PLOWSHARES #27

Breaking New Ground Technical Report

Potential Health and Safety Risks of Farming/Ranching with a Disability

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Introduction

Farms and ranches are considered by the National Safety Council as one of America's most hazardous places to work. The Council estimates that there were 800 fatal and 140,000 non-fatal farm work-related injuries in 1995 (NSC, 1996). The unique relationship between the farm workplace and the home; the diversity of tasks and working conditions; the hazardous nature of machines, facilities and livestock involved; and the lack of effective safety and health programs contribute to the high injury rate. In addition, farm work involves a broad range of individuals with differing physical and intellectual abilities. This is reflected in the large number of children and older workers involved in completing relatively hazardous tasks.

The agricultural workforce also includes a large number of persons who are impaired by one or more disabilities that might affect their ability to safely complete certain tasks. An early study done by the Breaking New Ground (BNG) Resource Center found that 19% of farm operators had a physical disability that prevented them from completing essential operations on the farm (Tormoehlen, 1982). Presently the BNG Resource Center estimates that there are approximately 500,000 farmers, ranchers, and agricultural workers who fall into this category (National AgrAbility Program, 1991-1996).

Since its beginnings in 1979, the BNG Resource Center has given considerable attention to the safety and health issues related to farming with a disability. The very first publication of the Center addressed this topic (Tormoehlen). The interest in this topic has not diminished over the years and nearly all of the resources developed by the Center incorporate safety and health concerns. It is the position of the Center that manageable safety and health issues are not valid reasons to limit the choices of persons with disabilities or keep them from accepting the risks, consequences and rewards of independent living. Each of us is an imperfect person living in an imperfect world where all risks cannot be eliminated. Farming is full of risks, both financial and physical. The freedom to accept these risks and associated outcomes should be given to the fullest extent possible to everyone—disabled or not.

The purpose of this report is to point out some of the more serious risks associated with farming with a disability, including those related to modifications made to accommodate disability in the workplace. Possible solutions are recommended and additional safety and health information resources identified.

Engaging in Agricultural Production Following a Disability

Concerns have been raised by family members, rehabilitation professionals, farm safety experts, and the medical community over what they perceive as an increase in the potential risk of injury for agricultural workers with disabilities. Their concern appears to be based upon the assumption that an individual's disability places him or her at a higher risk to be injured again. This view is probably predicated on the knowledge that farming is one of

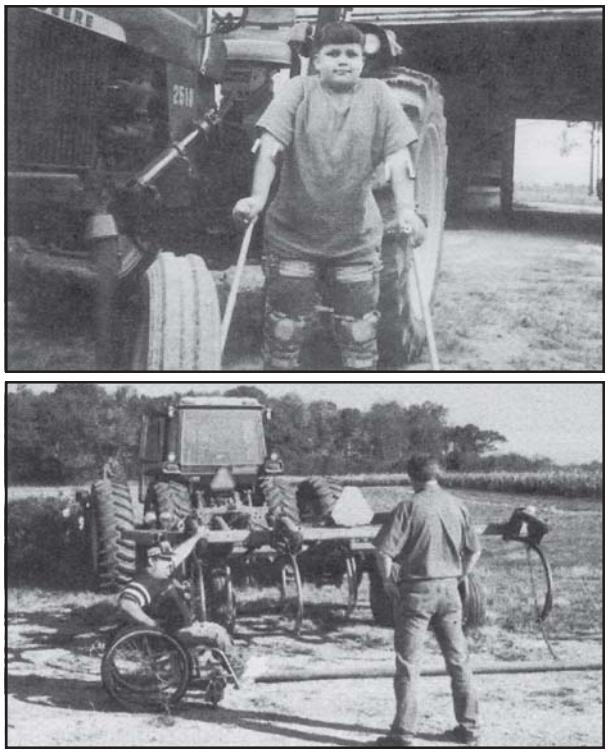

Figure 1. Al Copeland (Greenfield, IN) has been safely farming with a T11 spinal cord injury for over 30 years. Top photo—Al as a young boy; bottom photo—Al in recent times.

