not accurately reflect the race/ethnicity of the youth population on the farm. However, despite these issues, M-CAIS is an important first step in providing an accurate analysis of youth injuries on farms operated by racial minorities.

Conclusion:

In the U.S. over 36,000 youth live and/or work on minority operated farms. Since this population accounts for less than 3% of the total youth living and/or working on U.S. farms, this sub-population is often overlooked in agricultural injury research. Although the initial review of M-CAIS data does not indicate that these farms are more or less hazardous than the general population, the scope of the data will allow for further analyses using specific demographic and occupational factors. These analyses may show important differences in factors such as specific race of the operator or the farm-type. Future surveys of this population will also allow

researchers to monitor the change over time in the hazards faced by this sub-population and its relation to the hazards faced by the general farming population. This is an important contribution to agricultural production safety as the demographics of the nation and the farm are constantly changing in the United States. To ensure safety on the American farm, occupational safety and health experts must constantly consider the nature of not only the injuries occurring, but the cultural and ethnic systems in which safety messages are being applied. M-CAIS provides insight into both.

References:

Bureau of Labor Stastics (BLS). 1992. *Occupational Injury and Illness Classification Manual.* Washington, DC: US Department of Labor, Bureau of Labor Statistics.

Cochran, W. 1977. *Sampling Techniques*, 3rd edition. New York: Wiley.

Crandall, C.S., L. Fullerton, L. Olson, D. Sklar, and R. Zumwalt. 1997. "Farm-related injury mortality in New Mexico, 1980-91." *Accident Analysis and Prevention.* Volume 29(2): 257-261.

Lyman, S., G. McGwin, R. Enochs Jr., and J. Roseman. 1997. "History of agricultural injury among farmers in Alabama and Missisippi: Prevalence, characteristics, and associated factors." *American Journal of Industrial Medicine.* Volume 35: 499-510.

Marlenga, B., W. Pickett, and R.L. Berg. 2001. "Agricultural work activities reported for children and youth on 498 North American farms." *Journal of Agricultural Safety and Health.* Volume 7(4): 241-252.

Myers, J. and K. Hendricks. 2001. *Injuries Among Youth on Farms in the United States, 1998* Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Morgantown, WV.

Richardson, D., D. Loomis, S. Wolf, and E. Gregory. 1997. "Fatal agricultural injuries in North Carolina by race and occupation, 1977-1991." *American Journal of Industrial Medicine,* Vol. 31: 452-458.

Rivara, Frederick. 1997. "Fatal and nonfatal farm injuries to children and adolescents in the United States, 1990-3." *Injury Prevention.* Vol. 3 190-194.

Gran, Marsha J.

From: Hard, David L., Ph.D.
Sent: Monday, March 08, 2004 8:23 AM
To: Gran, Marsha J.
Subject: RE: Documents Received

There is only one NIFS organization and the 2003 meeting was held in Windsor, Ontario, Canada. The reason the Columbia, MO address is used is that was where the Administrative Director (used to be the Secretary/Treasurer) worked/lived and this address was used/listed as the correspondence point for NIFS (as Presidents rotate each year and the AD was a more stable address) to get proceedings, publications, official correspondence, etc. Hope this clarifies things for you. Thanks.
DH

-----Original Message-----
From: Gran, Marsha J.
Sent: Friday, March 05, 2004 2:58 PM
To: Hard, David L., Ph.D.
Subject: FW: Documents Received

David,

Per my phone call to you and your call back to me, I am trying to clear up some confusion about the location (where the meeting was held) of the National Institute for Farm Safety 2003 Annual Conference. According to the e-mail Tim Pizatella sent to me (below), the meeting was held in June 22-26 in Columbia, MO; but, according to the NIFS Update the annual conference was held in Windsor, Ontario, Canada, June 22-26, 2003? I got your name as being one of the NIFS Update Editorial Advisory Board members and thought may be you could help clear up this confusion. Are there two NFIS groups that hold separate meetings? Please advise. Thank you for your help. This can wait until you get back into the office.

