

# **A SURVEY OF UTAH FARMERS TO DETERMINE THE VIABILITY OF THE INTERNET FOR DISTRIBUTING HEALTH AND SAFETY INFORMATION**

Tim Hill, University of Utah  
Dean R. Lillquist, University of Utah

[st2hill@hotmail.com](mailto:st2hill@hotmail.com)

## **ABSTRACT**

Farmers are hardworking individuals and farms are clinics in hard work and perseverance. But farming is also dangerous. In agriculture, traumatic injuries, illnesses, and deaths are all too common; resulting from accidents involving farm machinery, heavy equipment, livestock, exposure to agrichemicals, ultraviolet light, exhausts, solvents, welding fumes, dusts, etc. And while industries such as mining, railroad, and construction have been making strides to improve the safety of their work, agriculture has been staying stagnant.

Much of the problem can be attributed to the fact that reaching and training agriculture workers is not as easy as in other industries. Immigrant agriculture workers travel from region to region. Family farms are exempt from many regulations. In addition, the majority of Utah's farms are greater than 100 acres; meaning that individuals work an abundance of man-hours.

To assess the potential for using the Internet to provide safety and health information to Utah's farmers, a 10-part questionnaire was developed and delivered to a group of Utah farmers. The survey was intended to compile information regarding: farm size and crop data; computer and Internet access and capabilities; and general levels of interest in Health and Safety information. The survey was sent to 500 farms, randomly provided by the Utah Farm Bureau. There were 120 respondents for a response rate of 37.8%.

Of the respondents, 65% indicated having access to the Internet, with only 10% of those using the Internet to educate themselves on health and safety topics. Overall interest in Safety and Health information was moderate. The topics receiving the most interest were chemical hazards, tractor safety, child safety, accident prevention and livestock safety.

## **INTRODUCTION**

Nationwide, an estimated 2 million full-time workers are employed in production agriculture, with an additional 1.26 million children and adolescents residing on farms. Farmers have long been portrayed as hardworking individuals. Farms throughout the country are clinics in hard

work and perseverance, but they can also be thought of as dangerous. In fact, agriculture ranks among the most hazardous industries in the United States. Farmers are at very high risk for fatal and nonfatal injuries and illnesses. Farming is one of the few industries in which family members participate in farming activities and are also at risk for fatal and nonfatal injuries (National Institute for Occupational Safety and Health [NIOSH], 2003). Many of the traumatic injuries and deaths are a result of farm machinery, heavy equipment, and livestock. The hazards of agriculture work don't stop there. In a 10-year study conducted by the National Safety Council, 78% of the study group had some noise induced hearing loss, mostly attributed to noise on the farm (National Safety Council, 2003). Agrochemicals pose a risk for acute and chronic toxicity including cancer. Exposure to ultraviolet light has a direct effect on dermatologic diseases, while the respiratory tract is at risk due to exposures to gases, exhausts, solvents, welding fumes, viral diseases from animals, and exposure to dust.

And while industries such as mining, railroad, and construction have been making strides to improve the safety of their work, agriculture has remained stagnant. According to the Bureau of Labor Statistics 1993 Census of Fatal Occupational Injuries, the agriculture, forestry and fishing division shared the highest rate of fatal injury (26 deaths per 100,000 workers) with the mining industry. Within the industry division, agricultural service workers experienced a fatality rate of 94 per 100,000 workers (Bureau of Labor Statistics, 1993). Nationwide, about 500 agricultural workers suffer lost-work-time injuries each day, with about 5% resulting in permanent impairment (NIOSH, 2003).

Much of the problem can be attributed to the fact that reaching and training agriculture workers is not as easy as other industries. Immigrant agriculture workers travel from region to region, with very little attention being paid to safety or training. In addition, family farms don't fall under occupational regulatory agencies. But in this age of the Internet and the worldwide web, shouldn't it be easy to communicate with and provide information to the agricultural community? An underlying trend is that in order to stay on top of the business, farmers are relying on computers and the Internet. Identified uses of the Internet include weather information and climate trends as well as financial tools and tips.