America's most hazardous occupations combined with traditional beliefs concerning the abilities of individuals with disabilities and limited antidotal information.

Individuals who were farming or ranching prior to their disability are often encouraged by rehabilitation professionals to consider safer or alternative forms of employment. Unsubstantiated claims of unacceptable risks of possible secondary injury are being used to hinder the farmer or rancher from returning to what many want to do most: engage in production agriculture. Clay, Seekins, and Cowie (1990) stated that surprisingly little is known about the incidence or prevalence of secondary disability in any population.

Since 1979, the BNG Resource Center has been unable to document an increased incident of injury among the disabled farm population it serves over what is observed and reported in the able-bodied farm population *(Figs. 1 and 2)*. It has, on the other hand, observed through on-farm visits and surveys a number of risks that were being ignored or were unrecognized by the farmer. Injury prevention efforts cannot be overlooked by any farmer, especially one returning to work following a disability.

Risks Associated with Farming with a Disability

A study was conducted at Purdue University in 1993 to examine the risks of farming and ranching with a physical disability and identify the safety education training needs of this population (Allen, 1993). Farm work-related injuries were noted most frequently (39%) by the participants as cause of their initial disability, and were more than twice the number of any other injury type. Nearly 81% of respondents felt that there were necessary work-related tasks on their farm/ ranch they could no longer perform or were seriously hindered from performing because of their disability. Many of these individuals noted that they had problems loading or moving livestock, hitching implements to tractors and equipment *(Fig. 3)*, fueling and routine maintenance of tractors, climbing, and carrying heavy objects.

In the Purdue study, 25% of the survey population believed they had experienced a secondary injury that was the result of their disability. Injuries due to handling livestock were the most frequently reported injury type occurring in the previous year, and injuries from falls were the second most prevalent in

Figure 2. A 1992 PVA-sponsored study at Purdue found that 90% of farmers with spinal cord injuries continue working on their farm afterward.

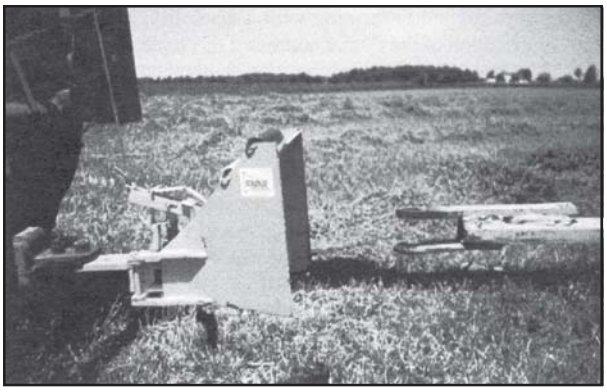

Figure 3. Difficult tasks like hitching equipment can be made easier and safer with assistive technology. Here an automatic hitch is being used.

the study. Of these recorded injuries 43% were severe enough to require medical attention.

The study also explored whether or not a farmer or rancher with a physical disability experienced similar injuries or was at a greater risk of injury than his or her able-bodied counterpart. In many cases, the injury causing agents identified in this study tended to mirror injury causing accidents of the able-bodied farm population. Even the severity of injury, nature of injury, and body part injured by the participants in the study tended to parallel the able-bodied farm population. The exception was in the number of bruises and pressure sores reported by individuals with spinal cord injuries.

Sixty percent of the individuals who participated in the study felt they were at a greater risk of being injured on their farming or ranching operation because of their disability. Individuals who reported having a severe disability made up 58% of the population who felt they were at a greater risk. The survey indicated that respondents who have had their disability for a short time, 10 years or less, felt they were at a greater risk of being injured on their farm or ranch than those who had farmed for more than 10 years. There was no significant difference regarding the age of the respondents who felt as though they were at a greater risk of being injured.