Marsha Gran, EID
513-533-8350
mjg1@cdc.gov

-----Original Message-----
From: Pizatella, Timothy J.
Sent: Wednesday, January 28, 2004 11:29 AM
To: Gran, Marsha J.
Cc: Fields, Judith K.
Subject: FW: Documents Received

Marsha: These documents were published as Extended Abstracts in the Proceedings of The National Institute for Farm Safety 2003 Annual Meeting, June 22-26, 2003, Columbia, MO. They were included on the DSR CY2003 bibliography and listed as abstracts in the NIFS proceedings. However, I know this is confusing as they look more like journal articles.

Let me know if you need any additional info to enter these properly. Thanks.

TPizatella

-----Original Message-----

From: Fields, Judith K.
Sent: Wednesday, January 28, 2004 11:23 AM
To: Pizatella, Timothy J.
Subject: FW: Documents Received

-----Original Message-----
From: Gran, Marsha J.
Sent: Tuesday, January 27, 2004 4:58 PM
To: Fields, Judith K.
Subject: Documents Received

Judy,

I have received three documents in the mail from your office and I need some clarification about them. The documents are;

1) Demographics and Non-fatal Injury Patterns of Youth Less than 20 Years Old on Hispanic Operated Farms in the United States, 2000, Layne, L. et al.

2) Non-fatal Injuries: An Overview of Injuries to Youth on Racial-Minority Operated Farms in the US, 2000, Goldcamp, M. et al.

3) Farm Hazards to Household Youth on Minority Operated Farms in the United States, 2000: Exposures and Injuries from Work, Horses, ATVs. And Tractors, Hendricks, K. et al.

Were these documents submitted to journals for publication and these are the pre-publication copies or are these reports that were written not to be published? If they are already published, than we would not put these reports in NIOSHTIC-2, we put the published reports in the database. Also, none of the reports have dates on them as to when they were written or that they were approved by anyone? What can you tell me about the documents so I can enter them into NIOSHTIC-2 correctly. Thanks for your help.

Marsha Gran, EID
533-8350

Gran, Marsha J.

From: Bennett, William D. (Bill)
Sent: Wednesday, January 28, 2004 5:34 PM
To: Gran, Marsha J.
Subject: RE: Documents Received

I found out a lot and nothing. See the link below.

http://www.ag.ohio-state.edu/~agsafety/NIFS/nifs.htm

I have not been able to locate the proceedings. I don't know for sure if they were even published. It seems like I have researched this in the past, probably for the 2002 meeting since we have three hits in NIOSHTIC-2 for that meeting. Search for NIFS in all fields, and use them as a model for the 2003 meeting.

You should probably verify the city where the meeting was held. The citations provided by DSR, see the attached file, indicate Clayton, MO., but all of the literature indicates it would be held in Winsor, Ontario, Canada. It may have been moved because of the mad cows coming down with SARS.

CY03DSR.rtf
(29 KB)

-----Original Message-----
From: Gran, Marsha J.
Sent: Wednesday, January 28, 2004 2:18 PM
To: Bennett, William D. (Bill)
Subject: FW: Documents Received

Bill,

FYI - answer about the 3 documents from Judy Fields in DSR. I thought we checked the DSR Bibliography and did not see them listed? What's your call? Thanks.

Marsha

-----Original Message-----
From: Pizatella, Timothy J.
Sent: Wednesday, January 28, 2004 11:29 AM
To: Gran, Marsha J.
Cc: Fields, Judith K.
Subject: FW: Documents Received

Marsha: These documents were published as Extended Abstracts in the Proceedings of The National Institute for Farm Safety 2003 Annual Meeting, June 22-26, 2003, Columbia, MO. They were included on the DSR CY2003 bibliography and listed as abstracts in the NIFS proceedings. However, I know this is confusing as they look more like journal articles.

Let me know if you need any additional info to enter these properly. Thanks.

TPizatella

-----Original Message-----
From: Fields, Judith K.
Sent: Wednesday, January 28, 2004 11:23 AM

To: Pizatella, Timothy J.
Subject: FW: Documents Received

-----Original Message-----
From: Gran, Marsha J.
Sent: Tuesday, January 27, 2004 4:58 PM
To: Fields, Judith K.
Subject: Documents Received

Judy,

I have received three documents in the mail from your office and I need some clarification about them. The documents are;

1) Demographics and Non-fatal Injury Patterns of Youth Less than 20 Years Old on Hispanic Operated Farms in the United States, 2000, Layne, L. et al.