To determine the potential for using the Internet to provide safety and health information to Utah's farmers, a 10 part questionnaire was developed. The questionnaire was intended to determine; the farmers main source of income, farm size, gross income, level of computer access, level of internet access, internet sites used to attain Health and Safety information, the general level of interest in Health and Safety, the likeliness of farmers using a Health and Safety web site, level of internet use in the previous seven (7) days, and the types of Health and Safety information the respondents are interested in. The survey will help establish Utah's farmer's interest in health and safety information and what sites are currently accessed via the Internet.

## **MATERIALS AND METHODS**

Information pertaining to internet usage and its availability throughout Utah was collected through a mail survey. The Utah Farm Bureau randomly constructed a list of 500 farmers that included farms in each of Utah's 29 counties. The survey was sent to each of the 500 farms

initially, and then again 4 weeks later to those farmers who failed to respond. Four weeks after the second mailing, the data collection was complete.

## RESULTS AND DISCUSSION

A total of 120 responses were collected for a response rate of 37.8%. Questions, results and discussion are presented below.

1. *What is your main crop/product (source of income)?*

Of the respondents, nearly half (48%) said their main crop was hay, with about 31% drawing most of their income from social security. The number relying on social security indicates that many of the respondents are elderly, may not have the means to afford computers, and cannot access the Internet at home.

2. *What is the size of your farm/ranch (acres)?*

Fifty percent of respondents reported having farms above 101 acres. Utah's farms are relatively large and have identified hazards. The need for safety and health information exists.

3. *Question three was discarded due to confusion in the wording of the question.*

4. *Do you have a computer (yes/no)?*

Of the respondents, 56% have computers. Through notes included in the responses, it is evident that computers are common in the industry and mainly used for helping with accounting tasks associated with running a business. Other common uses are children's schoolwork and weather information.

5. *Do you have access to the internet, and if so what is the primary use.*

Approximately 22% of respondents have internet access. The greatest use of the internet was financial applications, email communication, and weather information. Approximately 10% have used the Internet to educate themselves on health and safety topics. Only 6% of respondents currently use the Internet to access Health and Safety information.

6. *Is there a particular site that you have used for agriculture safety information?*

Only two web sites containing health and safety information were listed, including the Farm Bureau Federation and the Utah State University Extension Services. A conclusion could be drawn that respondents are simply unaware of sites that are accessible to them that contain health and safety information.

7. *What is your interest in safety information?*

The question is whether or not there is an interest in Health and Safety and if an agricultural safety and health web site would be utilized, if one were available. Of the 120 farmers that responded, 83 (69%) indicated a moderate to high level of interest.

8. *If an agriculture safety and health site were available, how likely would you be to use it?*

Nearly 31% indicated a moderate to high likelihood that they would use a safety and health web site. This information implies that if the information were available, respondents would use it.

9. *How many times have you used the internet in the last 7 days?*

Of those with Internet access, thirty-nine (39) percent of respondents indicated that they did not access the Internet in the previous seven days, while 26% used the internet at least once in the same time period. Thirty-six percent did not respond to the question.

10. *What type of safety and health information would you be most interested in on the internet?*

The subjects that respondents indicated they would have the most interest in were: chemical hazards (33%), tractor safety (28%), livestock safety (27%), accident prevention (24%), and child safety (20%).

Approximately 15 percent of farm accident victims are under ten years of age (Utah Farm Bureau Federation, 2002). Nationally, more than two million youth less than 20 years of age are potential exposed to farm safety hazards each year-as farm residents, farm family workers, hired workers, children of migrant or seasonal workers, or farm visitors. As a place of work and a place of residence, the farm presents unique challenges for injury prevention (NIOSH 2003).