Several areas of potential risks were identified during the study which should be considered to ensure the health and safety of those farming or ranching with a disability. They include, but are not limited to, the following:

Risks to Those Providing Assistance

Farm operators with disabilities must often rely upon other people such as family members, neighbors, and hired hands, to complete essential farm-related jobs. Having others complete certain tasks, especially around machinery, often creates unique hazards to both the person with a disability and the helper. Allen (1993) reported spouses, relatives, and children as the major sources of assistance in performing necessary tasks on the farm or ranch *(Figs. 4 and 5)*.

Figure 4. A spinal-cord-injured farmer who relies on his young son to operate a front-end skid-loader to lift him in the bucket up to the tractor's operator seat may be placing himself at risk and setting unrealistic expectations for his son.

Figure 5. Approximately 5% of the study population reported injuries occurring to the person assisting them in completing a task.

Problems develop when young or inexperienced family members are expected to hitch implements or make repairs to farm machinery under the direction of the disabled operator. Children are especially vulnerable when used to assist in hazardous farm-related tasks. Alternatives to the use of children in these situations need to be considered. Even though a farmer or rancher with a disability may be hindered from performing some tasks, it should not be essential to put others in situations which could cause injury or death.

Risks Associated with Equipment Operation

Some disabilities may affect a person's ability to operate farm machinery. For instance, if a person has a brain injury, it is important to know the nature of the limitations. If a doctor recommends that the person should not drive a car, then it would probably be unsafe for him to operate farm machinery. Likewise, if the doctor says he can safely operate an automobile with modifications, then he can in most cases operate farm equipment with appropriate modifications.

Visual impairments that reduce acuity, color differentiation, depth perception, or night vision can result in unsafe operation of equipment and risks to the operator and bystanders. In one case, a farmer's sight had completely diminished over a period of several years. During the last few years, he continued to operate farm equipment regularly even though his vision was significantly impaired. Farm operators who are color blind may also experience problems operating machinery on which the controls are color coded.

A hearing impairment may make it difficult, or even impossible, for a farmer to detect machine failure, such as a noisy bearing or loose chain. Likewise, a hearing impaired farmer would experience difficulty determining if the tractor or machine was functioning normally, or at all. In many cases, high levels of noise from farm tractors or machines make it difficult for even a person without a hearing impairment to hear or clearly understand co-workers. Hearing impaired farmers may also fail to correctly comprehend instructions or commands from fellow farm workers which can result in mishaps. One farmer who had limited hearing was driving a tractor pulling a hay wagon through the field as workers loaded it with bales. One of the young men loading the hay was knocked to the ground and run over by the hay wagon. The farmer could not hear the screams of the victim or the cries to stop from the other workers until one of them ran in front of the tractor and motioned for the farmer to stop.

Risks of Working with Livestock

According to the Purdue study, animal-related injuries were the most common of all secondary injuries. Much of the risk is from livestock being extremely unpredictable, coupled with an individual's restricted mobility or slow response time.

Injuries tend to be more common with cattle. In one instance, a farmer with an orthopedic impairment was dehorning and tagging young calves when a protective mother cow charged him, resulting in injuries to the farmer's lower back. Due to his impairment, he was unable to move fast enough to avoid the protective cow. In another case, a farmer with a prosthetic leg was bumped behind the knee by a sow while sorting hogs. The leg collapsed causing the farmer to unexpectedly fall, resulting in a broken hip and two broken ribs.

It is important for farmers/ranchers to recognize the danger that may be involved when working with livestock and take preventative measures to avoid injury *(Fig. 6)*. They should not get "too comfortable" while doing routine chores around livestock. Always anticipate what the livestock may do and be prepared to compensate for what might happen. Whenever possible, avoid direct access to livestock. Tasks can be restructured to be done by another person, or worksite modifications including fence-line feeders, automated feed systems, automatic gate openers, raised decks, and livestock holding equipment can be used.