2) Non-fatal Injuries: An Overview of Injuries to Youth on Racial-Minority Operated Farms in the US, 2000, Goldcamp, M. et al.

3) Farm Hazards to Household Youth on Minority Operated Farms in the United States, 2000: Exposures and Injuries from Work, Horses, ATVs. And Tractors, Hendricks, K. et al.

Were these documents submitted to journals for publication and these are the pre-publication copies or are these reports that were written not to be published? If they are already published, than we would not put these reports in NIOSHTIC-2, we put the published reports in the database. Also, none of the reports have dates on them as to when they were written or that they were approved by anyone? What can you tell me about the documents so I can enter them into NIOSHTIC-2 correctly. Thanks for your help.

Marsha Gran, EID
533-8350

NIFS Update

Information from the National Institute for Farm Safety

April 2003 Volume 8 Issue 1

Join us for a 'journey' to Canada

NIFS Annual Conference Facts

Dates: June 22-26, 2003

Location: Windsor, Ontario, Canada

Conference hotel: Hilton Windsor, Ph: 800/445-8667; MUST mention Group Code FSC for special rates

Additional rooms: Radisson Riverfront, Ph: 519/977-9777 or 800/333-3333

Special rates (CANADIAN dollars): $150/night (single or double); $160/night (triple); $170/night (quad); children under 13 FREE

CUTOFF date for special rates: May 15

Conference registration (CANADIAN dollars): NIFS members – $350 before May 15; $425 after May 15. Non-members – $425 before May 15; $500 after May 15

Payment: Registration fees must be paid in Canadian dollars, via Visa or MasterCard or Canadian Money Order

For more information: Michele Brown, Ph: 519/823-5600, E-mail: mbrown@farmsafety.ca

If you've thought about taking a trip to Canada, but weren't quite sure when, this coming June presents a great opportunity! Windsor, Ontario – a city known for its wide variety of attractions, including the arts, entertainment, professional sports and festivals – is the site of the National Institute for Farm Safety, Inc. (NIFS) 2003 Annual Conference.

The dates are June 22-26, and the theme is *Life is a journey, travel safely*. The coordinator of this year's conference, to be held at the Hilton Windsor Hotel, is the Farm Safety Association Inc.

All NIFS members and non-members interested in networking with agricultural safety and health professionals from throughout the United States and Canada are welcome to attend.

Among the highlights of the upcoming conference are:

- a Sunday night opening reception at the Canadian Club Brand Heritage Center, including a tour of Hiram Walker's executive building
- Tuesday afternoon tours of either Rol-land Mushroom Farms and Pelee Island Winery, a traditional European winery; or the winery and Family Tradition Foods, a large processor and marketer of frozen vegetables
- presentations, poster sessions, and educational displays on a wide variety of current agricultural safety and health issues
- another *Both Sides of the Fence* debate (see page 3 for more information)
- a Professional Improvement session presented by Dr. Mary Ann Cooper of the University of Illinois-Chicago on *Electrical Safety on the Farm, Including Lightning*

Still more activities

If you're looking for even more chances to network, the Canadian Agricultural Safety Association will be holding its semi-annual board meetings in Windsor at the same time as the start of the NIFS conference.

And if you're thinking about bringing your family on the trip, specific family events are being planned, including a children's pizza party and a tour to a historic fort and a greenhouse complex complete with a petting zoo and indoor miniature golf course.

Conference attendees who like to play golf will have an opportunity during special tee times being set aside at a local golf course. Also, the International Freedom Festival will be taking place that week, with attractions close to the hotel.

For more information on the conference and on Windsor, visit these web sites: **www.ag.ohio-state.edu/~agsafety/NIFS/meetings03.htm** and **www.visitwindsor.com**

Tips on international travel to/from Canada

If you're planning on attending the National Institute for Farm Safety's (NIFS) Annual Conference in Windsor, Ontario, Canada in June, it's important that you be properly prepared in advance for international travel from the United States.