A variety of chemical hazards are produced during many routine farm operations. Exposure to low levels of gases such as nitrogen dioxide, hydrogen sulfide, ammonia, carbon dioxide, and methane can lead to irritation, drowsiness and headaches. High levels of hydrogen sulfide and nitrogen dioxide can render a worker unconscious and lead to death.

The subjects of least interest were: safety audits (2%), grain bins (4%), and ergonomics, controlled atmosphere storage, and manure pits/tanks (5% each).

## CONCLUSIONS

There is little doubt that the need for agriculture specific health and safety resources exists. The number of hours that are spent not only working a farm, but simply living in that environment, makes the likelihood for severe accidents high. Add the presence of curious and inexperienced children, and concern is even greater.

Overall interest in Safety and Health information was moderate. The topics receiving the most interest were chemical hazards, tractor safety, child safety, accident prevention and livestock safety.

With only 22% of those surveyed having access to the Internet, many farmers do not have the necessary tools. One solution may be providing Internet access at local libraries or farm bureau branch offices for the purpose of attaining this type of information.

In order to gain an appreciation for the number of web sites containing agricultural health and safety information, a literature search was conducted. Nearly 50 web sites containing safety and health related information were identified and reviewed, the main criteria used included categories such as; ease of navigation, variety of information, technical research articles/studies, and links to related web sites. Internet sites, which could be of significant value to the farming community include:

The National Safety Council Agriculture Database

(<http://www.nsc.org/issues/agri/L1attitude.htm>)

U.S. Department of Labor Occupational Safety and Health Administration

(<http://www.osha.gov/SLTC/agriculturaloperations/index.html#Recognition>)

Contained the most extensive databases of health and safety information, as well as an abundance of related links. Both of these web sites would be excellent choices to initiate a search for virtually any safety and health related topic.

Other web sites to note are:

Indiana Rural Safety and Health Council page

(<http://pasture.ecn.purdue.edu/~agsafety/IRSHC/IRSHC.html>),

Purdue University (<http://pasture.ecn.purdue.edu/~agsafety/welcome.html>),

Great Plains Center for Agricultural Health page (<http://www.public-health.uiowa.edu/gpcah/>).

Farm Safety 4 Just Kids (<http://pasture.ecn.purdue.edu/~agsafety/IRSHC/IRSHC.html>)

A site entirely devoted to child safety. In addition to Health and Safety information, this site contains interactive activities geared to getting children involved and increasing awareness.

The California Occupational Safety and Health Administration

([http://www.dir.ca.gov/dosh/dosh\\_publications/aship\\_b.pdf](http://www.dir.ca.gov/dosh/dosh_publications/aship_b.pdf)),

Contains an excellent document which covers the Agricultural Safety and Health Inspection Project through which Cal-OSHA is working towards reducing hazards and educating farm workers and employers. The document is an inspection tool providing ideas to improved safety and reduces hazards relating to a variety of equipment or tasks.

Local to Utah, the Utah Farm Bureau Federation offers over 15 training programs ranging from ATV Safety, Farm medic training, Farm Safety Survey training, Stress Management, and many more. The programs are geared towards saving lives, preventing injuries, and the overall welfare of rural Utahns.

It appears that tools are available to provide valuable health and safety information via the internet. As the cost of computers declines, Internet access increases, the demand for web-based safety and health resources will increase.

## ACKNOWLEDGMENTS

Reed Balls of the Utah Farm Bureau Federation.

## REFERENCES

- National Institute for Occupational Safety and Health, 2003. NIOSH Traumatic Occupational Injury-Agricultural Safety Topic Page.
- National Safety Council, 2003. NSC Agricultural Safety Page.
- US Department of Labor, Bureau of Labor Statistics. Employment and Earnings, Vol. 40, No. 1, January 1993.
- Utah Farm Bureau Federation, 2002. Keeping Children Safe a Full-Time Job, February 2002.
- Utah Farm Bureau Federation Web Page, 2003