Care should be taken to avoid becoming caught on chains, collars, ropes, halters, or other materials attached to livestock. Amputees using a Prehensile

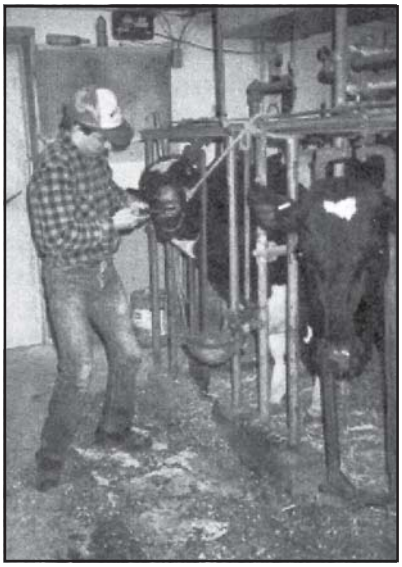

Figure 6. Farmers and ranchers with mobility or strength limitations should restrain livestock prior to treatment.

terminal device may want to use the widest grip when grasping a cow's chain so that it can be released easily.

Fires in Equipment and Buildings

Fire is a major threat to anyone with a disability. When mobility is restricted, the inability to rapidly evacuate a tractor, combine, or farm building may create serious risks for the individual. There are many situations involving farmers with disabilities operating combines and other self-propelled equipment where rapid evacuation in the event of a fire would be difficult. In some cases, if the combine or tractor were to catch fire, the operator would be virtually helpless to extinguish the fire, call for help, or evacuate the machine. Even if the operator is able to evacuate the machine, the lack of mobility might still expose him to flammable crop residue. Farmers who have paralyzed or artificial limbs may also be exposed to the risk of burns when using gas and arc welding equipment. Farmers have reported cases of their clothing catching on fire and not being able to detect it, because they lack sensation in their extremities. This situation can cause significant burns to legs, thighs, or other parts of their body. Since the threat of fire is always present in an agricultural workplace, several possible preventative measures are suggested. These include:

- Install fire detection or extinguishing systems that activate automatically or from operator's station.
- Keep emergency phone numbers, especially fire department and emergency medical services, posted near each phone.
- Equip all self-propelled machinery with a communication system *(Fig. 7)*. Citizen Band (CB) radios and FM 2-Way radios have been relatively common means of communication in the past, but portable cellular phones are becoming extremely popular as a means of communication on the farm or ranch.
- Mount portable fire extinguishers at strategic locations around each building and on each machine a person with a physical disability will be operating.
- Store gasoline, fuel oils, LP gas, anhydrous ammonia, and other flammable liquids and gases at least 75 feet from buildings.
- Keep the inside and outside of all buildings trash free. An accumulation of trash on floors, oily rags, etc. allows a great opportunity for potential fires, especially when welding.
- Wear a leather welding apron and leather shoes that protect your legs, feet, lap, and wheelchair when welding.
- Invest more time in fire prevention activities to

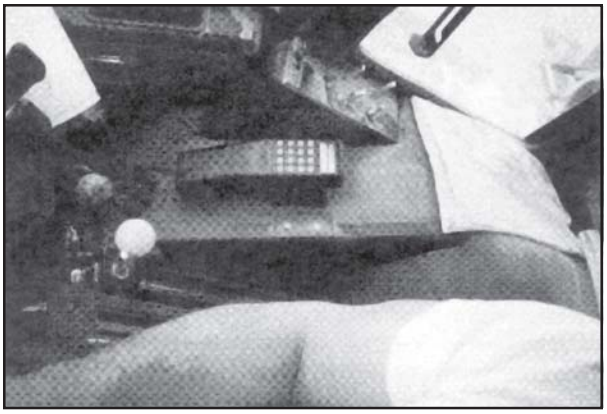

Figure 7. Having some type of communication device is vital for farming safely with a physical disability.

Arlan Bookwalter's Story

Arlan Bookwalter (Walton, IN) has farmed for almost nine years despite becoming a T-10 paraplegic due to a hunting injury. Arlan and his son Jeff farm nearly 2,000 acres of corn and soybeans. In the winter, they also assemble equipment for the local Case farm implement dealership. Since his spinal cord injury Arlan has had relatively few health problems despite numerous hours performing repair work in his shop and operating his tractors and combine. Arlan safely accesses his combine and tractors by using a ball screw chairlift manufactured by Round Grove Machine of West Lafayette, IN. The motor which drives the screw is powered by the combine battery.