With the U.S. on "high" alert at the time of this printing, be sure to allow plenty of extra time for security checks at the U.S.-Canadian border – whether you're traveling by plane or by car. And don't be surprised if it takes you even longer to get through security when you're returning to the United States.

At the very least, be able to show security officials in both countries a government-issued photo ID (such as an unexpired driver's license) **and** a passport (by far the best, if possible) or a certified state or federal government-issued birth certificate (hospital-issued birth certificates are **not** acceptable). Due to heightened security worldwide, it's best to keep proof of citizenship on you at all times while in Canada.

There are a number of web sites where you can get good information on travel to and from Canada, security and customs requirements, driving in Canada, and the current situation worldwide.

These include: **www.visitwindsor.com** (look at Before You Go for information on Customs and Immigration); **www.immigration.gov/graphics/shared/lawenfor/bmgmt/inspect/docrequirements.htm**; **www.dhs.gov** (the Immigration & Borders link); and **www.dwtunnel.com** (the Detroit-Windsor Tunnel Corp.).

Timely debate is planned

If you've participated in NIFS annual conferences in the past, you'll know that one of the most popular events has been the *Both Sides of the Fence* debate. In these debates, volunteer panelists from NIFS have offered opposing perspectives on such controversial issues as whether parents should be held legally accountable for agricultural injuries to their own children if "reckless endangerment" seems indisputable, and whether or not tractors should be equipped with "extra rider" seats.

The National Farm Medicine Center is working with the Farm Safety Association Inc. to plan another interesting and informative *Both Sides of the Fence* debate during the upcoming June 22-26, 2003 NIFS Annual Conference in Windsor, Ontario, Canada.

Topics under consideration at press time included regulations in agriculture, NIFS advocacy, and off-road vehicle issues.

The purpose of *Both Sides of the Fence* is to generate dialogue over complex and controversial practices in agricultural health and safety.

Through this interactive process, it is hoped that these discussions will guide individuals and organizations in identifying their own positions on these issues.

News for NIFS members

Some important news for NIFS members: First, a reminder that NIFS's business year runs from June 1-May 31. So if it's at all possible to renew your membership and pay your dues by May 15, Administrative Director Cheryl Skjolaas would greatly appreciate it! If you didn't receive your membership renewal statement or have any other questions, Cheryl can be reached at Ph: 608/265-0568 or E-mail: nifsad@tds.net

Secondly, the results of the member balloting on NIFS's proposed new mission statement will be announced at the annual conference in Ontario in June. The draft statement, which was approved by the NIFS Board of Directors, reads: "NIFS is an organization dedicated to the professional development of agricultural safety and health professionals, providing national and international leadership in preventing agricultural injuries and illnesses to the agricultural community. NIFS provides opportunities for sharing information about research and intervention programs, improving professional skills and knowledge, networking and other supportive activities."

Upcoming Events

May 10-15, 2003:	**American Industrial Hygiene Conference and Expo** *Dallas, Texas*
May 29-30, 2003:	**The Clock is Ticking for Rural America: A Behavioral Health and Safety Conference** *Kansas City, Missouri*
June 22-25, 2003:	**American Society of Safety Engineers Safety 2003 Conference** *Denver, Colorado*
June 22-26, 2003:	**National Institute for Farm Safety 2003 Annual Conference** *Windsor, Ontario, Canada*
July 27-30, 2003:	**American Society of Agricultural Engineers Annual International Meeting** *Las Vegas, Nevada*
Sept. 5-12, 2003:	**National Safety Council Congress & Expo: Taking Safety to New Heights** *Chicago, Illinois*
Sept. 8-9, 2003:	**Challenges in Agriculture Health & Safety 2003** *San Francisco, California*
Oct. 19-23, 2003:	**Institute of Agricultural Rural and Environmental Health, University of Saskatchewan: Future of Rural Peoples International Symposium** *Saskatoon, Saskatchewan, Canada*

Agricultural Safety and Health Update

Recognizing the dangers of manure pits

By Barbara Mulhern
Editor, NIFS Update

In Macy, Indiana, a 4-year-old boy is found dead after apparently falling through a metal cover over a liquid manure pit on his family's farm. In Mansfield, Pennsylvania, a 15-year-old youth working on a dairy farm slides the tractor he is operating into an open manure pit, is engulfed, and dies. And in Kewaunee County, Wisconsin, a 53-year-old farmer and his 23-year-old son are discovered dead inside a 10-foot deep manure pit after a failed rescue attempt by the son.