Four years ago while harvesting corn in his combine Arlan began to smell smoke. Not knowing the source of the smoke he contacted Jeff on his cellular phone. Although Arlan believed that a small fire had started on the combine, he decided to wait for Jeff to arrive before exiting the cab.

Unfortunately by the time Jeff arrived the chairlift on the combine was no longer operational because the fire had burned the wiring running from the battery to the chairlift. Despite not being able to operate the lift, Arlan was able to dismount the combine with Jeff's assistance and avoid a secondary injury which may have resulted from falling from the combine cab.

More recently, Arlan encountered a similar situation when a small fire started on the soybean platform of the combine he was operating. A bearing had overheated and started the soybean stubble on fire. Although the fire was visible from the cab and had not spread, Arlan used the chairlift to reach the ground to eliminate the possibility of being trapped in the cab.

reduce the risk of fire. For example, keeping machines clean, inspecting for hot bearings and slipping belts, and following proper refueling procedures are key fire prevention activities.

Exposure to Excessive Machine Vibration and Motion

Modern farm tractors and combines are designed to substantially reduce operator exposure to high levels of vibration. This is accomplished through the use of larger tires, operator cabs or platforms that are isolated from the chassis, and ergonomically designed seating. Older equipment or some equipment that is operated for long periods of time can, however, result in excessive exposure to machine vibration and motion. This is generally caused by machine characteristics and rough terrain.

Operators with low back disorders are especially vulnerable to added injury if exposed to excessive operator station vibration. The additional shock and load to the components of the back can lead to more rapid breakdown of the discs and irreversible damage to the lumbar spine. Other side effects include vision problems, impaired coordination or balance, fatigue, headaches and insomnia. Farmers who have a spinal cord injury may want to upgrade the tractor seating, especially on older units, in order to prevent skin breakdown. Ergonomically designed tractor seats are available, custom-made

cushions and wheelchair cushions can also be used. A seat belt should be worn for safety and stability.

Another potential hazard is injury by repeated contact with operator station fixtures caused by the uncontrolled body motion of individuals with paralyzed limbs. This "bumping" leads to bruises and open wounds which sometimes go unnoticed due to the lack of skin sensitivity. Padding is an important protective measure. Installation of an independent suspension seat or better seat cushions help provide protection and shock absorption for the stump of someone with an above-knee amputation or the hip joint for a person with a hip replacement.

Even though most of the evidence points to machine vibration as harmful, there has been feedback from equipment operators, especially those with spinal cord injuries, that there may be some possible benefits to limited machine operation. Several have reported that they have felt better after getting back on the tractor or combine and that the exposure enables them to sleep better. Others have also commented that they have fewer problems with pressure sores during the summer months when operating equipment. In addition to the psychologically therapeutic effects the operation of farm equipment might provide, other positive effects might include increased blood flow due to the vibration and the reduction of skin pressure due to the fluid bouncing action of operating large equipment in the field. Many wives also have commented that their husband's physical and mental condition improved when he was able to get "back on the tractor."

Climbing Risks

Climbing the grain bin ladder or tractor steps can be dangerous for a farmer with a disability effecting balance or gripping strength. Farm machinery can be adapted by adding a lift, non-slip steps, wider steps, additional steps and hand-holds. The farmer with a lower extremity limitation should mount and dismount from farm machinery starting with his or her stronger leg. A farmer with an upper extremity prosthetic device should not rely on the terminal device when grasping an overhead rung on a ladder. It may be safer to wrap the forearm of the prosthesis around the outside of the ladder.

For tasks requiring vertical climbing, a lift, back support rings, or stairs might be considered, or someone else could be asked to do the climbing. If there is a potential of becoming dizzy or having a seizure, then vertical climbing should be avoided completely.

Respiratory Hazards

Agricultural workplaces expose workers to a variety of airborne hazards. These include toxic gases such as those found in silos and manure pits and airborne particulates such as grain dust, dried manure, molds and soil. Individuals with a hypersensitivity to this material can be severely stressed when working and can become extremely ill. With repeated exposures, some individuals exhibit more severe symptoms. In some cases there may be no alternative except to avoid the irritating agent.

Farmers with spinal cord damage may also have reduced respiratory capacity and may require special filtration systems or air conditioning in order to work comfortably *(Fig. 8)*.

The application of agricultural chemicals may also present a respiratory hazard for farmers who, because of a physical impairment, would be unable to quickly evacuate the application area should a chemical spill occur.

Figure 8. The air stream helmet forces filtered air over the face of the user. The moving air makes breathing easier and the user cooler.

Temperature Extremes

Farm and ranch work goes on regardless of the weather. This means that farmers and ranchers are potentially exposed to both extreme cold and heat. Both can present serious safety problems if not attended to. Overexertion in either cold or hot weather can pose a serious threat to one's health. Spinal cord injuries often affect the body's heat regulation system. The body's core temperature lowers in the winter, and in the summer it rises without the ability to perspire.

Paralyzed limbs are susceptible to frost bite and require extra protection. This might include thermal underwear and/or heated tractor cabs. Leg warmers, heated socks and hand warmers are other possibilities during the winter months. Ski shops are a good source for ideas on keeping warm. Farmers with spinal cord injuries often require air conditioned tractor and combine cabs to work in the heat of summer. Their reduced ability to sweat requires a cooler work environment, plenty of fluids and frequent breaks. In some cases farmers with spinal cord injuries will use water filled spray bottles or will wear wet cloths around their neck to maintain a cooler body temperature *(Fig. 9)*.

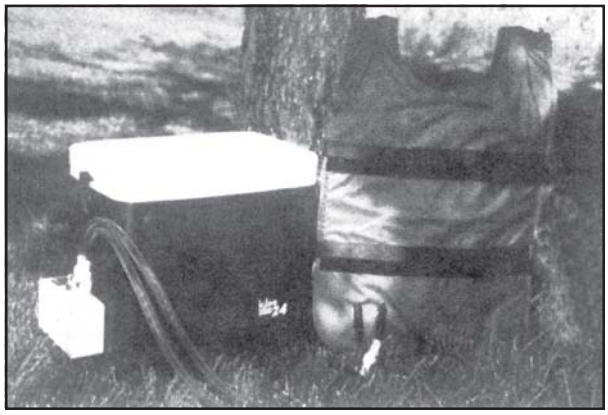

Figure 9. Wearing a cooling vest in the summer helps to prevent heat stroke.

For farmers with amputations, additional stump socks can provide insulation. Stump socks that lift perspiration away from the skin are preferred. Taking frequent work breaks to warm up the stump is recommended. A heater or electric hair dryer may be useful in the farm shop to warm the stump in emergencies. Caution should be taken to avoid applying too much heat due to the potential of bums resulting from decreased sensation in the stump.

One cash grain farmer who spends a lot of time in his tractor reported skin burns and rapid dehydration while operating on hot days. The solution to this problem was to install an auto trim accessory item that filters the ultraviolet rays coming into the tractor cab. This material not only filtered the sun rays but greatly reduced his dehydration problem. He has now improved his tractor driving performance and increased the amount of time he can operate the tractor.

Length of Workday

Farmers and ranchers traditionally work long days, and this characteristic does not necessarily change following a disability. The Purdue study noted responses ranging from five hours to 100-plus hours. The average time worked per week was 31 hours per week (Allen, 1993). At this time, it is not known what adverse effects might result from extremely long periods of exposure to certain farm-related job such as machine operation. Some possible side effects include the increased possibility of pressure sores, bladder infection, bruises and general fatigue. There does not appear to be a common pattern for the onset of any of these problems, but they should not be ignored. For example, all farmers are susceptible to fatigue and a farmer with a severe disability even more so. Efforts to compensate one set of muscles with another, such as working with only one leg or arm, can wear a person down much quicker. Once tired, the risk of injury or illness increases. It may be necessary for a farmer or rancher with a physical disability to take several extra rest breaks in order to avoid fatigue or over exertion.