NIFS members have long heard stories similar to these recent incidents. Yet throughout the country, farmers continue to fail to take proper precautions to protect themselves, their family members and their employees from the dangers of manure pits and other confined spaces.

"Entering a manure pit is like playing Russian roulette," Mark Purschwitz, former NIFS president and University of Wisconsin-Madison Extension agricultural safety and health specialist, says. "Some farmers have gone into manure pits without consequence, and they have a false sense of security. However, conditions can vary, and entering and exiting 10 times does not guarantee surviving the 11th entry."

One of the major hazards of manure pits is the accumulation of certain toxic gases. These gases include hydrogen sulfide (which is heavier than air and has a "rotten egg" smell in lower concentrations, but is odorless in high concentrations), carbon dioxide (also heavier than air), methane, and ammonia.

"As hard as it may be, no one should attempt to rescue a person who has collapsed in a manure storage facility without wearing a proper safety harness, without specialized training and experience, and without a properly maintained SCBA (self-contained breathing apparatus) respirator," Dr. Steve Kirkhorn, medical director of Occupational Health Services at the Immanuel-St. Joseph's-Mayo Health System in Mankato, Minnesota says.

It's also important that you never assume that the air inside a manure storage facility is safe to breathe unless it has been tested.

Here are some tips to pass on to farmers to reduce the risk of severe injuries and fatalities in manure pits and other confined spaces:

1. Survey your operation for the presence of confined spaces; then post sturdy, weatherproof warning signs on or next to them.

2. Make sure that these signs are understandable to any employees who can't speak English and to those who can't read.

3. Regularly inspect all warning signs to ensure that they are clean, readable, and have not been removed.

4. Cover or block off all openings to confined spaces. For example, cover openings to manure pits with metal grills and solid covers. Also, fence off all open manure pits.

5. Check with your state or federal OSHA office to see if you are covered by OSHA's Confined Spaces Standard (Title 29 CFR, Part 1910.146). If you are, become familiar with all of its requirements.

6. Train all family members and employees in the dangers of manure pits and other confined spaces.

Letter from the President

Let's all work to 'Get 'er Done!'

This year's NIFS Annual Conference is in Windsor, Ontario, June 22-26. The preliminary program indicates that this will be an outstanding meeting, thanks to the planning committee. This year's theme, *Life is a journey, travel safely*, is excellent in that it portrays the role we play as safety and health professionals, and maybe reflects on our personal lives. We hope that you can attend the meeting.

Here in Idaho, there is a local car dealer that uses an advertisement slogan "Get 'er Done!" The TV ads portray several scenarios in which a salesman calls the owner of the dealership and asks if a certain deal is alright, and the owner says: "Get 'er Done!" Wouldn't it be nice if we were able to do the same in the agricultural safety and health area? If some authority says that there are too many incidents in ag with a particular commodity, say potatoes, and says to reduce the numbers, "Get 'er Done!" So some paperwork is processed and the problem is solved.

In real life, we know this is not possible as we deal with people and traditions. It takes some persuasion, education, research, and perhaps regulation to "Get 'er Done." This leads to what NIFS is all about – networking with other professionals in the field to find out what others have done and perhaps share your experiences with your colleagues to find a better way. Then perhaps we will "Get 'er Done" with agricultural safety and health.

See you in Windsor!

Tom Karsky

Tom Karsky, NIFS President

The hazards of 'bypass starting'

Editor's note:
A special thanks to NIFS member Charles Brundage and Earle Morton, both product safety managers at AGCO Corp., for their technical assistance with this article.

NIFS *Update*
is published by the National Institute for Farm Safety, Inc., a nonprofit, voluntary organization for agricultural health and safety specialists.

Editor: Barbara Mulhern,
Ph: 800/379-0770
Fax: 800/379-1545
E-mail: bmulhern@gemplers.com

Each year, a few farmers, farmworkers or mechanics are crushed and seriously injured or killed after "bypass starting" a tractor or other vehicle that is in gear. "Bypass starting" involves touching a wrench or screwdriver to the terminals of the starter motor or to the solenoid of a tractor or to the starter of any self-propelled vehicle. This bypasses all neutral start switches in the tractor's electrical and hydraulic systems. After a few sparks, the circuit is completed and the starter engages, starting the engine.