Hazards Associated with Assistive Technology in the Agricultural Workplace

Any technology has potential hazards associated with it. Assistive technology is no exception. More than 72% of the farmers and ranchers who partici-

pated in the Purdue survey have made modifications to their worksite, machinery, or tools which have helped them to overcome their disability. Considering that 41% of the individuals participating in the survey had spinal cord injuries, the large number of modifications was understandable. Despite the large number of farmers and ranchers making modifications to their agricultural worksite, only a very small percentage (3%) reported ever having been injured while using these modifications.

Experience suggests that physical fitness, craftsmanship, construction and engineering skills, as seen in much of the farm population in general, could contribute to fewer injuries. Many able-bodied farm operators have had to engineer a variety of tools, farm equipment, and special devices to make their jobs easier or to save the expense of having to purchase an item. In general, farmers tend to be more skilled with various technology than the general population. Many farmers have made modifications to loading and squeeze chutes for cattle, adding cattle guards in certain areas, to corrals and holding areas for safer and easier access of livestock, and self latching and/or automatic gates. Other modifications include: adding concrete work areas, rebuilding cattle working areas, using an ATV, and modifications to horse riding saddles (Field, 1992).

For example, one farmer who has quadriplegia used a ramp to enter and exit a grain truck *(Fig. 10)*. The ramp was located outdoors, exposed to the weather. One day when he and his father were getting out of the grain truck and onto the ramp, they both slipped and fell over the side of the ramp. Fortunately, no one was injured. The ramp has now been placed inside the machine shed so it is sheltered from the weather.

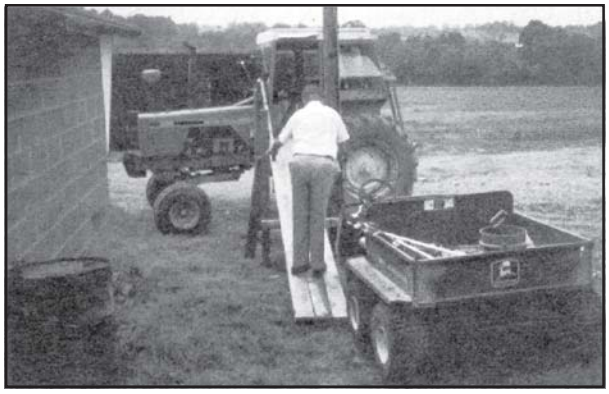

Figure 10. The use of ramps can result in falls, the second leading cause of secondary injuries among farmers with disabilities.

Figure 11. Articulated-steered tractors present another kind of hazard. Should this man-lift be in the down position when the tractor is turned, it would be crushed between the front and rear tires.

The following two sub-sections provide a brief overview of hazards that could be present as the result of introducing assistive technology into the agricultural workplace.

Modified Agricultural Equipment

The BNG Resource Center has had contact with hundreds of farmers who have made changes in their farm operation to accommodate a disability. The most frequent modifications have been to farm equipment including trucks, tractors and combines. Hand controls for equipment and ramps for houses and farm buildings are also common modifications. These changes have, in many cases, been designed and constructed locally without regard to established engineering standards or safe design principles. Since farm equipment is modified infrequently, compared to vehicles used for highway or industrial use, there are no applicable standards to follow. Consequently, it is not unusual to find modifications that expose the user to unacceptable levels of risk, especially with respect to man-lifts and hand controls.

Man-lifts used to raise an individual with restricted mobility up to the operator's station of the tractor

or combine vary widely. Several of the concepts expose the operator to considerable risk *(Fig. 11)*. In one case, a boom was used with a chain hoist to raise the paraplegic operator over the top of the tractor and then down onto the seat. A fall from such a height would result in serious injury. In another case, a lift was constructed of galvanized water pipe which lacked the strength needed to prevent deformity in the structure under loading. Numerous examples of serious pinch points, exposed chains, improperly selected components, and questionable electrical wiring have been observed *(Fig. 12)*.