Unfortunately, however, what also may happen is that the tractor or vehicle may be in gear and it suddenly lurches forward or backward – catching the farmer by surprise. The person is then pulled down by the drive wheel, and is crushed, seriously injured or killed.

Regularly checking to make sure neutral start switches are functioning correctly will help you avoid the temptation of bypass starting an engine – and may save your life. Here are some steps to follow while seated in the operator's seat:

1. Check to make sure there are no bystanders or obstructions nearby. On equipment with a separate fuel shut-off control, keep the control in the OFF position. For each test, turn the start switch to the START position only long enough to determine if the starter is being activated – that is, just a very brief ON-OFF.

2. Depress the clutch and brake pedals. Try to start the engine with the gearshift in neutral and the power takeoff (PTO) in neutral. The starter should engage.

3. Know that manufacturers have used a number of ways to provide neutral start protection for the transmission/ground drive. The switch may be operated by the gearshift, the clutch pedal, or, on some equipment with hydrostatic drive, on the ground speed control.

Depress the brake pedal but not the clutch pedal, place the PTO control in neutral, place the gearshift in a position other than neutral, move the ground speed control lever, if so equipped, away from the neutral position and try to engage the starter. The starter should not engage.

4. Depress the clutch and brake pedals. Try to start the tractor with the gearshift in neutral and the PTO engaged. Again, the starter should not engage.

5. If the starter engages in either test 3 or 4, be sure repairs are made to correct the problem before the equipment is used.

New resource

Longtime NIFS member Dennis Murphy, Extension safety specialist at Penn State University, has authored a new book entitled *Looking Beneath the Surface of Agricultural Safety and Health.*

The 112-page book, which includes a history of NIFS over the years, scrutinizes past and current approaches to agricultural safety and health, and offers suggestions. Among the topics included are injury trends and the nature of farm work.

The book is available from the American Society of Agricultural Engineers, Ph: 269/429-0300; Fax: 269/429-3852; or web site: **www.asae.org/pubs**

NIFS *Update*
National Institute for Farm Safety, Inc.
460 Henry Mall
Madison, WI 53706

Document 1 of 1

National Institute for Farm Safety (NIFS)

c/o Cheryl Skjolaas
University of Wisconsin
460 Henry Mall
Madison, WI 53706 USA

Phone:(608) 265-0568
Fax: (608) 262-1228
E-Mail: tkarsky@oidaho.edu
This E-Mail address was provided by the association; Gale is not responsible for its accuracy.
URL: http://www.ag.ohio-state.edu/~agsafety/NIFS/nifs.htm
This URL was provided by the association; Gale is not responsible for its content. To return to GaleNet after viewing the website, use the BACK button on your browser.

Primary Contact: Thomas Karksy, Pres.

Founded: 1962. **Members:** 204. **Membership Dues:** associate, $50 annual; full, $75 annual. **Staff:** 1. **Languages:** English. **Description:** Professional agricultural safety and health specialists devoting their efforts toward an improved agricultural injury and illnesses record through education, engineering, and research in the U.S. and Canada. Endorses use of Slow Moving Vehicle emblem and roll-over protection strutures throughout North America; has suggested use of hand signals for agricultural purposes. Contributes to the Cooperative Standards Program handled by the American Society of Agricultural Engineers; helps fund accident studies and encourages industry support and research. Holds annual institute. **Committees:**Home, Farmstead, and Leisure Time; Rural Occupational Health; Tractor and Machinery; Traffic and Transportation. **Affiliated With:** American Society of Agricultural Engineers; National Safety Council.

Conventions/Meetings: semiannual conference • conference, for safety professionals in agricultural safety and health, and interested individuals • annual conference.

SIC: 8621 - Professional Organizations; 8733 - Noncommercial Research Organizations
Subject Descriptor(s): Safety; Agricultural Education; Agriculture; Farming; Safety Education
Subject Category: Social Welfare Organizations