In many cases farmers may rely completely on hand controls for all tractor operations. This can be especially difficult during tasks such as end row maneuvers. Controls may need to be padded to prevent bruising and scraping if spasticity is a problem. A belt around the operator's legs might be considered to prevent contact with controls when experiencing a spasm. Remote switches on equipment such as barn cleaners, augers, and grain unloading equipment should have lock-out capabilities to avoid their being started while someone is working on or near the equipment.

Modified Farm Buildings and Facilities

Modifications to farm or ranch buildings should take into consideration other potential users. For example, ramps that are constructed where ice and snow accumulate on them can become a fall hazard for other users.

Safety Resources

Even though there are few resources available related specifically to safely farming with a disability, there is a tremendous amount of information readily available on safe and healthy agricultural work practices. A good place to begin is the local county Cooperative Extension Office. Another source is the local implement dealership. Deere & Company, for example, has a number of safety-related publications, and videos (Deere, 1995). The BNG Resource Center has available a listing of farm safety resources and is able to provide the contact point

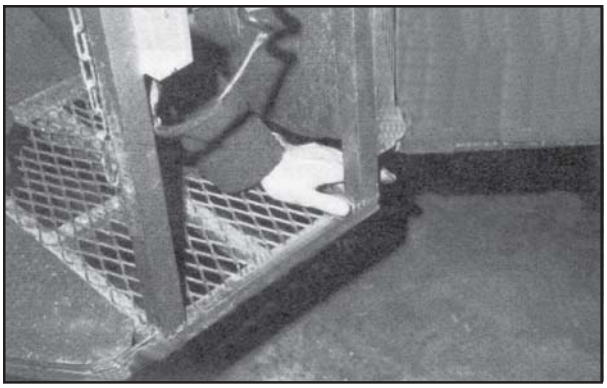

Figure 12. Construction of man-lifts should follow established design standards to avoid serious pinch or shear points as the one shown above.

for the U.S.D.A. AgrAbility Projects located across the country where assistance can be obtained on improving workplace safety.

Conclusion

As greater emphasis is given to empowering persons with disabilities to live more independently and have greater control over decisions that influence their lives, it will become common place to see persons with even severe disabilities involved in all walks of life, including farming and ranching. The experiences of programs such as the BNG Resource Center and the U.S.D.A. AgrAbility Programs have clearly demonstrated that the success level of farmers and ranchers returning to work after a disabling injury or disease is high.

Recent findings presented in this report along with general observations demonstrate that farm-related injuries are no respecter of persons. Because a person has experienced one disabling injury, he or she does not become immune from another injury or a secondary injury caused by impairments associated with the first injury. Anyone involved with assisting a person to return to the farm or ranch following a disability needs to recognize both the expected hazards and those that are related to the disabling condition. This includes hazards that place the disabled worker at risk as well as those that may place bystanders and co-workers at risk.

Assistive technology and modern agricultural practices have made it possible for many individuals to return to their homes, communities, and work, and make a meaningful contribution. Now, the same ingenuity and determination is needed to ensure that the risks are minimized.

There is clearly a lack of adequate safety education materials, available for use in preventing secondary injuries to those involved in hazardous occupations such as agricultural production. There is a need to develop high quality, task specific safety education material for use by farmers/ranchers with disabilities, their families, and rural rehabilitation professionals working with this clientele *(Fig. 13)*. BNG Resource Center will continue to address this need.

If you have a specific concern about the potential hazards of a farm task you are trying to do, please give BNG a call or contact your state Extension Safety Specialist or one of the U.S.D.A. AgrAbility Project staff. We would welcome the opportunity to help you come up with some safe alternatives to getting the job done.

Figure 13. Younger family members often assist farmers or ranchers with disabilities. Educating young children about caring for and handling livestock is essential.

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